

# *RTView Enterprise Monitor® User's Guide*

Version 3.5



RTView®

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RTView Enterprise Monitor®

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# Preface

Welcome to the *RTView Enterprise Monitor® User's Guide*. Read this preface for an overview of the information provided in this guide and the documentation conventions used throughout, additional reading, and contact information. This preface includes the following sections:

- [“About This Guide” on page 1](#)
- [“Additional Resources” on page 2](#)
- [“Contacting SL” on page 2](#)

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## About This Guide

The *RTView Enterprise Monitor® User's Guide* describes how to install, configure and use RTView Enterprise Monitor.

### Audience

This guide is written for database and network administrators who are familiar with administering and managing databases.

### Document Conventions

This guide uses the following standard set of typographical conventions.

| Convention      | Meaning  |
|-----------------|--|
| <i>italics</i>  | Within text, new terms and emphasized words appear in italic typeface.   |
| <b>boldface</b> | Within text, directory paths, file names, commands and GUI controls appear in bold typeface.                             |
| Courier         | Code examples appear in Courier font:<br><code>amnesiac &gt; enable</code><br><code>amnesiac # configure terminal</code> |
| < >             | Values that you specify appear in angle brackets:<br><b>interface &lt;ipaddress&gt;</b>                                  |

---

## Additional Resources

This section describes resources that supplement the information in this guide. It includes the following information:

- “Release Notes” on page 2
- “SL Documentation” on page 2

### Release Notes

The following online file supplements the information in this user guide. It is available on the SL Technical Support site at <http://www.sl.com/support/>.

Examine the online release notes before you begin the installation and configuration process. They contain important information about this release of RTView Enterprise Monitor.

### SL Documentation

For a complete list and the most current version of SL documentation, visit the SL Support Web site located at [http://www.sl.com/services/support\\_rtviewdocs.shtml](http://www.sl.com/services/support_rtviewdocs.shtml).

### Support Knowledge Base

The SL Knowledge Base is a database of known issues, how-to documents, system requirements, and common error messages. You can browse titles or search for keywords and strings. To access the SL Knowledge Base, log in to the SL Support site located at <http://www.sl.com/support/>.

---

## Contacting SL

This section describes how to contact departments within SL.

### Internet

You can learn about SL products at <http://www.sl.com>.

### Technical Support

If you have problems installing, using, or replacing SL products, contact SL Support or your channel partner who provides support. To contact SL Support, open a trouble ticket by calling 415 927 8400 in the United States and Canada or +1 415 927 8400 outside the United States.

You can also go to <http://www.sl.com/support/>

# CHAPTER 1 Introduction to RTView Enterprise Monitor

This section describes RTView Enterprise Monitor®. This section includes:

- “Overview” on page 3
- “Architecture” on page 5
- “System Requirements” on page 7
- “Installation” on page 8
- “Upgrading the Monitor” on page 9

---

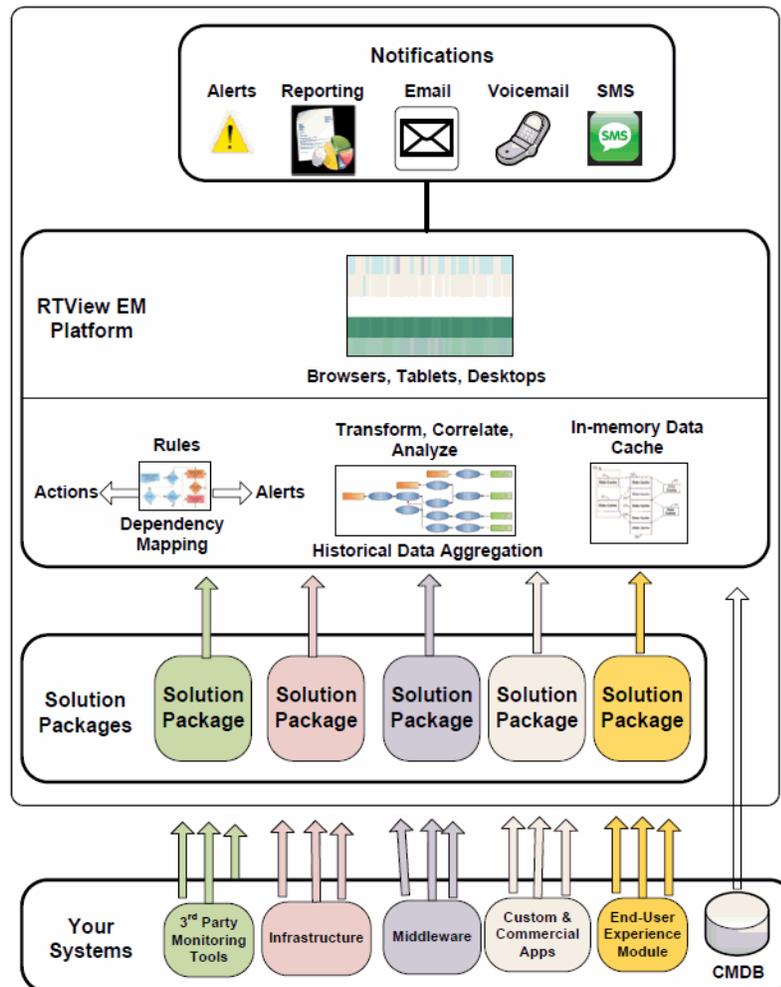
## Overview

RTView Enterprise Monitor® is a monitoring platform that provides single-pane-of-glass visibility of aggregated real-time and historical information about the performance of complex multi-tier applications, including custom-built applications. RTView Enterprise Monitor has the ability to drill-down to the software-component level to help you determine the root cause of issues affecting application performance.

RTView Enterprise Monitor enables application support teams to:

- Provide a single, real-time interface to the end-to-end performance of complex or distributed applications.
- Provide early warning of issues and automate corrective actions tied to alerts, to reduce the number of trouble tickets.
- Leverage historical trends to anticipate possible application degradation and enable preventive care.
- Quickly pinpoint the root cause of issues and initiate repair.
- Reduce costs and minimize lost revenue related to system downtime and degradation.
- Improve performance against SLAs, customer expectations and brand promises.
- Improve business decisions that are tied to application performance.
- Lower the total cost of managing applications.

The following figure illustrates the RTView Enterprise Monitor components that are the subject of this section.



The RTView Enterprise Monitor platform can gather information using agents, or in an agent-less manner, from a variety of critical sources. The information helps you determine whether the components of your multi-tiered application are performing correctly. Key performance data can come from an application server, Web server, messaging middleware, databases, application log files or instrumentation, as well as from other monitoring tools that report infrastructure metrics, and other key dimensions of application performance such as end user experience or transaction performance.

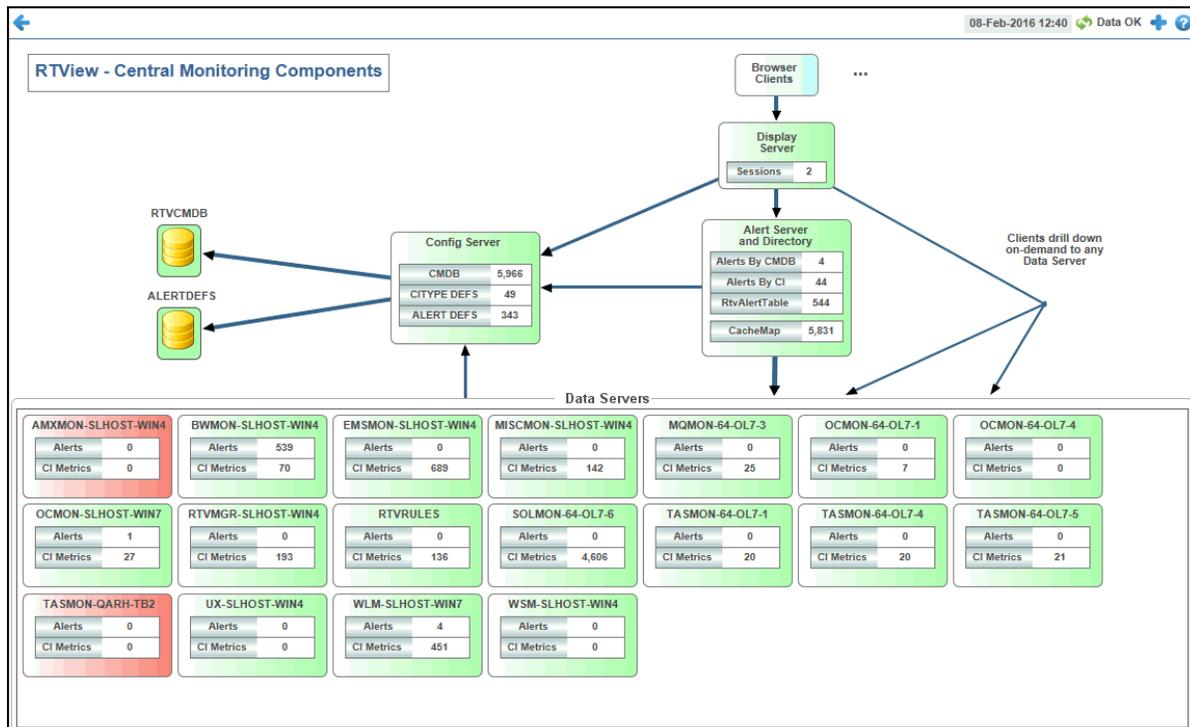
The following figure illustrates the many types of critical sources for which RTView Enterprise Monitor gathers key performance data.

After you install the RTView Enterprise Monitor platform, you can then install various Solution Packages which configure the interface for the metrics of interest. For example, you might have a package for monitoring application servers that are part of your deployed application. When you install the Solution Package for that application server, RTView Enterprise Monitor automatically:

- Gathers the important performance metrics for that server.
- Manages the historical archiving of those metrics.
- Provides pre-defined alerts that notify you of critical conditions.
- Provides views of the pertinent application data that help you analyze problems with that application server if one is indicated by an alert.

## Architecture

The following figure illustrates the main components of the RTView Enterprise Monitor platform (in the upper panel) and installed Solution Packages (in the lower panel) which are gathering and processing performance metrics. The diagram below is actually a real-time system architecture diagram which is accessible from the RTView Enterprise Monitor user interface. Each rectangle is a Java server process running in a JVM which can be configured to run on the same host or on separate hosts. The boxes are green when the process is running and red when stopped. Each server process can be configured for high availability by providing a backup server with failover and fallback options.



## RTView EM Platform

The RTView Enterprise Monitor platform consists of a client (desktop Viewer or browser Display Server), the Configuration Server and the Alert Server. This documentation also refers to the Configuration Server and the Alert Server as the Central Servers.

- **Display Viewer:** The Viewer is a Java application which can be installed on desktops and provides the same user interface as the browser-based version.
- **Display Server:** The Display Server is a Java process which must be running to support browser-based access. This configuration also requires an application server. Tomcat is most commonly used in RTView Enterprise Monitor, however other application servers are supported. The selected application server must then run the RTView servlet which handles client requests and receives updates from the Display Server. The Display Server receives requests from the servlet and accesses the Central and Solution Package Data Collection Servers for the data. The Display Server is then responsible for the generation of the HTML, AJAX and Flash-enabled Web pages which display the real-time information. The Display Server also supports clients which are not Flash-enabled.
- The RTView servlet and Display Server are also responsible for user and role-based entitlements.
- **Configuration Server:** This server process can act as the proxy for all database connections to the system and maintains information relevant to the *Service Data Model*, System Configuration information, and alert configuration. The Service Data Model consists of a list of all CI's (Configuration Items relevant to the performance of a Service) and the Services which they affect. It also contains the four-level structure of the organization: Owners, Areas, Groups, and Services. All this information can be in one or more databases, or be generated dynamically from the data.
- **Alert Server:** This server process maintains an internal cache of aggregated alerts and their current state. It performs the correlation and propagation of alerts to the items in the Service Data Model which are affected by an alert. It also serves as a directory map and directs requests from clients to the appropriate Solution Package when a user requests detailed performance metrics produced from those Packages.

## Solution Packages

RTView Enterprise Monitor has a variety of Solution Packages which can be installed to gather metrics from infrastructure, middleware, instrumented applications, JVM, log files, and third party monitoring products. Several Solution Packages are available with the platform. RTView Enterprise Monitor also provides a means for creating Custom Solution Packages--which can be configured without programming--to gather most any piece of performance information with a wide array of built-in data adapters. Users can construct their own Custom Solution Packages, or SL support has many templates for Custom Solution Packages that can be delivered to users or customized as a service.

A Solution Package provides these main pieces of functionality to the RTView Enterprise Monitor platform:

- **Data Access:** The Solution Package gathers the performance metrics relevant to the technology being monitored. The data may be gathered by either synchronous or asynchronous direct connections to a technology, or by receiving information from RTView agents deployed on the hosts of the monitored technology.
- **Data Caching:** Performance metrics are stored in in-memory data caches to supply quick access to the most current performance metrics.
- **Data History:** Long-term performance metrics can be stored in a JDBC-enabled relational database. The Solution Package allows for the configuration of the rules for data compaction and management of long-term data persistence.
- **Alert Event Access:** If the Solution Package is connecting to another monitoring system, it can gather alert events from that system, bring those events into the RTView Enterprise Monitor platform and allow alert management to be performed in the RTView Enterprise Monitor platform. Optionally, the Solution Package can be configured to synchronize alert states between the two systems.
- **Alert Rules Engine:** The Solution Package can be configured with alert rule definitions which are processed real-time on the Solution Package Data Servers. Dynamic updates to these alert rule definitions, such as changing alert rule thresholds or policies, can be managed through the RTView Enterprise Monitor [“Alert Administration”](#) interface. When alerts are activated by these alert rule definitions, they are sent to the RTView Enterprise Monitor Alert Server to be aggregated with other Solution Package alerts.
- **Data Viewing:** Each Solution Package comes with designated displays which can be accessed by the RTView Enterprise Monitor platform to show the performance metrics in summary and drill-down views.
- **Solution Package Servers:** Each Solution Package involves two servers. These servers are typically installed at locations where access to the technology performance data is optimal.
- **Data Server:** After the Solution Package has been configured, this Java process is run to begin accessing the data, storing data to internal memory caches, running the alert rules and providing data to the Historian process.
- **Data Historian:** The process manages the storage of information into a relational database and runs the rules relevant to managing this persisted data.

---

## System Requirements

Please refer to the **README\_sysreq.txt** file from your product installation. A copy of this file is also available on the product download page.

---

## Installation

This section describes how to download and install RTView Enterprise Monitor.

The SL Download Center provides access to either the full RTView Enterprise Monitor suite, or the RTView Enterprise Monitor platform only with separately downloaded RTView Enterprise Monitor Solution Packages. The following are delivered as **.zip** files:

- **rtvapm\_full\_<version>\_<date>.zip** is the full RTView Enterprise Monitor platform, which includes all available RTView Enterprise Monitor Solution Packages.
- **rtvapm\_std\_<version>\_<date>.zip** is the standard RTView Enterprise Monitor platform only. After installing the RTView Enterprise Monitor platform, you can download and install licensed Packages of your choice at any time.
- **rtvapm\_<packagename>\_<version>\_<date>.zip** are the RTView Enterprise Monitor Solution Packages (such as the Solution Package for TIBCO Enterprise Message Service™). After installing the RTView Enterprise Monitor platform, you can download and install licensed Packages of your choice at any time.

### RTView EM Platform

To install the RTView Enterprise Monitor platform, download the archive and extract the file.

If you currently have any version of RTView installed, you must install the RTView Enterprise Monitor platform into a directory separate from any existing RTView installations. The same zip archives provided in the download can be used on any supported platform. Any subsequent Packages that are used with the platform are also provided in a **.zip** file which should be extracted into this same directory.

### Windows

On Windows systems, using the extraction wizard of some compression utilities might result in an extra top-level directory level based on the name of the **.zip** file. The additional directory is not needed because the **.zip** files already contain the **rtvapm** top-level directory. This extra directory should be removed before you click **Next** to perform the final decompression.

### UNIX/Linux

To convert text files on UNIX/Linux systems to the native format, use the **-a** option with unzip to properly extract text files. Then, to fix execution permissions for all **\*.sh** scripts, go to the **rtvapm** directory and execute:

```
./rtvapm_init.sh
```

### Multi-Machine Installations

If you are using more than one host machine for your RTView Enterprise Monitor setup, extract and install the standard platform and the required Solution Package(s) on each host. For example, if you are using a separate machine for the Central Servers, the Display Server and the Data Collection Server, install the standard platform and the required Solution Package(s) three times, one on each of these machines.

### Documentation

To access online help for any of the Monitor displays select the help (?) button in the top right corner.

## Application Server

If you plan to deploy through a Web-browser, you must install the Application Server of your choice. If you are not using Apache Tomcat, refer to the vendor Application Server documentation for deployment instructions.

## Solution Packages

After you download and install the standard RTView Enterprise Monitor platform on the required machine, install the needed Solution Packages to execute the Data Collection Server process that will gather the monitoring data. The full RTView Enterprise Monitor platform contains all the available Solution Packages.

Each installed Solution Package creates a separate directory in the RTView Enterprise Monitor installation directory (**rtvapm**). For example, installing the TIBCO EMS monitor Package creates the **emsmon** directory (**rtvapm/emsmon**). See the **README.txt** file, located in the root directory of each Solution Package, for instructions about configuring and working with the Solution Package. Property file examples are available in the **projects/sample** directory of each Solution Package.

---

# Upgrading the Monitor

This section describes the steps necessary to upgrade existing RTView Enterprise Monitor applications. It is organized by version. To upgrade your application, follow the steps for each version between the version you are upgrading from and the version you are upgrading to. Note that this section does not include upgrade information for Solution Packages. This section includes:

- “EM 3.5” on page 9
- “EM 3.3” on page 10
- “EM 3.2” on page 10
- “EM 3.1” on page 10
- “EM 3.0” on page 12
- “EM 2.3” on page 13
- “EM 2.0” on page 14
- “EM 1.5.0.0” on page 14
- “EM 1.3.0.0” on page 15

## EM 3.5

**Note:** In EM 3.5 and later, the **emsample** project is already configured to include the diagram generator and no setup is required.

Users upgrading projects from versions previous to EM 3.5 should do the following to add the Diagram Generator to the project you created in an earlier release:

**1.** Add the following line to **<project\_dir>\servers\central\rtview.properties**:

```
rtvapm_package=dg
```

**2.** Copy **RTVAPM\_HOME\dg\dbconfig\rtvdiagram.script** to **<project\_dir>\DATA**.

**3.** Add the following lines to **<project\_dir>\servers\central\server.properties**:

```
server.database.6=file: ../../DATA/rtvdiagram
```

```
server.dbname.6=rtvdiagram
```

**4.** Add the Diagram Admin displays to your navigation tree or to **<project\_dir>\servers\central\custom\_views\_navtree.xml**:

```
<node label="DG Admin" mode="" display="rtv_dir_dgadmin" >
  <node label="Nodes" mode="" display="rtvdiagram_admin_node"/>
  <node label="Links" mode="" display="rtvdiagram_admin_link"/>
  <node label="Diagram Props" mode="" display="rtvdiagram_admin_diagramprops"/>
</node>
```

**EM 3.3**

Users upgrading projects from versions previous to EM 3.2 should remove the **rtv\_appmon\_panels.xml** file from their project directory if they want to use the tab framework that was introduced in EM 3.0.

**EM 3.2**

There are no upgrade steps required when upgrading from EM 3.1 to EM 3.2.

**EM 3.1**

Refer to the following instructions as appropriate. If you:

- “Created an EM project using a previous release”
- “Created a custom Solution Package”
- “Are not using standard RTView Enterprise Monitor run scripts”

**Created an EM project using a previous release**

No changes are required to projects created in previous versions. However, we strongly encourage you to modify your **central.properties** and **rtview.properties** files for each Solution Package you are using with the following changes (described below). This will make it easier for you to merge changes to the **central.properties** file in future releases. See the current **central.properties** file for an example of how each Solution Package section should look after you make these changes.

- 1.** For each Solution Package you are using, remove the following properties from **central.properties** (where **pck** is the name of the package and **PCK-LOCAL** is the name of the Data Server hosting that Solution Package):

```
sl.rtvview.cmd_line=-rtvapm_packages:pck
```

```
sl.rtvview.cp=%RTVAPM_HOME%/pck/lib/rtvapm_pck.jar
```

```
# CI Type Defs
```

```
ConfigCollector.sl.rtvview.xml.xmlsource=rtvconfig.pck.xml 0 rtvconfig.pck.xml 0 1
```

```
ConfigCollector.sl.rtvview.cache.config=rtv_config_cache_source_xml.rtv $package:pck
```

```
# Navigation
uiprocess.sl.rtvview.xml.xmlsource=pck_navtree.xml 0 pck_navtree.xml 0 1
uiprocess.sl.rtvview.xml.xmlsource=pck.navinfo.xml 0 pck.navinfo.xml 0 1
uiprocess.sl.rtvview.cache.config=rtv_tabtree_cache_source_comp.rtv $package:pck
AlertAggregator.sl.rtvview.cache.config=rtv_alerts_source.rtv $rtvDataServer:PCK-LOCAL
AlertAggregator.sl.rtvview.cache.config=rtv_cistats_source.rtv $rtvDataServer:PCK-LOCAL
AlertAggregator.sl.rtvview.cache.config=rtv_cimap_source.rtv $ciType:XYZ
$rtvDataServer:PCK-LOCAL
```

2. For each Solution Package you are using, add the following property to **central.properties** (where **pck** is the name of the package and **PCK-LOCAL** is the name of the Data Server hosting that Solution Package):

```
AlertAggregator.sl.rtvapm.cisource=dataserver=PCK-LOCAL packages=pck
```

**NOTE:** You can only have one **cisource** line per Data Server. If a single Data Server is hosting multiple Solution Packages, you can specify a comma-separated list of Solution Packages. If you do not want to include all CI Types for a package on a Data Server, use the **types** syntax instead of Solution Packages. See the **sl.rtvapm.cisource** property in [Appendix B, “Properties”](#) section for details about **cisource** property syntax.

3. For each Solution Package, add the following property to the **rtview.properties** file (where **pck** is the name of the Solution Package):

```
rtvapm_reference=pck
```

### Created a custom Solution Package

No changes are required unless you upgraded your project as described above. However, we encourage you to use the new properties file scheme to make it easier to merge changes to the **central.properties** file in future releases. Add a new file to the **conf** directory in your custom Solution Package named **rtvapm.pck.ref.properties** (where **pck** is the name of your Solution Package). Add the following lines to your new properties file (filling in your package name for **pck**). Also upgrade your project as listed above.

```
sl.rtvview.cmd_line=-rtvapm_packages:pck
sl.rtvview.cp=%RTVAPM_HOME%/pck/lib/rtvapm_pck.jar
# CI Type Defs
ConfigCollector.sl.rtvview.xml.xmlsource=rtvconfig.pck.xml 0 rtvconfig.pck.xml 0 1
ConfigCollector.sl.rtvview.cache.config=rtv_config_cache_source_xml.rtv $package:pck
# Navigation
uiprocess.sl.rtvview.xml.xmlsource=pck_navtree.xml 0 pck_navtree.xml 0 1
uiprocess.sl.rtvview.xml.xmlsource=pck.navinfo.xml 0 pck.navinfo.xml 0 1
uiprocess.sl.rtvview.cache.config=rtv_tabtree_cache_source_comp.rtv $package:pck
```

### Are not using standard RTView Enterprise Monitor run scripts

If you are not using the standard RTView Enterprise Monitor run scripts, no changes are required if you did not upgrade your project as described above. However, we encourage you to upgrade your project to make it easier to merge changes to the **central.properties** file in the future. Look at the changes in **common\bin\rtvapm\_common.bat/sh** and apply the same changes to your custom scripts. These scripts have been enhanced to look for **rtvapm\_reference** in the **rtview.properties** file and, for all found, to add the **RTVAPM\_HOME\pck\conf\rtvapm.pck.ref.properties** file to the command line.

## EM 3.0

Users upgrading projects that were created prior to EM 3.0.x must to do the following to get the new navigation framework:

1. Merge the following properties from the new **emsample/servers/central/central.properties** into your central.properties file:

- Everything in the NAVIGATION section:

```
#####
```

```
# NAVIGATION
```

```
# list of solution packages to include on the components tab in the order they should be shown within each Tech/Vendor
```

```
uiprocess.sl.rtv.sub=$rtvPackages:wls,wsm,jbossmon,tomcat,bwmon,bw6mon,emsmmon,tasmon,tbemon,ocmon,mqmon,orammon,db2mon,hawkmon,jvm,rtvprocs,hostbase,vmwmon,acwmon,solmon,uxmon
```

```
# list of Technologies in the order they should be shown
```

```
uiprocess.sl.rtv.sub=$rtvTechs:'Application / Web Servers,Middleware,Databases,Processes,Hosts / VMs,Connectors,Other'
```

```
# list of Vendors in the order they should be shown
```

```
uiprocess.sl.rtv.sub=$rtvVendors:'TIBCO,Oracle,IBM,Open Source,Other'
```

```
# CUSTOM tab
```

```
uiprocess.sl.rtv.xml.xmlsource=custom_views_navtree.xml 0 custom_views_navtree.xml 0 1
```

```
uiprocess.sl.rtv.cache.config=rtv_tabtree_cache_source.rtv
```

```
$rtvNavTreeFilename:custom_views_navtree.xml $rtvNavTabName:Custom
```

- Everything under Navigation in the Solution Package sections for each Solution Package you are using. For example, this is the Navigation section for emsmmon:

```
# Navigation
```

```
uiprocess.sl.rtv.xml.xmlsource=emsmmon_navtree.xml 0 emsmmon_navtree.xml 0 1
```

```
uiprocess.sl.rtv.xml.xmlsource=emsmmon.navinfo.xml 0 emsmmon.navinfo.xml 0 1
```

```
uiprocess.sl.rtv.cache.config=rtv_tabtree_cache_source_comp.rtv $package:emsmmon
```

2. Copy the following files from the new **emsample/servers/central** directory to your project directory:

- **custom\_view.rtv**
- **custom\_views\_dir.rtv**
- **rtv\_custom.xml**
- **custom\_views\_acc.rtv**
- **custom\_views\_navtree.xml**
- **rtv\_appmon\_panels.xml**

3. In your **project directory/webapps** directory, run **make\_all\_wars** to rebuild the war file and redeploy **emsample.war** to your application server.

4. If you have added custom nodes to **rtv\_appmon\_navtree.xml** in your projects, replace the nodes in **custom\_views\_navtree.xml** with your custom nodes. Your custom nodes will show up on the **CUSTOM** tab in the new navigation framework. See [“Modify the CUSTOM Tab” on page 70](#) for details about configuring the **CUSTOM** tab.

Users upgrading custom Solution Packages created prior to EM 3.0.x must do the following in order to include their Solution Package displays on the Components tab:

1. Create a new XML file named **<package>.navinfo.xml** file where **<package>** is the same prefix you used in your **navtree.xml** file. This file defines the Heading, Technology and Vendor to use in the **Components** tree. See the **RTVAPM\_HOME/projects/emsample/custom/src/rfiles/custom.navinfo.xml** for an example of how to use it.
2. If your Solution Package does not contain a **navinfo.xml**, create named **<package>\_navinfo.xml** with the Solution Package nodes you previously added to **emsample/servers/central/rtv\_appmon\_navtree.xml**.
3. Add your Solution Package package name to this line in **central.properties** (the same value as **<package>** in Steps 1 and 2:

# list of solution packages to include on the components tab in the order they should be shown within each Tech/Vendor

```
uiprocess.sl.rtvview.sub=$rtvPackages:wls,wsm,jbossmon,tomcat,bwmon,bw6mon,emsmon,
tasmon,tbemon,ocmon,mqmon,oramon,db2mon,hawkmon,jvm,rtvprocs,hostbase,vmwmon,
acwmon,solmon,uxmon
```

4. If the **navinfo.xml** file created in Step 2 contains a Technology or Vendor that is not already in the following properties in **central.properties**, add them:

# list of Technologies in the order they should be shown

```
uiprocess.sl.rtvview.sub=$rtvTechs:'Application / Web
Servers,Middleware,Databases,Processes,Hosts / VMs,Connectors,Other'
```

# list of Vendors in the order they should be shown

```
uiprocess.sl.rtvview.sub=$rtvVendors:'TIBCO,Oracle,IBM,Open Source,Other'
```

See ["Creating Custom Solution Packages" on page 931](#) for more information.

## EM 2.3

The size of the CName column was increased from 50 to 255 characters to account for large CI Names being included in the CMDB database table.

Follow the alter table sql sentence to apply to your supported DB platform(s).

### DB2:

```
ALTER TABLE "RTVCMDB"
ALTER COLUMN "CName" SET DATA TYPE VARCHAR(255);
```

### Oracle:

```
ALTER TABLE "RTVCMDB"
MODIFY "CName" VARCHAR2(255) NOT NULL;
```

### SQL Server:

```
ALTER TABLE [RTVCMDB]
ALTER COLUMN [CName] VARCHAR(255)
```

### MySQL:

```
ALTER TABLE "RTVCMDB"
MODIFY "CName" VARCHAR(255);
```

### SyBase:

```
ALTER TABLE "RTVCMDB"
```

```
MODIFY "CIName" VARCHAR(255) NOT NULL
```

## EM 2.0

### Key Metrics

Key Metrics (KM) is a new feature added in RTView Enterprise Monitor 2.0.0 that allows users to see how close a metric is approaching its threshold over a period of time. This allows you to both proactively anticipate [“Key Metrics Views” on page 139](#) performance problems BEFORE the alert threshold is crossed as well analyze the circumstances that led up to error conditions AFTER you got an alert. For details, see .

When upgrading from previous releases, perform the following steps to add KM to your project:

1. Add the following to the **rtview.properties** file in your central directory (In **emsample, servers\central\rtview.properties**):

#### # Include km package

```
rtvapm_package=km
```

2. Add the following to your navigation tree (in **emsample, servers\central\rtv\_appmon\_navtree.xml**):

```
<node label="Key Metrics Views" mode="" display="rtv_dir_km">
  <node label="Service KM Heatmap" mode="" display="rtv_km_current_heatmap"/>
  <node label="Service KM Table" mode="" display="rtv_km_current_table"/>
  <node label="Service KM History" mode="" display="rtv_km_history_heatmap_sh"/>
  <node label="Service KM History (Alt)" mode="" display="rtv_km_history_heatmap"/>
</node>
```

## EM 1.5.0.0

### Metric Explorer

The Metric Explorer (MX) is a new feature added in RTView EM 1.5.0 that allows end-users to create custom dashboards. For details, see [“Metric Explorer” on page 173](#). To add MX to your existing application, perform the following steps:

1. Add the following to the **rtview.properties** file, located in the directory where you are running the Central RTView Enterprise Monitor servers: **rtvapm\_package=mx**
2. Add the following to your navigation tree:

```
<node label="Metric Explorer" mode="" display="mx_dir">
  <node label="Metric Explorer" mode="" display="rtv_mx_view"/>
</node>
```

3. Add the RTVMX database as described in Steps 2 and 4 in [“Configure Databases of the Central Servers” on page 39](#).

## EM 1.3.0.0

### Alert Notifications

In previous releases, alert notifications were executed in the Solution Package Data Servers, but now notifications are done centrally. In order to support this, the following properties from **rtvapm\common\conf\rtvapm.properties** have been removed or replaced. If you have modified any of these properties in **rtvapm\common\conf\rtvapm.properties** or overridden them in your properties file, you will need to make the following modifications:

- **sl.rtvview.alert.alertcommand** - use **sl.rtvview.notifiercommandnew** instead. Also set the same value on the **sl.rtvview.notifiercommandfirstsevchange** property if you want to receive a notification the first time the severity changes on an alert. If you do not want to receive notifications the first time the severity changes on an alert, set **sl.rtvview.notifiercommandfirstsevchange** to a blank value.
- **sl.rtvview.alert.renotificationcommand** - This property is no longer supported.
- **sl.rtvview.alert.renotificationmode** - This property is no longer supported.
- **sl.rtvview.alert.renotificationtime** - This property is no longer supported.
- **sl.rtvview.alert.renotifyonsevchangedmode** - This property is no longer supported. This property previously defaulted to **1**. If you set it to **0**, set the **sl.rtvview.notifiercommandfirstsevchange** to a blank value. If you set it to **1**, set the **sl.rtvview.alert.notifiercommandfirstsevchange** to the same value as **sl.rtvview.notifiercommandnew**. With this configuration, you will get a notification the first time the Severity changes. If you want to be notified every time the Severity changes, use the **sl.rtvview.alert.notifiercommandchanged** property and set **sl.rtvview.alert.notifiercolumns** to **Severity**.
- **sl.rtvview.alert.commentcommand** - This property is no longer supported. To receive notifications when the comment changes, set the **sl.rtvview.alert.notifiercommandchanged** to the value you previously used for the **commentcommand** property. Set the **sl.rtvview.alert.notifiercolumns** property to **Comments**.
- **sl.rtvview.alert.alertclearedcommand** - This property is no longer supported. Use the **sl.rtvview.alert.notifiercommandcleared** property instead.



## CHAPTER 2 Configuration and Deployment

This section describes how to configure RTView Enterprise Monitor. This section includes:

- “Overview” on page 17
- “Configure Central Servers” on page 19
- “Configure Solution Package” on page 26
- “Configure Service Data Model” on page 29
- “Configure Databases of the Central Servers” on page 39
- “Configure the Historian Database” on page 43
- “Configure User and Role Management” on page 45
- “Configure High Availability” on page 49

---

### Overview

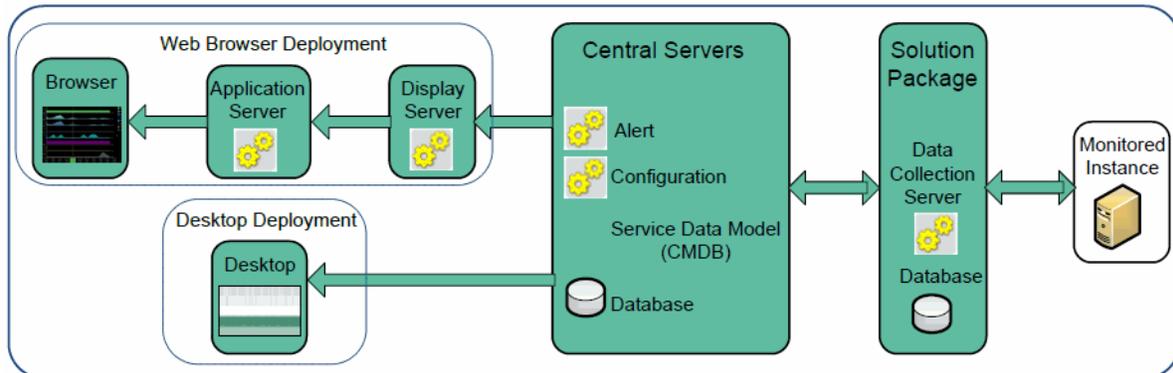
This section summarizes how you configure RTView Enterprise Monitor. This section includes:

- “Basic Steps” on page 18

You configure RTView Enterprise Monitor by modifying a series of properties. Typically, you edit properties in property (**.properties**) files. Properties can also be set from an [initialized command window](#) or used as substitutions. The configuration instructions in this section assume you are modifying properties in property files, which we recommend. For details about properties and substitutions, see [“Properties” on page 981](#).

The following figure illustrates the main functional RTView Enterprise Monitor components. In this figure, the components are situated where they might reside when multiple machines are used in a production environment. Lines connecting the rectangles indicate the components are connected in a production environment. Green indicates the component is a subject of the current configuration steps, white indicates the component is not.

For example, this Configuration section does not address the application server, nor the Monitored Instance, therefore they are white. Both the Web Browser and Desktop Deployment components are shown.



Note that:

- For best performance in a production environment, the Data Collection Server resides close to the data sources (Monitored Instances).
- The term server refers to a Java process (not a physical machine).
- The Web Browser Deployment requires an application server and a Display Server.

## Basic Steps

Some of the configuration steps described here are required (where noted) and others are optional. NOTE: These instructions are based on the [project directory](#) (which contains a copy of the **emsample** directory) you create when you “[Configure Central Servers](#)”.

- **Step 1 (required): “[Configure Central Servers](#)”.** This section describes how to configure the Central Servers, including the creation of your [project directory](#). At the conclusion of these steps you will have access to RTView Enterprise Monitor displays via Web browser. The displays will contain JVM monitoring data for RTView Enterprise Monitor processes, gathered by the RTVMGR Solution Package that comes with RTView Enterprise Monitor. The displays will not yet contain monitoring data for other Solution Packages. This Step is required.
- **Step 2 (required): [Configure Solution Package](#).** This section describes how to configure a Solution Package for RTView Enterprise Monitor. At the conclusion of these steps your Solution Package-specific displays will contain monitoring data from the Solution Package. This Step is required. Choose the appropriate instructions:
  - If you downloaded and installed the *standard* RTView Enterprise Monitor (**rtvpm\_std\_<version>.zip**) and now wish to install a Solution Package, see the instructions for the Solution Package. For example, for the Solution Package for Solace, refer to [Chapter 19, “\[Solution Package for Solace Message Router\]\(#\)”](#) .

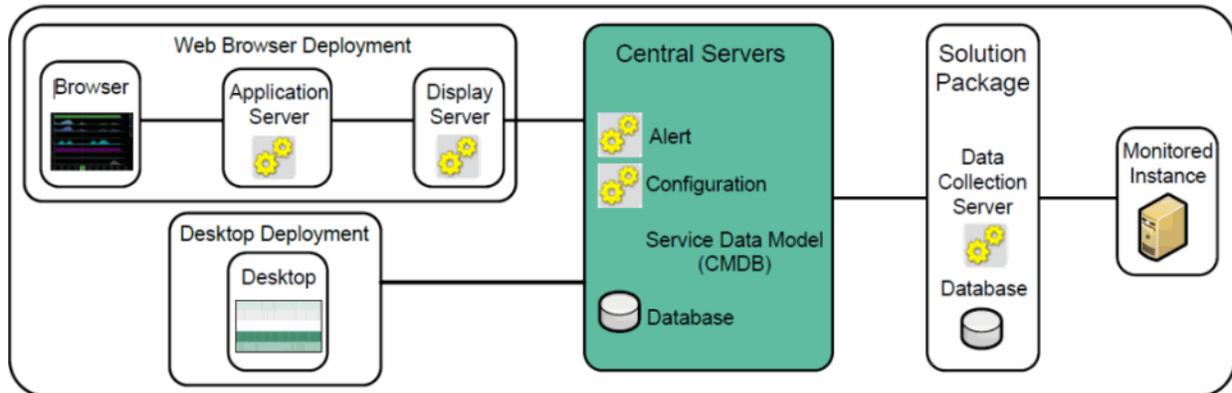
- If you downloaded and installed the full RTView Enterprise Monitor (`rtvapm_full_<version>.zip`), continue with the instructions in this chapter: [“Configure Solution Package”](#).
- **Step 3 (optional): “Configure Service Data Model”**. This section describes how to configure the RTView Enterprise Monitor Service Data Model. At the conclusion of these steps you will have a “single-pane-of-glass” view in which data from your Solution Packages are visible in all relevant RTView Enterprise Monitor displays. This Step is optional. NOTE: These instructions describe configuration on a single machine. This is suitable only for evaluation purposes. If you use more than one machine for your RTView Enterprise Monitor setup, you must install the standard platform plus the required Solution Package(s) on each host, and assign their port names in corresponding properties files. This Step is optional.
- **Step 4 (optional): “Configure Databases of the Central Servers”**. This section describes how to setup a production database. At the conclusion of these steps your RTView Enterprise Monitor deployment will use the production database rather than the default HSQLDB database. This Step is optional. NOTE: These instructions describe configuration on a single machine. This is suitable only for evaluation purposes. If you use more than one machine for your RTView Enterprise Monitor setup, you must install the standard platform plus the required Solution Package(s) on each host, and assign their port names in corresponding properties files. This Step is optional.
- **Step 5 (optional): “Configure the Historian Database”**. This section describes how to setup a production database for historical data. At the conclusion of these steps your RTView Enterprise Monitor deployment will use the production database for historical data rather than the default HSQLDB database. This Step is optional.
- **Step 6 (optional): “Configure User and Role Management”**. This section describes how to setup user access control for RTView Enterprise Monitor. At the conclusion of these steps defined roles will determine user access to your RTView Enterprise Monitor deployment. This Step is optional.
- **Step 7 (optional): “Configure High Availability”**. This section describes how to configure high availability for RTView Enterprise Monitor. At the conclusion of these steps your HA configuration will prevent the loss of data and alerts in the event of a failover. This Step is optional.
- **Step 8 (optional): “Alert Configuration”**. This section describes how to configure alert behavior such as alert notification, as well as the RTVRULES Solution Package. This Step is optional.
- **Step 9 (optional): “User Interface Configuration”**. This section describes how to configure the RTView Enterprise Monitor user interface. This Step is optional.

---

## Configure Central Servers

This section describes how to configure the Central Servers. These instructions assume you installed the RTView Enterprise Monitor platform. When you have finished this part of the RTView Enterprise Monitor Configuration, the client will have access to RTView Enterprise Monitor displays via Web browser. The displays will contain JVM monitoring data for RTView Enterprise Monitor processes, gathered by the RTVMGR Solution Package that comes with RTView Enterprise Monitor. The displays will not yet contain monitoring data for other Solution Packages. This Step is required.

The following figure illustrates the RTView Enterprise Monitor components that are the subject of this section.



### At this point you have:

- Verified “[System Requirements](#)”
- Completed instructions in “[Installation](#)” for the RTView Enterprise Monitor platform

### To configure the Central Servers:

1. Create a project directory. NOTE: This document assumes you create the directory structure described here.

---

**Important:** The contents of the **rtvapm** directory must not be modified as it gets overwritten when a new version of RTView Enterprise Monitor is installed, which would result in a loss of work. For this reason, before making any changes to the configuration files, we recommend that you create a copy of the RTView Enterprise Monitor files outside the RTView Enterprise Monitor installation folder as instructed here.

---

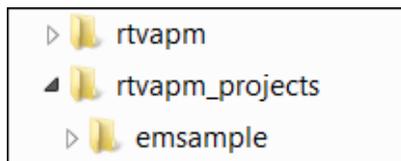
Parallel to the **rtvapm** directory, create a project directory named **rtvapm\_projects**.

Copy the **emsample** folder, located in the **rtvapm/projects** folder, to the **rtvapm\_projects** folder you just created.

**Note:** To preserve permissions, UNIX/Linux users should copy using the **-rp** option. For example:

**cp -rp rtvapm/projects/emsample rtvapm\_projects**

Verify you have the following RTView Enterprise Monitor directory structure:




---

**Note:** **rtvapm\_projects/emsample** is the directory from which you use RTView Enterprise Monitor. In this documentation, we refer to **rtvapm\_projects/emsample** as your [project directory](#).

---

- If you plan to create custom Solution Packages, open the **central.properties** file, located in the `\rtvapm_projects\emsample\servers\central` directory, and uncomment the following line in the **Configure RtvConfig Source** section:

```
#ConfigCollector.sl.rtvview.cache.config=rtv_config_cache_source_db.rtv
```

- Initialize a command line window or terminal window on the host by performing the following steps:

---

**Note:** To start any RTView process within RTView Enterprise Monitor (Data Server, Display Server, Historian, Viewer and so forth), you first initialize a command line or terminal window on the host by executing the **rtvapm\_init** script from the RTView Enterprise Monitor installation directory (**rtvapm**) directory and the **rtvapm\_user\_init** script from your project directory.

---

### Windows

Go to your RTView Enterprise Monitor installation directory (**rtvapm**) and type:

```
rtvapm_init
cd ..\rtvapm_projects\emsample
rtvapm_user_init
```

### UNIX

The script used to initialize a terminal window depends on whether you are in csh or rsh (for example, Linux, Mac OS X). UNIX scripts are Bourne shell compatible. With a Bourne shell, open a terminal window.

Go to your RTView Enterprise Monitor installation directory (**rtvapm**) and type:

```
./rtvapm_init.sh
cd ../rtvapm_projects/emsample
./rtvapm_user_init.sh
```

- Copy the **.war** files located in your [project directory/webapps](#) directory and deploy them to your Application Server.
- Start the Application Server.
- By default, all Solution Packages are included in the **Components** tab. To remove undesired Solution Package references from the EM navigation tree, modify the **uiprocess.sl.rtvview.sub=\$rtvPackages** property in **central.properties** and remove the Solution Packages you do not want to see in the **Components** tab. For example, the following removes the EMS Monitor Solution Package:

```
# list of solution packages to include on the components tab in the order they should be
shown within each Tech/Vendor
```

```
#uiprocess.sl.rtvview.sub=$rtvPackages:wls,wsm,jbossmon,tomcat,bwmon,bw6mon,emsmon,tasm
on,tbemon,ocmon,mqmon,oramon,db2mon,hawkmon,jvm,rtvprocs,hostbase,vmwmon,acwmon,solmon
,uxmon
```

```
uiprocess.sl.rtvview.sub=$rtvPackages:wls,wsm,jbossmon,tomcat,bwmon,bw6mon,tasmon,tbem
on,ocmon,mqmon,oramon,db2mon,hawkmon,jvm,rtvprocs,hostbase,vmwmon,acwmon,solmon,uxmon
```

The Solution Packages in the **Components** tab are grouped by technology and by vendor. To remove a whole technology group, remove it from the **uiprocess.sl.rtvview.sub=\$rtvTechs** property in **central.properties**. For example, the following removes the Middleware technology:

```
# list of Technologies in the order they should be shown
#uiprocess.sl.rtvview.sub=$rtvTechs:'Application / Web
Servers,Middleware,Databases,Processes,Hosts / VMs,Connectors,Other'
uiprocess.sl.rtvview.sub=$rtvTechs:'Application / Web Servers,Databases,Processes,Hosts
 / VMs,Connectors,Other'
```

To remove a vendor, remove it from the **uiprocess.sl.rtvview.sub=\$rtvVendors** property in **central.properties**. For example, the following removes TIBCO from the list of vendors:

```
# list of Vendors in the order they should be shown
uiprocess.sl.rtvview.sub=$rtvVendors:'TIBCO,Oracle,IBM,Open Source,Other'
uiprocess.sl.rtvview.sub=$rtvVendors:'Oracle,IBM,Open Source,Other'
```

7. Change directory (**cd**) to your **project directory/servers** directory. Execute the following scripts to start and run RTView Enterprise Monitor processes locally:

---

**Note:** Errors and messages for the Alert Server and Configuration Server processes are written to the **alerts\_dataserver.log** file and the **config\_dataserver.log** file, located in your **project directory/servers/central/logs** directory.

---

### Windows

**start\_rtv\_all** To start the Central Server database, Configuration Server, Alert Server, Display Server and Alert Historian.

### UNIX

**start\_rtv.sh all** To start the Central Server database, Configuration Server, Alert Server, Display Server and Alert Historian.

---

**Note:** By default, the HSQLDB database for Alerts, Alert History and Configuration is located in your **project directory/DATA** directory. When the default database script (**rundb**) is run for the first time, the HSQLDB database reads from the Alerts, Alert History and Configuration databases and provides the information to the Configuration Server.

---

8. Access the Monitor by pointing a browser to:

<http://YourServerName:port/appname>

For example:

<http://localhost:8068/emsample>

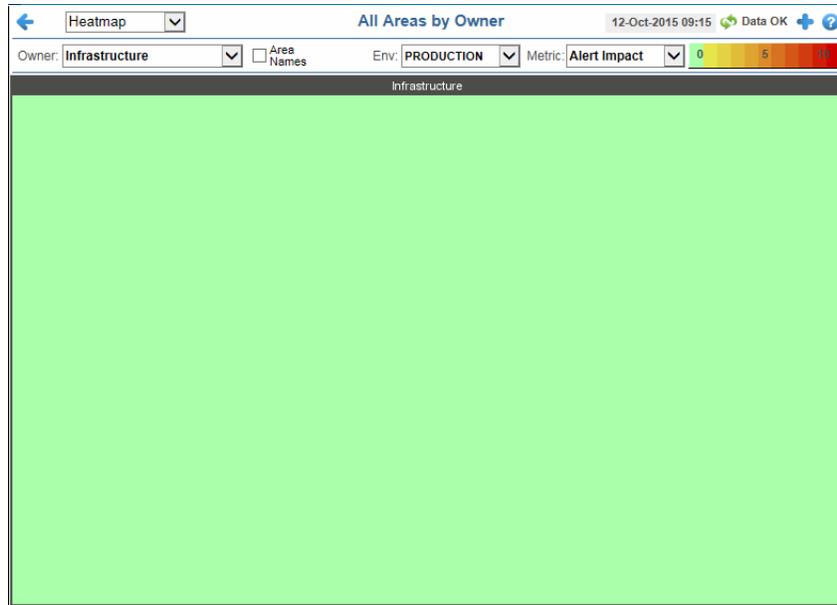
The RTView Enterprise Monitor Login dialog opens.

9. Login using:

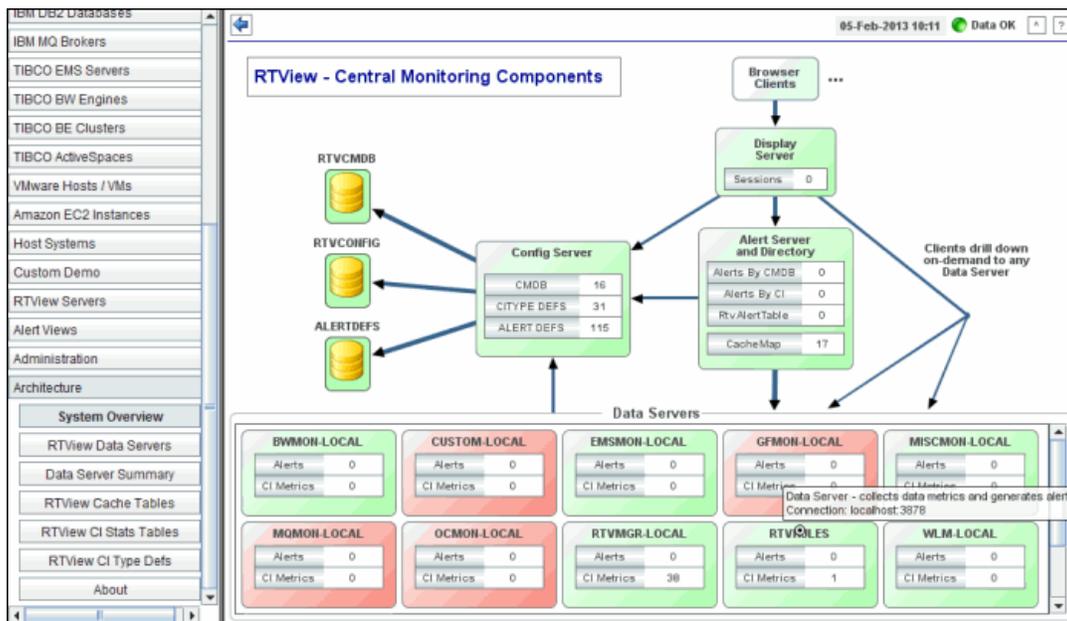
User: **admin**

Password: **admin**

The RTView Enterprise Monitor main display, **All Management Areas - "Area Heatmap"**, opens. The **All Management Areas - "Area Heatmap"** is populated with JVM data from the RTView Enterprise Monitor servers (collected by the RTView Manager Solution Package which monitors RTView applications) and the default CMDB database structure. By default, a single Owner is in the heatmap, **Infrastructure**.



- Verify your setup by opening the **Architecture - "System Overview"** display using the navigation tree (in the left panel) and confirming that the following objects in the display topology are green (indicating the processes are running): the Configuration Server, Alert Server, Display Server, as well as each Data Server that has a corresponding Solution Package installed.



- Open the `"rtvservers.dat"` file, located in your `project directory/servers` directory, in a text editor and comment out uninstalled Solution Packages (shown in red in the

Architecture - “[System Overview](#)” display). For example, to comment out the WebLogic Solution Package Data Server, we enter **#** as follows:

```
### WLM
#
#wlm ./wlm dataserver rundata
#wlm ./wlm historianian runhist -ds
```

**Save** the file.

- 12.** Open the **central.properties** file, located in your [project directory/servers/central](#) directory, in a text editor and comment out the lines for the Solution Package. For example, to comment out the WebLogic Solution Package Data Server, we enter **#** as follows:

```
#####
# WLM

#AllDataClient.sl.rtvview.dataserver=name=WLM-LOCAL;connect=localhost:3578
#monitor.sl.rtvview.jmx.jmxconn=WLM-LOCAL localhost 3568 URL:- - - false

# CI SOURCE
#AlertAggregator.sl.rtvapm.cisource=dataserver=WLM-LOCAL packages=wlm
```

**Save** the file.

- 13.** Open the **rtview.properties** file, located in your [project directory/servers/central](#) directory, in a text editor and comment out the line for the Solution Package. For example, to comment out the WebLogic Solution Package Data Server, we enter **#** as follows:

```
#rtvapm_reference=wlm
```

To summarize the current state of your RTView Enterprise Monitor deployment, the:

- RTVMGR-LOCAL Data Server is green and receiving JVM monitoring data from RTView Enterprise Monitor processes, as indicated by the non-zero value in the **CI Metrics** field.
- Data Servers that are green indicate they are running. However, they are not yet receiving monitoring data, as indicated by the zero (0) value in the **CI Metrics** field. When you connect these Data Servers to their respective Monitored Instances, the **CI Metrics** fields will change to positive numbers.
- **Administration** - “Alert Administration” display (as shown in the following figure) contains default alerts for all installed Solution Packages. The alerts are not yet enabled. Alerts are activated after you connect RTView Enterprise Monitor to your production Data Servers and enable the alerts.

The screenshot shows the 'Alert Administration' window. At the top, it displays the date '12-Oct-2015 09:26' and a status 'Data OK'. Below the title bar, there is an 'Alert Filter' field with a 'Clear' button and a green indicator 'Alert Settings Conn OK'. The main area contains a table with the following columns: Alert, Warning Level, Alarm Level, Duration, Alert Enabled, and Override Count. The table lists various alerts such as 'AcwInstanceCpuHigh', 'AcwInstanceDiskReadBytesHigh', 'AmxServiceHitRateHigh', etc. Below the table, there are navigation controls for 'Page 1 of 3' and '1 - 200 of 402 items'. At the bottom, there is a 'Settings for Selected Alert' section with fields for Name, Description, Warning Level, Alarm Level, Duration (Secs.), and Enabled, along with a 'Save Settings' button.

| Alert                                   | Warning Level | Alarm Level | Duration | Alert Enabled                       | Override Count |
|---|---------------|-------------|----------|-------------------------------------|----------------|
| AcwInstanceCpuHigh                      | 70            | 80          | 60       | <input checked="" type="checkbox"/> | -1             |
| AcwInstanceDiskReadBytesHigh            | 10000         | 20000       | 35       | <input type="checkbox"/>            | -1             |
| AcwInstanceDiskReadOpsHigh              | 100           | 200         | 30       | <input type="checkbox"/>            | -1             |
| AcwInstanceDiskWriteBytesHigh           | 1000000       | 2000000     | 30       | <input type="checkbox"/>            | -1             |
| AcwInstanceDiskWriteOpsHigh             | 100           | 300         | 30       | <input type="checkbox"/>            | -1             |
| AcwInstanceNetworkReadBytesHigh         | 1000000       | 20000       | 30       | <input type="checkbox"/>            | -1             |
| AcwInstanceNetworkWriteBytesHigh        | 10000         | 20000       | 30       | <input type="checkbox"/>            | -1             |
| AmxServiceHitRateHigh                   | 160           | 200         | 60       | <input checked="" type="checkbox"/> | C              |
| AmxServiceNodeFaultRateHigh             | 200           | 400         | 30       | <input type="checkbox"/>            | C              |
| AmxServiceNodeHitRateHigh               | 75            | 100         | 60       | <input checked="" type="checkbox"/> | C              |
| AmxServiceNodeMovingAvgHitRateHigh      | 200           | 400         | 30       | <input type="checkbox"/>            | C              |
| AmxServiceNodeMovingAvgResponseTimeHigh | 200           | 400         | 30       | <input type="checkbox"/>            | C              |
| AmxServiceNodeResponseTimeHigh          | 5             | 6           | 30       | <input type="checkbox"/>            | C              |
| AmxServiceResponseTimeHigh              | 5             | 6           | 60       | <input type="checkbox"/>            | C              |
| BirdExpired                             | NaN           | NaN         | 0        | <input type="checkbox"/>            | -1             |
| BirdTooHigh                             | 1600          | 2001        | 0        | <input type="checkbox"/>            | -1             |
| Bw6AppNodeCpuUsedHigh                   | 50            | 80          | 30       | <input type="checkbox"/>            | C              |

**14.** This step is for LINUX users only:

LINUX users might see inconsistently aligned labels in displays.

**Important:** These properties should only be applied to Display Servers on Linux AND only if the text size and alignment issue is observed in the Thin Client. Otherwise it can cause unnecessary overhead or unwanted changes to the appearance of text in RTView displays.

To resolve:

- Open the **userDefined.properties** file (where **userDefined** is the name you gave the file), located in your **Project Directory/servers/central/** directory.
- Add the following lines:

**sl.rtvview.cp=%RTV\_HOME%/lib/rtvfonts.jar**

**sl.rtvview.global=rtv\_fonts.rtv**

- Save the file and restart the Display Server.

If you do not have a **userDefined.properties** file:

- Create the file, add the uncommented lines and save the file.
- Open the **rtvservers.dat** file, located in the **Project Directory/emsample/servers/** directory.
- Add the properties line to the Display Server line, as follows:

```
central      ./central      DisplayServer1 rundisp_appmon -
properties:userDefined
```

- Save the file and restart the Display Server.

This completes validation of your Web Deployment.

Proceed to [“Configure Solution Package” on page 26](#).

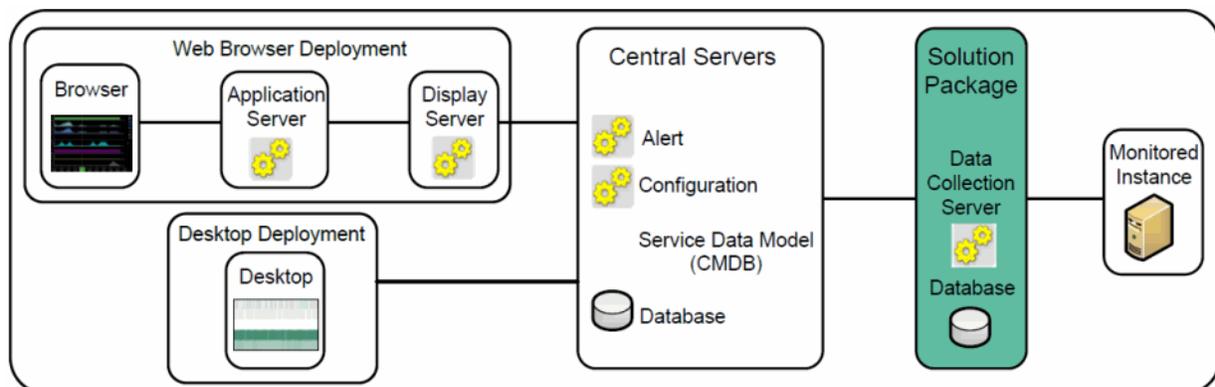
## Configure Solution Package

If you downloaded and installed the full RTView Enterprise Monitor (**rtvapm\_full\_<version>.zip**), which includes all available RTView Enterprise Monitor Solution Packages, proceed with the instructions in this section.

- **Note:** If you downloaded and installed a Solution Package individually (for example, **rtvapm\_<packagename>\_<version>.zip**), refer to the chapter with instructions for the Solution Package (for example, for Solace, see [Chapter 19, “Solution Package for Solace Message Router”](#) ).

This section describes how to configure a Solution Package for RTView Enterprise Monitor by connecting the Data Server for the Solution Package. When you have finished this part of the RTView Enterprise Monitor configuration, your Solution Package-specific displays will contain monitoring data from the Solution Package Data Collection Server. This Step is required.

The following figure illustrates the RTView Enterprise Monitor component that is the subject of this section: the Solution Package.



**At this point you have:**

- Verified “System Requirements”.
- Completed instructions in “Installation” for the *full* RTView Enterprise Monitor platform.
- Completed instructions in “Configure Central Servers”.
- Configured a local RTView Enterprise Monitor deployment and Web Browser RTView Enterprise Monitor deployment. That is, displays such as the **All Management Areas - “Area Heatmap”** are populated with JVM data from RTView Enterprise Monitor servers and the CMDB database (which has only the default Owner, **Infrastructure**).

**To configure the Solution Package:**

1. In an **initialized command window**, change directory (**cd**) to your Solution Package **project directory/servers/<Solution Package>** directory.
2. Locate the **sample.properties** file, make a copy of the file in the same directory and give it a name that is meaningful to you. For example, you might name the file for the Solution Package for Oracle® WebLogic **my\_wlm\_prod.properties**.
3. Open the **.properties** file you just created in a text editor and refer to the **README.txt** file in your Solution Package directory for information about configuring properties for your Solution Package.
4. **Save** the file.
5. Navigate to the **project directory/servers** directory and open the “**rtvservers.dat**” file in a text editor. Locate the section for your Solution Package Data Server. For example, the WebLogic Data Server entry, by default, is the following:

```
### WLM
#
wlm ./wlm dataserver rundata
#wlm ./wlm historian runhist -ds
```

6. Make the following entry to point RTView Enterprise Monitor to the **.properties** file you just created:

**-properties:mymystem**

For example, for the WebLogic Data Server we enter:

```
### WLM
#
wlm ./wlm dataserver rundata -properties:mymystem
#wlm ./wlm historian runhist -ds
```

7. **Save** the file.
8. In the command line window (from the **project directory/servers** directory), start the Solution Package Data Server by typing:

**Windows**

```
start_rtv <packagename> dataserver
```

where **packagename** is the Solution Package data key. For example:

```
start_rtv wlm dataserver
```

starts a WebLogic Data Server.

**UNIX**

`start_rtv.sh <packagename> dataserver`

where **packagename** is the Solution Package data key. For example:

`start_rtv.sh wlm dataserver` starts a WebLogic Data Server.

In the **Architecture - "System Overview"** display the Solution Package Data Server turns green after a few seconds and subsequently receives monitoring data, as indicated by the positive value in the **CI Metrics** field (this can take up to a minute).

9. Open the **Administration - "Alert Administration"** display and locate alerts for the Solution Package Data Server. The alert prefix corresponds to the Solution Package name. For example, the WebLogic alert prefix is **Wls**.
  - a. Identify an alert for your Solution Package that is likely to activate and set the alert **Warning Level** to zero (**0**) and the **Alarm Level** to ten (**10**). This ensures the alert thresholds are exceeded and you can verify your Solution Package configuration. For example, for WebLogic we set the **WlsThreadsTotalHigh** alert **Warning Level** to zero (**0**) and the **Alarm Level** to ten (**10**). Keep in mind that eventually your alert thresholds should be changed to more meaningful values within your system.
  - b. Select **Enabled** to enable the alert.
  - c. Click **Save Settings** and **OK**.

The screenshot shows the 'Alert Administration' interface. At the top, it displays the date and time '09-Oct-2015 14:46' and a status 'Data OK'. Below this is an 'Alert Filter' input field with a 'Clear' button. A green indicator shows 'Alert Settings Conn OK'. The main part of the interface is a table with the following columns: Alert, Warning Level, Alarm Level, Duration, Alert Enabled, and Override Count. The 'WlsThreadsTotalHigh' alert is selected and highlighted in blue. Below the table, the 'Settings for Selected Alert' form is visible, showing the Name as 'WlsThreadsTotalHigh', Warning Level set to '50.0', Alarm Level set to '95.0', Duration (Secs.) set to '30', and the 'Enabled' checkbox checked. A 'Save Settings' button is located at the bottom right of the settings form.

| Alert                                | Warning Level | Alarm Level | Duration | Alert Enabled                       | Override Count |
|--------------------------------------|---------------|-------------|----------|-------------------------------------|----------------|
| WlsJmsDestinationMessagesPendingHigh | 85            | 95          | 30       | <input checked="" type="checkbox"/> | -1             |
| WlsJmsDestinationsCurrentLow         | 85            | 95          | 30       | <input checked="" type="checkbox"/> | -1             |
| WlsJmsMessagesPendingHigh            | 85            | 95          | 30       | <input checked="" type="checkbox"/> | -1             |
| WlsJmsServerHealthNotOK              | NaN           | NaN         | 30       | <input checked="" type="checkbox"/> | -1             |
| WlsLockedUserCurrentHigh             | 85            | 95          | 30       | <input checked="" type="checkbox"/> | -1             |
| WlsOpenSocketsHigh                   | 85            | 95          | 30       | <input checked="" type="checkbox"/> | -1             |
| WlsPendingRequestCurrentHigh         | 85            | 95          | 30       | <input checked="" type="checkbox"/> | -1             |
| WlsQueueLengthHigh                   | 85            | 95          | 30       | <input checked="" type="checkbox"/> | -1             |
| WlsServerCpuHigh                     | 85            | 95          | 30       | <input checked="" type="checkbox"/> | -1             |
| WlsServerHealthNotOK                 | NaN           | NaN         | 30       | <input checked="" type="checkbox"/> | -1             |
| WlsServerHostCpuHigh                 | 85            | 95          | 30       | <input checked="" type="checkbox"/> | -1             |
| WlsServerMemoryUsageHigh             | 85            | 95          | 30       | <input checked="" type="checkbox"/> | -1             |
| WlsServerNewSessionsLow              | 15            | 5           | 30       | <input checked="" type="checkbox"/> | -1             |
| WlsServerOpenSessionsHigh            | 85            | 95          | 30       | <input checked="" type="checkbox"/> | -1             |
| WlsServerPendingUserRequestsHigh     | 85            | 95          | 30       | <input checked="" type="checkbox"/> | -1             |
| WlsServerReloadsHigh                 | 85            | 95          | 30       | <input checked="" type="checkbox"/> | -1             |
| WlsServerStateData                   | NaN           | NaN         | 30       | <input checked="" type="checkbox"/> | -1             |
| WlsServerStateNotRunning             | NaN           | NaN         | 30       | <input checked="" type="checkbox"/> | -1             |
| WlsThreadsTotalHigh                  | 50            | 95          | 30       | <input checked="" type="checkbox"/> | -1             |
| WlsTransactionRolledBackTotalHigh    | 85            | 95          | 30       | <input checked="" type="checkbox"/> | -1             |

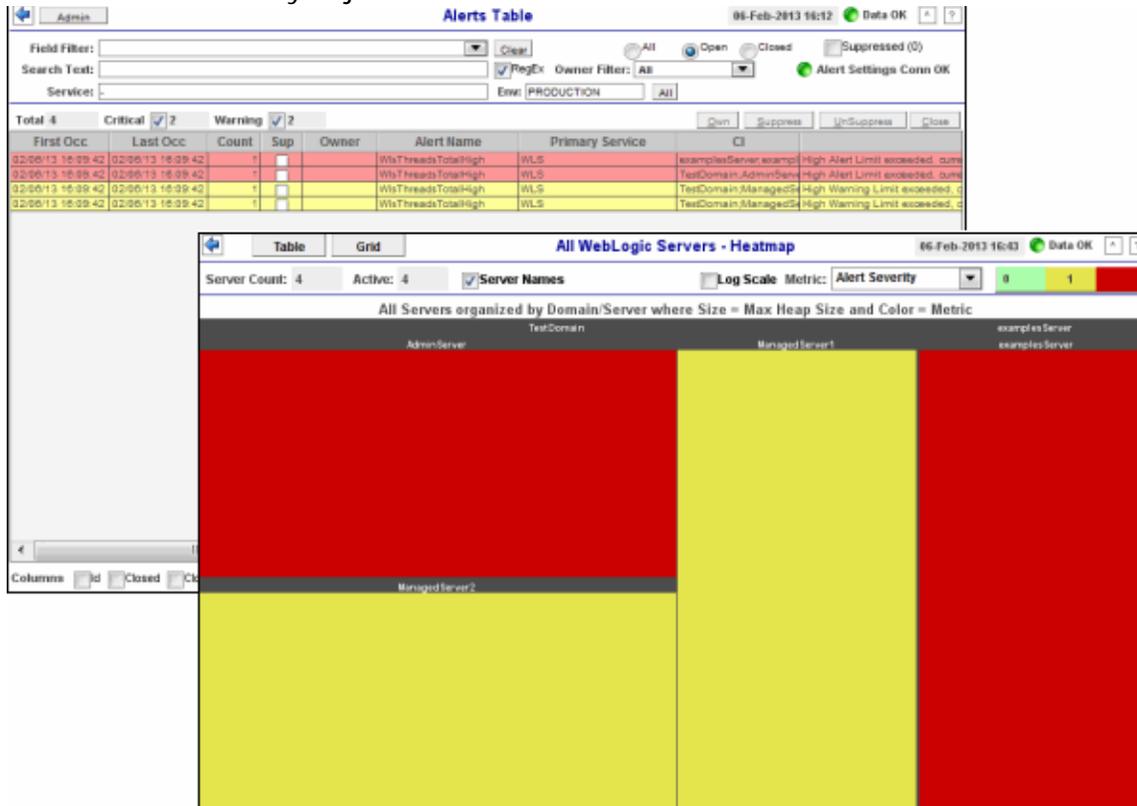
**Settings for Selected Alert**

Name:  Warning Level:  Duration (Secs.):

Description:  ... Alarm Level:  Enabled:

- d. Open the **Alert Views - "RTView Alerts Table"** display and verify you see warning alerts for the alert you just modified and enabled. For example, when the WebLogic thread count goes above zero (**0**) and above ten (**10**) the **WlsThreadsTotalHigh** warning and alarm alerts, respectively, are activated and visible in the **Alert Views - "RTView Alerts Table"** display.

e. Open the **All Servers Heatmap** display for your Solution Package. For example, for WebLogic we open the **Oracle WebLogic - All (WebLogic) Servers Heatmap** display (go to **COMPONENTS Tab/Application/Web Servers/Oracle WebLogic/All Servers Heatmap**). The heatmap contains monitored data for your Solution Package, including the status for the alert you just lowered the threshold on and enabled.



10. Repeat the previous steps for each installed Solution Package.

This completes your Solution Package configuration. Solution Package-specific displays contain monitoring data from your environment. For example, if you just configured the WebLogic Solution Package, displays such as the **Oracle WebLogic Servers - All Servers Heatmap** are populated with data from your WebLogic servers. You do not yet see the data in displays such as the **All Management Areas - "Area Heatmap"** as the Service Data Model (CMDB) is not yet configured.

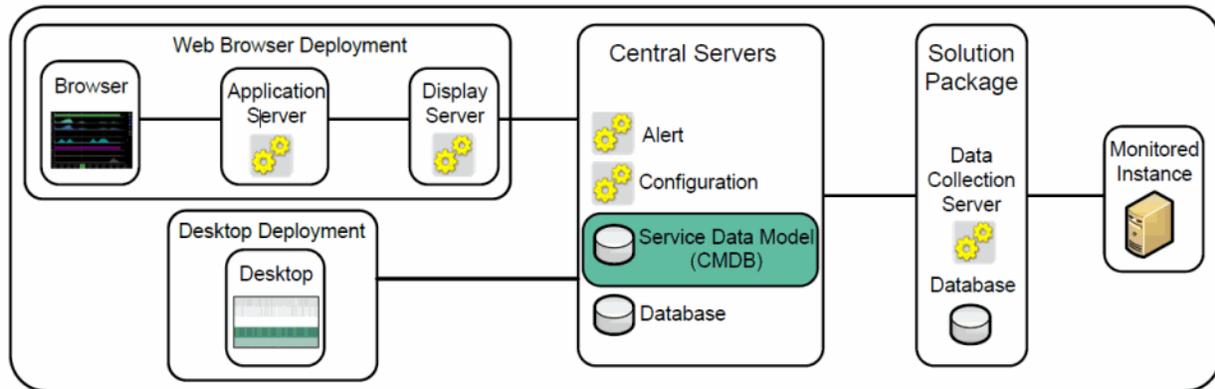
Proceed to ["Configure Service Data Model" on page 29](#).

## Configure Service Data Model

This section describes the RTView Enterprise Monitor Service Data Model (also referred to as the CMDB), and its configuration. The CMDB is a database containing the hierarchical map of associations between all Configuration Items (CIs), Services, Groups, Areas and Owners in your system. When you have finished this part of the RTView Enterprise Monitor configuration you will have a "single-pane-of-glass" view in which data from all your Solution Packages are visible in all relevant RTView Enterprise Monitor displays. When the CMDB is not configured, Solution Package data is only visible in displays that are specifically for that Solution Package.

Configuration of the Service Data Model is optional.

The following figure illustrates the RTView Enterprise Monitor component that is the subject of this section: the CMDB database.



To configure the Service Data Model you determine how the structure of your organization fits into the CMDB hierarchy, then use the **Administration - "CMDB Admin"** display to configure the CI-to-Services mapping.

This section includes:

- ["Introduction to the CMDB"](#): Describes the CMDB structure, and provides examples of how an organization's established structure can be applied to the CMDB.
- ["Configuration Steps"](#): Step-by-step CMDB configuration instructions.

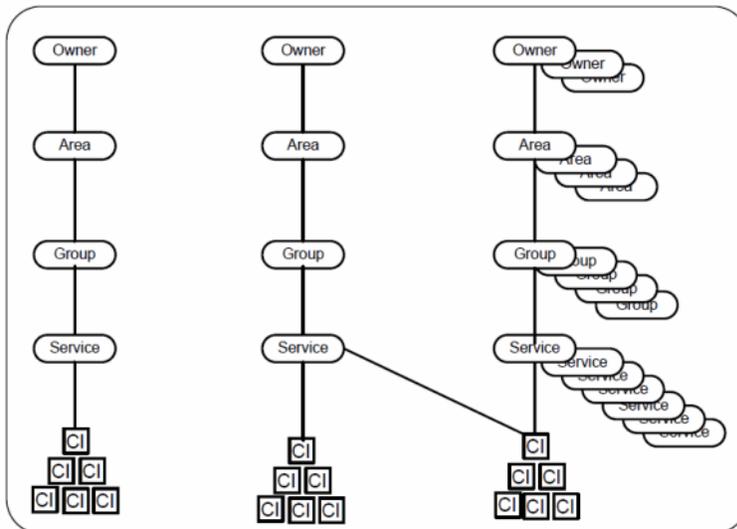
## Introduction to the CMDB

The Service Data Model, or CMDB, is an RTView Enterprise Monitor database that contains the map of all Configuration Items (CIs) in your system to each hierarchical level in the CMDB. The CMDB has four hierarchical levels which suits the monitoring needs of most organizations. The four levels are, from the highest level (Owner) to the lowest level (Service):

- Owner
- Area
- Group
- Service

When you configure your CMDB you associate each CI in your system with a Service, each Service with a Group, each Group with an Area and each Area with an Owner. These associations form the map that enables aggregation of data in RTView Enterprise Monitor displays. When you make any changes to Owners, Areas, Groups or Services the associated levels are automatically updated. For example, when you move a Group from one Area to another, all Services associated with that Group move with it, and the RTView Enterprise Monitor displays are updated.

By default, the CMDB contains a single Owner named Infrastructure. When you configure the CMDB you map each CI in your system to one or more Services, each Service to a Group, each Group to an Area and each Area to an Owner. There is no limit on the number of associations the four levels can have. The names of the CMDB levels cannot be modified. The following figure illustrates the four hierarchical levels of the CMDB.



Infrastructure is only for the internal RTView Manager Solution Package, which monitors RTView Enterprise Monitor. Infrastructure must not be modified.

### EM-SERVICE CI Type

You can also associate Services with other Services using the EM-SERVICE CI Type. The EM-SERVICE CI Type enables you to use the alerts provided by the RTVRULES Solution Package. For details, see [“Configure the RTVRULES Solution Package”](#).

### Defining the CMDB

When you configure the Service Data Model you use the existing structure of your organization to do so. If your organization does not have an established structure, you need to define one relevant to your system. The manner in which you adapt your system hierarchy to the CMDB levels depends on the monitoring needs of your organization. You design the CMDB by identifying the four hierarchical levels in your organization that coincide with the four-level hierarchy in the CMDB. For example, you might:

1. Determine the Owners: Note the person or persons responsible for alerts in your organization. You might have only one Owner.
2. Determine the Areas for each Owner: The Areas are relevant to the Owner accountable for resources in the Areas. Areas might be based on departments in the organization (such as Development, Sales, HR, and so forth).
3. Determine the Groups for each Area: Groups might be comprised of, for example, the types of resources used in the Areas (such as Servers, Middleware and Processes).
4. Determine the Services for each Group: Services might be comprised of a variety of applications that are used by a given Group.

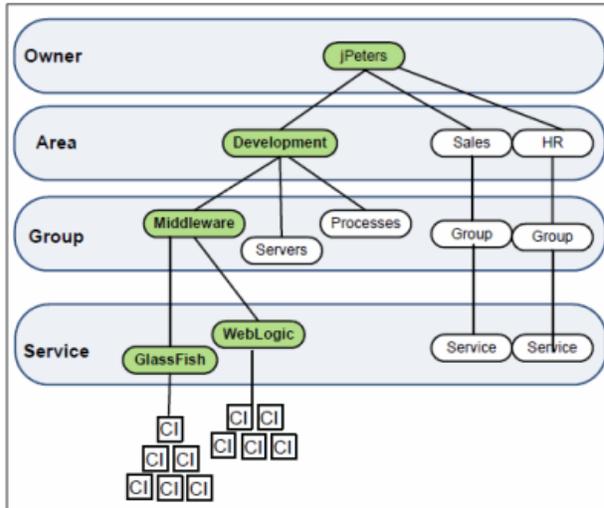
After you determine how to adapt your organization to the four levels of the CMDB, use the **Administration - "CMDB Admin"** display to map each CI to a Service, Group, Area and Owner. The name of the CI can indicate which Service you want to associate the CI with.

The CMDB automatically classifies the CIs in your system into CI Types. This classification is based on a preconfigured schema that is internal to RTView Enterprise Monitor. CI Types are determined by the role of a given CI, and the name of the CI Type describes the role. For example, a BusinessWorks application process is a BW-PROCESS CI Type, a BusinessWorks server is a BW-SERVER CI Type and an Oracle database is an ORACLE CI Type.

After you configure a Service Data Model, the automatically generated Infrastructure Service Data Model looks for matching CI's in your Service Data Model in order to set the Environment. For each CI in the automatically generated Infrastructure Service Data Model, if a matching CI is found in your Service Data Model, the Environment from your Service Data Model is used for the Infrastructure CI. If the CI is found in your Service Data Model multiple times with multiple Environments, it is added multiple times to the Infrastructure CMDB--once for each Environment in your Service Data Model for that CI. If no matching CI is found in your Service Data Model, the Environment in the Infrastructure Service Data Model is set to PRODUCTION by default. You can override the default Environment by specifying a different environment in the **rtv\_cmdb\_source\_default.rtv** line in your properties file.

**Small Company Example**

Typically, small companies have a single Owner. The following figure illustrates a portion of a CMDB structure in which a single Owner is accountable for three Areas (Development, Sales and HR). The Development Area has three Groups associated with it (Servers, Middleware and Processes). The items in green indicate the parts of the branch (jPeters / Development / Middleware) we configure as examples in the "Configuration Steps".



To prepare for configuring the CMDB we might list the hierarchical associations as follows:

| Owner   | Area        | Group      | Service   |
|---------|-------------|------------|-----------|
| jPeters |             |            |           |
|         | Development |            |           |
|         |             | Middleware | WebLogic  |
|         |             |            | GlassFish |

We then use this list to associate each CI in our system with a Service, Group, Area and Owner. To see a large company example, see ["Large Company Example"](#).

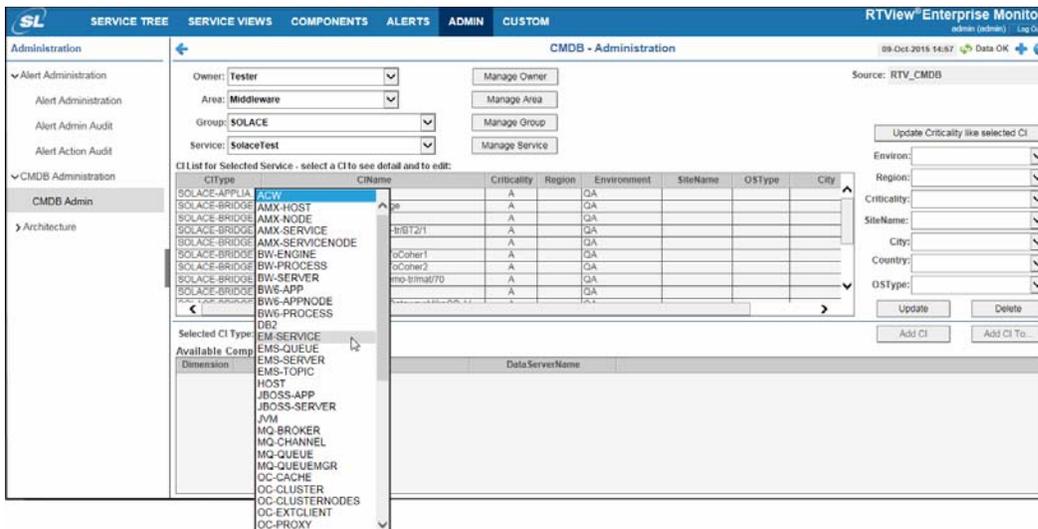
## Configuration Steps

This section describes how to configure the CMDB using the **Administration - "CMDB Admin"** display and uses the ["Small Company Example"](#) to illustrate. This section assumes you have determined a structure for your CMDB configuration. For details about the CMDB structure, see ["Introduction to the CMDB" on page 30](#). To configure the CMDB you associate each CI in your system with a Service, Group, Area and Owner. After you configure the CMDB all relevant RTView Enterprise Monitor displays will contain monitoring data from your Solution Packages. Configuration of the Service Data Model is optional. There are several ways to create the CMDB:

- Manually, using the **Administration - "CMDB Admin"** display.
- Import an existing structure from a spreadsheet or database.
- If the data is available to the Configuration Server, you can read it dynamically by populating the structure from the raw data.
- Any combination of the above.

**At this point you have:**

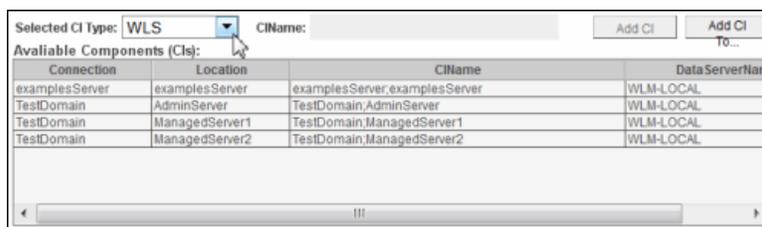
- Verified “System Requirements”
- Completed instructions in “Installation” for the RTView Enterprise Monitor platform
- Completed instructions in “Configure Central Servers”
- Completed instructions in “Configure Solution Package”. You have configured a local RTView Enterprise Monitor deployment and Web Browser RTView Enterprise Monitor deployment. That is, displays such as the **All Management Areas - “Area Heatmap”** are populated with JVM data from RTView Enterprise Monitor servers and the CMDB database (which has only the default Owner, Infrastructure).
- Solution Package-specific displays showing monitoring data from your environment. You do not yet see Solution Package data in displays such as the **All Management Areas - “Area Heatmap”**.
- An **Administration - “CMDB Admin”** display with undefined levels and a Selected CI Type drop-down menu populated with CI Types available from your system, as shown in the following figure.



**To configure the CMDB:**

1. Open the **Administration / “CMDB Admin”** display.
2. Select a CI Type to configure from the **Selected CI Type** drop-down menu, located above the lower table. The **Selected CI Type** drop-down menu is populated with installed and configured Solution Packages in your system.

For example, to configure the **jPeters / Development / Middleware / WebLogic** branch as an example from the “Small Company Example” we select **WLS**.



The **Available Components** table populates with CIs for WebLogic.

3. Select one or more CIs from the **Available Components** table and click **Add CI To....**  
NOTE: To determine which CIs to associate with a Service, refer to the CIName column. The **CIName** column contains descriptive information entered by your administrator about the CI.

The screenshot shows a dialog box titled "Add CI into a Service". It contains the following fields and controls:

- CIType: WLS
- CIName: Amazonze2crtvofmwlkkr02
- Owner: [Text Field] !
- Area: [Text Field] !
- Group: [Text Field] !
- Service: [Text Field] !
- Buttons: Add CI, Close

The **Add CI into a Service** dialog opens.

4. Associate your selected CIs with a Service by entering the Owner, Area, Group and Service. Refer to your defined CMDB structure to determine appropriate entries. For example, to configure the **jPeters / Development / Middleware / WebLogic** branch from our "Small Company Example", we enter:

**Owner:** jPeters  
**Area:** Development  
**Group:** Middleware  
**Service:** WebLogic

5. Click **Add CI** and **OK**.

The screenshot shows the "Add CI into a Service" dialog box after configuration. The fields are populated as follows:

- Owner: jPeters
- Area: Development
- Group: Middleware
- Service: WebLogic

Below the fields is a table titled "CI List for Selected Service - select a CI to see detail and to edit":

| CIType | CIName                 | Criticality |
|--------|------------------------|-------------|
| WLS    | TestDomain\AdminServer |             |

At the bottom of the dialog, there are "Update" and "Delete" buttons.

The CIs appear in the **CI List for Selected Service** table and are now associated with the new Service. The four levels are saved in the CMDB and populate the **Owner**, **Area**, **Group** and **Service** drop-down menus in the **Administration - "CMDB Admin"** display, as well as other displays.

6. Specify the rank of importance for a CI using the **Criticality** drop-down menu, where **A** is the highest importance and **E** is the lowest. Criticality is used to calculate the value for Alert Impact. For our "Small Company Example", we set the Criticality to **E**.
7. Select the environment for the CI using the **Environ** drop-down menu:

**Production**

**DR** (Disaster Recovery)

**UAT** (Testing)

**Development**

Click **Update** to save the entries.

8. Optionally, enter the following for a CI using the remaining drop-down menus:

**Region:** Optionally, enter a geographic region in which the CI resides.

**SiteName:** Optionally, enter a site name in which the CI resides.

**City:** Optionally, enter a city in which the CI resides.

**Country:** Optionally, enter country in which the CI resides.

**OSType:** Optionally, enter the operating system on the CI.

Click **Update** to save the entries.

9. Associate more CIs to this Service by selecting them and clicking **Add CI**. The CIs appear in the **CI List for Selected Service** table and the CIs are now associated with the Service. Use the **Selected CI Type** drop-down menu to associate a different CI Type. NOTE: To modify settings (Criticality, Environ, etc.) for a CI, select the CI, change the settings and click **Update**. To remove a CI from a Service, select the CI and click **Delete**.

10. Add a new Service by selecting a CI and clicking **Add CI To...** Use the **Selected CI Type** drop-down menu to locate the relevant list of CIs. For example, for our ["Small Company Example"](#) to add the GlassFish Service and associate GFS CIs, we select **GFS** from the **Selected CI Type** drop-down menu, select a CI from the **Available Components** table and click **Add CI To...**

The **Add CI into a Service** dialog opens.

11. Make the appropriate entries and click **Add CI** and **OK**. For example, for our ["Small Company Example"](#) we make the following entries for the **jPeters / Development / Middleware / GlassFish** branch.

**Owner:** jPeters

**Area:** Development

**Group:** Middleware

**Service:** GlassFish

The CI appears in the **CI List for Selected Service** table and the GlassFish Service is in the CMDB.

**12.** Specify the rank of importance for the CI using the **Criticality** drop-down menu, where **A** is the highest importance and **E** is the lowest. For our “[Small Company Example](#)”, we set the Criticality to **A**.

**13.** Select the environment for the CI using the Environ drop-down menu:

**Production**

**DR** (Disaster Recovery)

**UAT** (Testing)

**Development**

Click **Update** to save the entries.

**14.** Optionally, enter the following for the CI using the remaining drop-down menus:

**Region:** Optionally, enter a geographic region in which the CI resides.

**SiteName:** Optionally, enter a site name in which the CI resides.

**City:** Optionally, enter a city in which the CI resides.

**Country:** Optionally, enter country in which the CI resides.

**OSType:** Optionally, enter the operating system on the CI.

Click **Update** to save the entries.

**15.** Add more CIs to this Service by selecting a CI and clicking **Add CI**. The CIs appear in the **CI List for Selected Service** table and the CI is now associated with the Service. Modify settings (Criticality, Environ, etc.) for a CI as needed and click **Update**.

**16.** Click **Close** to close the **Add CI into a Service** dialog.

**17.** Open a display, such as the **Group / Service Heatmap**, to view your entries integrated into the RTView Enterprise Monitor display.



Continuing with our “[Small Company Example](#)”, we see the **jPeters** branch we configured in the display which has two Services in the Middleware Group:

**Owner:** jPeters  
**Area:** Development  
**Group:** Middleware  
**Service:** WebLogic  
 GlassFish

---

**Note:** There are two rectangles in the heatmap, one for each Service. Part of the heatmap is red, indicating the **WisThreadsTotalHigh** alert state, which is the alert we adjusted thresholds for and enabled in the previous “[Configure Solution Package](#)” instructions. Recall that we set the **Criticality** level for a CI associated with the GlassFish Service to **A** (the highest rank of importance). For this reason the rectangle representing the GlassFish Service is red. The WebLogic rectangle is not red because we set the **Criticality** to **E** (the lowest rank of importance).

---

**18.** To enable alerts, open the **Administration** - “[Alert Administration](#)” display and locate alerts for your installed Solution Package Data Server.

Select the alerts you wish to enable for the Solution Package, optionally modify the alert **Warning Level** and **Alarm Level**, then select **Enabled**.

Click **Save Settings** and **Yes**.

**19.** Repeat previous steps as needed until all CIs are associated with a Service.

This completes your Service Data Model configuration. Solution Package data is visible in all relevant displays. You now have a “single-pane-of-glass” view in which data for all Solution Packages are visible in all RTView Enterprise Monitor displays. For details about using the CMDB display, see “[CMDB Admin](#)” on page 227.

Proceed to “[Configure Databases of the Central Servers](#)” on page 39.

### Large Company Example

Typically, large companies have several owners that are in charge of several Areas. This example illustrates a single branch of the CMDB--the branch belonging to the IT manager: jSmith. For that branch of the CMDB, the company defines the following structure:

|                |  |  |
|----------------|--|--|
| <b>Owners:</b> | jSmith<br>rJones<br>tSchmidt<br>bRoberts | There are four managers in the company and they are the members of the CMDB Owner level. The IT manager is jSmith.   |
| <b>Area:</b>   | IT Core<br>IT SVCS                       | There are two CMDB Areas associated with jSmith. The two Areas are based on expertise-based subdivisions of personnel in the company: IT Core and IT SVCS. |

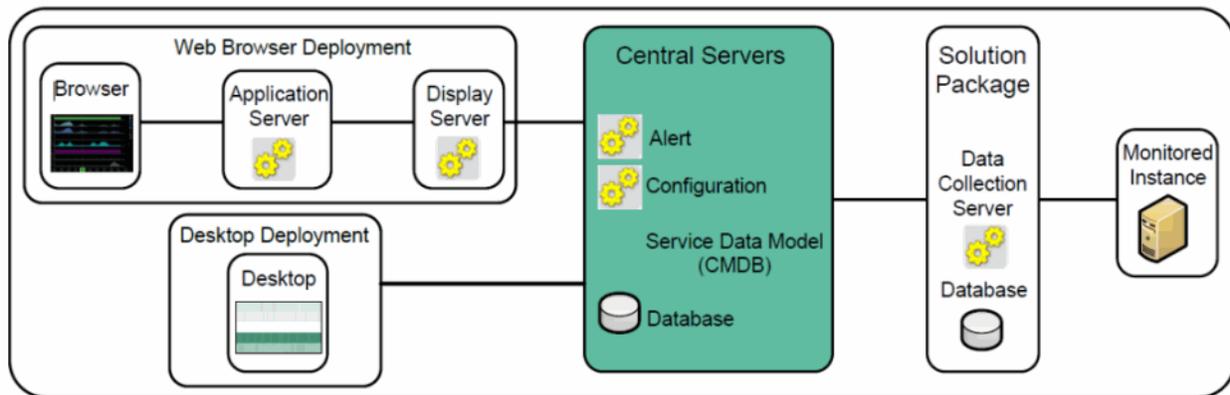
|                 |   |   |
|-----------------|---|---|
| <b>Group:</b>   | Core Apps<br>SMS<br>Core Apps<br>WEB<br>Core Oracle | There are three CMDB Groups associated with the IT Core branch. The three Groups are based on the three subdivisions of personnel in the IT Core Department: Core Apps SMS, Core Oracle and Core Apps WEB.<br><br>The other Areas in the company might have different Groups.<br><br>This example continues with the Core Oracle branch belonging to jSmith. This example does not describe the Core Apps SMS and Core Apps WEB branches belonging to jSmith. |
| <b>Service:</b> | R&D<br>Production<br>Web Stores                     | There are three CMDB Services associated with the Core Oracle Group. The three Services are based on the infrastructure Services that the company provides to its customers: R&D, Production and Web Stores.<br><br>The other Groups in the company might have different Services.  |

NOTE: This example does not illustrate CIs associated with Services.

## Configure Databases of the Central Servers

The Central Servers require the following databases: ALERTDEFS, RTVCMDB, RTVCONFIG and RTVHISTORY, each of which contain several tables. RTView Enterprise Monitor is delivered with a default memory resident HSQLDB database, which is suitable for evaluation purposes. However in production deployments, it is recommended that a supported database engine be used that is accessible via JDBC. This section describes how to setup an alternate database and, if needed, how to manually create the database tables (which requires table-creation permission in your database engine).

The following figure illustrates the RTView Enterprise Monitor components that are the subject of this section.



**At this point you have:**

- Verified “System Requirements”
- Completed instructions in “Installation” for the RTView Enterprise Monitor platform
- Completed instructions in “Configure Central Servers”
- Completed instructions in “Configure Solution Package”. You have configured a local RTView Enterprise Monitor deployment and Web Browser RTView Enterprise Monitor deployment. That is, displays such as the **All Management Areas - “Area Heatmap”** are populated with JVM data from RTView Enterprise Monitor servers and the CMDB database (which has only the default Owner, Infrastructure).
- Have Solution Package-specific displays showing monitoring data from your environment. You do not yet see Solution Package data in displays such as the **All Management Areas - “Area Heatmap”**.
- Completed instructions in “Configure Service Data Model”.

**To configure the databases of the Central Servers:**


---

**Note:** Use the templates provided in the **database.properties** file, located in the your **rtvapm/common/dbconfig** directory, to make edits described in the following steps.

---

1. Choose and install a database of your choice. Supported databases are Oracle, Sybase, DB2, Microsoft SQL Server and MySQL.
2. Open the **central.properties** file (located in your **project directory/servers/central** directory) in a text editor and make the following edits:
  - a. Under the **ConfigCollector properties** section there is a subsection for each database connection (the subsections are **Define the ALERTDEFS Database**, **Define the RTVCONFIG Database**, and **Define the CMDB Database**). Comment out the existing (default) entries and add the required connection information. For example, for an Oracle database you make the following edits:

```
# -----
# ConfigCollector properties
# Define the ALERTDEFS Database

# Contains all Alert Threshold settings and overrides
#ConfigCollector.sl.rtvview.sql.sqlldb=ALERTDEFS sa - jdbc:hsqldb:hsqldb://localhost:9099/
alertdefs org.hsqldb.jdbcDriver - false false
ConfigCollector.sl.rtvview.sql.sqlldb=ALERTDEFS myusername mypassword
jdbc:oracle:thin:@myhost:9099:myinstance oracle.jdbc.driver.OracleDriver - false false
...
# Define the RTVCONFIG Database
# Contains all CI Type definitions
#ConfigCollector.sl.rtvview.sql.sqlldb=RTVCONFIG sa - jdbc:hsqldb:hsqldb://localhost:9099/
rtvconfig org.hsqldb.jdbcDriver - false false
ConfigCollector.sl.rtvview.sql.sqlldb=RTVCONFIG myusername mypassword
jdbc:oracle:thin:@myhost:9099:myinstance oracle.jdbc.driver.OracleDriver - false false
...
# Define the Default CMDB Database
# This is the database that is accessed and modified by the EM CMDB Admin page
#ConfigCollector.sl.rtvview.sql.sqlldb=RTVCMDB sa - jdbc:hsqldb:hsqldb://localhost:9099/rtvcmdb
org.hsqldb.jdbcDriver - false true
ConfigCollector.sl.rtvview.sql.sqlldb=RTVCMDB myusername mypassword
jdbc:oracle:thin:@myhost:9099:myinstance oracle.jdbc.driver.OracleDriver - false false
...
```

**b.** In the **RTVHISTORY Database Connection** subsection under the **ALERT MODULE PROPERTIES** section, make the same edits as in the previous step. Using our prior example:

```
# Historian
#AlertHistorian.sl.rtvview.historian.driver=org.hsqldb.jdbcDriver
#AlertHistorian.sl.rtvview.historian.url=jdbc:hsqldb:hsq://localhost:9099/rtvhistory
#AlertHistorian.sl.rtvview.historian.username=sa
#AlertHistorian.sl.rtvview.historian.password=

AlertHistorian.sl.rtvview.historian.driver=oracle.jdbc.driver.OracleDriver
AlertHistorian.sl.rtvview.historian.url=jdbc:oracle:thin:@myhost:9099:myinstance
AlertHistorian.sl.rtvview.historian.username=myusername
AlertHistorian.sl.rtvview.historian.password=mypassword
# RTVHISTORY Database Connection
#collector.sl.rtvview.sql.sqlldb=RTVHISTORY sa - jdbc:hsqldb:hsq://localhost:9099/rtvhistory
org.hsqldb.jdbcDriver - false true
collector.sl.rtvview.sql.sqlldb=RTVHISTORY myusername mypassword
jdbc:oracle:thin:@myhost:9099:myinstance oracle.jdbc.driver.OracleDriver - false false
```

**c.** Add a section for MX with the following property and make the same edits as the previous steps. Using our prior example:

```
# MX
# Database for saved metric explorer views
# ConfigCollector.sl.rtvview.sql.sqlldb=RTVMX sa - jdbc:hsqldb:hsq://localhost:9099/rtvmx
org.hsqldb.jdbcDriver - false true
ConfigCollector.sl.rtvview.sql.sqlldb=RTVMX myusername mypassword
jdbc:oracle:thin:@myhost:9099:myinstance oracle.jdbc.driver.OracleDriver - false false
```

**d.** Edit the properties relative to each of the database connections you just edited in the previous steps by replacing the following as appropriate:

|                   |   |
|-------------------|---|
| <b>myusername</b> | User name to enter into this database when making a connection.   |
| <b>myhost</b>     | Full URL to use when connecting to this database using the specified JDBC driver.   |
| <b>myinstance</b> | Instance name of your database.   |
| <b>mypassword</b> | <p>Password to enter into this database when making a connection. If there is no password, use "-".</p> <p>If you need to use an encrypted password, rather than expose server passwords, use the "encode_string" utility as follows:</p> <p>In an <a href="#">initialized command window</a>, execute the following script where mypassword is your plain text password. For example: encode_string sql mypassword. You then receive an encrypted password for copying and pasting into the password field. For example: <b>encrypted value:</b><br/> <b>013430135501346013310134901353013450134801334</b></p> |

**3.** Save the file.

**4.** Manually create the tables needed for each database connection. To create tables for your database, use the **.sql** template files provided for each supported database platform, located in your [project directory/dbconfig](#) directory:

```
ALERTDEFS
create_common_alertdefs_tables_<db>.sql
RTVCONFIG, RTVCMDB, RTVHISTORY
create_<rtvcmbd|rtvconfig|rtvhistory>_tables_<db>.sql
```

**RTVMX**

Templates for RTVMX tables are located in the **RTVAPM\_HOME/mx/dbconfig** directory:  
**create\_rtvmx\_tables\_<db>.sql**

where **<db> = {db2, mysql, oracle, sqlserver, sybase}**

---

**Note:** The standard SQL syntax is provided for each database, but requirements can vary depending on database configuration. If you require assistance, consult with your database administrator.

---

The most effective method to load the **.sql** files to create the database tables depends on your database and how the database is configured. Some possible mechanisms are:

- **Interactive SQL Tool:** Some database applications provide an interface where you can directly type SQL commands. Copy/paste the contents of the appropriate **.sql** file into this tool.
- **Import Interface:** Some database applications allow you to specify a **.sql** file containing SQL commands. You can use the **.sql** file for this purpose.

NOTE: Before loading the **.sql** file, create the database and declare the database name in the command line of your SQL client. For example, on MySQL 5.5 Command Line Client, to create the tables for the Alert Settings you should first create the database:

```
create database myDBName;
```

before loading the **.sql** file:

```
mysql -u myusername -pmypassword myDBName <  
create_common_alertdefs_tables_mysql.sql;
```

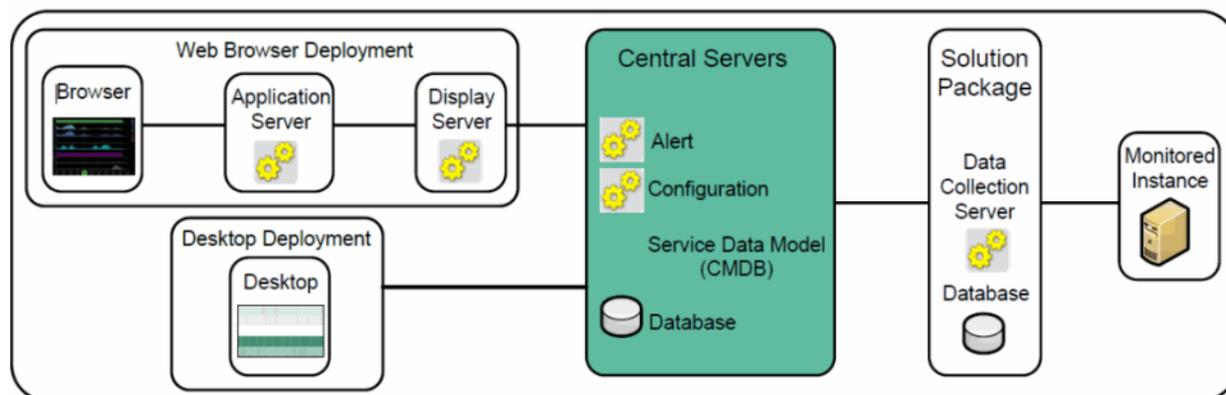
In some cases it might also be necessary to split each of the table creation statements in the **.sql** file into individual files.

- **Third Party Application:** If your database does not have either of the above two capabilities, a third party tool can be used to enter SQL commands or import **.sql** files. Third party tools are available for connecting to a variety of databases (RazorSQL, SQLMaestro, Toad, for example).

You have finished configuring the databases on the Central Servers.

## Configure the Historian Database

This section describes how to configure the Historian database. RTView Enterprise Monitor is delivered with HSQLDB as the default database. To use the Historian database you deploy an alternate database that is accessible via JDBC, configure the database connection by editing a configuration file and enabling the Historian database. In RTView Enterprise Monitor, the Historian, by default, is configured so that almost all Data Servers share the same database.



### At this point you have:

- Verified “System Requirements”.
- Completed instructions in “Installation” for the RTView Enterprise Monitor platform.
- Completed instructions in “Configure Central Servers”.
- Completed instructions in “Configure Solution Package” (you have configured a local RTView Enterprise Monitor deployment and Web Browser RTView Enterprise Monitor deployment. That is, displays such as the **All Management Areas - “Area Heatmap”** are populated with JVM data from RTView Enterprise Monitor servers and the CMDB database).
- Have Solution Package-specific displays showing monitoring data from your environment.
- Completed instructions in “Configure Service Data Model”.
- Completed instructions in “Configure Databases of the Central Servers” (you have configured the Central Server Database for your production environment).

### To configure the Historian database:

Perform the steps described in “Configure Databases of the Central Servers” on page 39 to setup the Alert Historian using the following Historian-specific instructions:

1. Open the **emcommon.properties** file (rather than the **central.properties** file), located in your **project directory/conf** directory.
2. Copy/paste the following lines at the end of the **HISTORY CONFIGURATION, Define the RTVHISTORY DB** section:

```
collector.sl.rtvview.sql.sqldb=RTVHISTORY sa - jdbc:hsqldb:hsq://localhost:9099/rtvhistory
org.hsqldb.jdbcDriver - false true
```

```
#
```

```

historian.sl.rtvview.historian.driver=org.hsqldb.jdbcDriver
historian.sl.rtvview.historian.url=jdbc:hsqldb:hsq://localhost:9099/rtvhistory
historian.sl.rtvview.historian.username=sa
historian.sl.rtvview.historian.password=

```

**3.** Modify the entries you copied/pasted as appropriate for your environment:

```

collector.sl.rtvview.sql.sqldb=
    Add the required connection information. For example, for an Oracle database you
    make the following edits:
    ConfigCollector.sl.rtvview.sql.sqldb=RTVHISTORY myusername mypassword
    jdbc:oracle:thin:@myhost:9099:myinstance
    oracle.jdbc.driver.OracleDriver - false false

historian.sl.rtvview.historian.driver=
    Driver of your database. For example:
    historian.sl.rtvview.historian.driver=oracle.jdbc.driver.OracleDriver

historian.sl.rtvview.historian.url=
    Full URL to use when connecting to this database using the specified JDBC driver.

historian.sl.rtvview.historian.username=
    User name to enter into this database when making a connection.

historian.sl.rtvview.historian.password=
    Password to enter into this database when making a connection. If there is no
    password, use "-". See Encrypt Password to use an encrypted password.

```

---

**Note:** These instructions assume that the Historian database connection is shared by all Data Servers. However, this configuration might not be suitable for your system needs and architecture.

---

- 4.** Comment out the original lines in the **HISTORY CONFIGURATION, Define the RTVHISTORY DB** section.
- 5.** Create database tables using the **.sql** template files provided for each supported database platform. Use the schema that corresponds to the Solution Package you wish to use. The **.sql** template files are located in each Solution Package directory under **RTVAPM\_HOME**.  
For example, the **.sql** templates file for the Solution Package for TIBCO Enterprise Message Service™ are located in **/rtvapm/emsmon/dbconfig** (**%RTVAPM\_HOME%\emsmon\dbconfig** on Windows (or **\$RTVAPM\_HOME/emsmon/dbconfig** on Linux)). The user should use the schemas for the SPs that s/he is planning to use.
- 6.** Use the following format to create your database tables:  
**create\_<package>\_history\_tables\_<db>.sql**  
where **<package> = {emsmon, bwmon, ocmon, wlm, etc.}** and **<db> = {db2, hsqldb, mysql, oracle, sqlserver, sybase}**

**Notes:**

- A DBA will have to run the schemas against the new database, so that the needed tables are created.
- The historian process under each SP of interest will have to be started (or restarted, in case of a change).

---

**Note:** For details about improving database performance and Historian response time, see the `-charlimit` property and the `-index_history_tables` property.

---

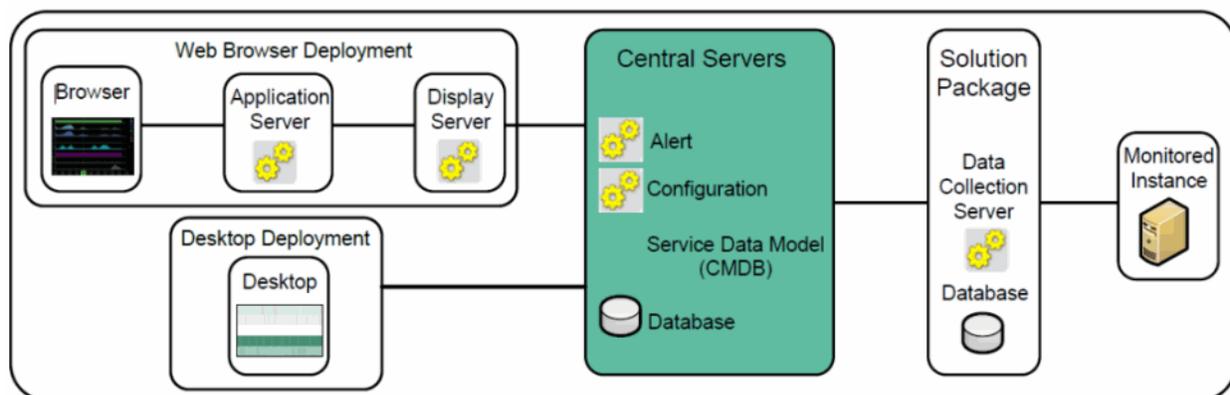
Proceed to “[Configure User and Role Management](#)” on page 45.

---

## Configure User and Role Management

This section describes how to configure RTView Enterprise Monitor user and role Management. Use Role Management to permit and deny access to displays as well as some functionality in certain displays based on the logged in user or role. The alert, CMDB administration and other administration views check the role of the logged in user to prevent users that are not the admin or super role from saving settings. The RTView Alert Table checks the role of the logged in user to hide buttons based on the role of the logged in user. You can also set substitutions on your users and roles to filter what portion of the CMDB is visible in the **Service Tree**, **Service Views** and **Alerts** tabs as well as the **CMDB Administration** view.

The following figure illustrates the RTView Enterprise Monitor components that are the subject of this section.



To configure Role Management you define your users and user roles by editing the `users.xml` and `roles.xml` files, located in your `project directory/servers/central` directory. In the `users.xml` file you specify each user name, the associated encrypted password, role and optional substitutions to filter what portion of the CMDB is visible for that user. In the `roles.xml` file you specify, per role, the included and excluded displays, and optional substitutions to define what portion of the CMDB is visible for that role. There is no limit to the number of roles and users you can add to the files. By default, all substitutions are set to `*` (asterisk), which specifies no role restrictions under your project directory.

For details on **users.xml** and **roles.xml** syntax, see Role Based Security/Configuration in the *RTView Core® User's Guide* at <http://www.sl.com/support/documentation/>. If you want to integrate RTView Enterprise Monitor with LDAP or other user and security management systems, see Custom Security Managers in the *RTView Core® User's Guide*.

## Substitutions for User and Role Management

The following substitutions can be set per user or per role and will limit the CMDB entries shown in the Service Tree, Service Views and Alerts tabs. For example, if your application has three Owners: Owner 1, Owner 2, and Owner 3, and you specify **\$rtvOwnerMask=Owner 1** for a role, users that login with that role will only see the services under Owner 1 in the **SERVICE TREE**, **SERVICE VIEWS** and **ALERTS** tabs, and only see alerts related to services under Owner 1 in the **ALERTS** tab. If a substitution is set for both the user and role, the role value will take precedent. To specify multiple values, separate them with commas. To specify all values, use **\*** or just do not include the substitution in your user and role settings.

|                               |  |
|-------------------------------|--|
| <b>\$rtvOwnerMask:</b>        | Set this to filter the Owners a user or role will see in the Service Tree, Service Views and Alerts tabs. For example,<br><b>&lt;sub name="\$rtvOwnerMask" value="Owner 1,Owner 2" /&gt;</b> |
| <b>\$rtvAreaMask:</b>         | Set this to filter the Areas a user or role will see in the Service Tree, Service Views and Alerts tabs. For example,<br><b>&lt;sub name="\$rtvAreaMask" value="*" /&gt;</b>                 |
| <b>\$rtvGroupMask:</b>        | Set this to filter the Groups a user or role will see in the Service Tree, Service Views and Alerts tabs. For example,<br><b>&lt;sub name="\$rtvGroupMask" value="Group 1,Group 2" /&gt;</b> |
| <b>\$rtvServiceMask:</b>      | Set this to filter the Services a user or role will see in the Service Tree, Service Views and Alerts tabs. For example,<br><b>&lt;sub name="\$rtvServiceMask" value="MyService" /&gt;</b>   |
| <b>\$rtvManageableCompID:</b> | Set this to limit the alerts that can be closed by a user or role to alerts where the Primary Service value matches one of the items in the list.  |

Also by default, there are five defined and implemented roles: **read**, **event**, **full**, **admin** and **super**. Only the **admin** and **super** roles have access to all features in all displays. The following table summarizes the functionality that is accessible per role:

| <b>Role</b>             | <b>Permission</b>  |
|-------------------------|--|
| <b>read</b>             | Access to all displays and functionality except administrator functions.   |
| <b>admin/<br/>super</b> | Access to all displays and functionality including all actions on " <a href="#">RTView Alerts Table</a> ", write access in the " <a href="#">Alert Administration</a> " and write access " <a href="#">CMDB Admin</a> " views. |
| <b>full/<br/>event</b>  | Access to all displays. Access to all actions on " <a href="#">RTView Alerts Table</a> ".  |

**At this point you have:**

- Verified “[System Requirements](#)”.
- Completed instructions in “[Installation](#)” for the RTView Enterprise Monitor platform.
- Completed instructions in “[Configure Central Servers](#)”.
- Completed instructions in “[Configure Solution Package](#)” (you have configured a local RTView Enterprise Monitor deployment and Web Browser RTView Enterprise Monitor deployment. That is, displays such as the **All Management Areas** - “[Area Heatmap](#)” are populated with JVM data from RTView Enterprise Monitor servers and the CMDB database).
- Have Solution Package-specific displays showing monitoring data from your environment (you do not yet see Solution Package data in displays such as the **All Management Areas** - “[Area Heatmap](#)”).
- Completed instructions in “[Configure Service Data Model](#)”.
- Completed instructions in “[Configure Databases of the Central Servers](#)” (you have configured the Central Server Database for your production environment).

**To configure role management:**

1. Open the **roles.xml** file, located in your [project directory/servers/central](#) directory, in a text editor. By default, the **read**, **admin** and **super** roles are defined as follows:

```
<?xml version="1.0"?>
<roles xmlns="www.sl.com" >
  <role>
    <name>read</name>
    <displays>
      <include>ALL</include>
    </displays>
  </role>
  <role>
    <name>admin</name>
    <displays>
      <include>ALL</include>
    </displays>
  </role>
  <role>
    <name>super</name>
    <displays>
      <include>ALL</include>
    </displays>
  </role>
</roles>
```

2. Create new roles. For each role, optionally specify the included and excluded displays, as well as the values for the substitutions that define the visible part of the CMDB and actionable alerts (as described above). For example, the following illustrates a role named **ITmanager** that has no administrator permissions and *does* have access to all owners within the two IT areas of the company:

```
<role>
  <name>ITmanager</name>
  <displays>
    <include>ALL</include>
  </displays>
  <sub name="$rtvrole" value="read" />
</role>
```

```

    <sub name="$rtvOwnerMask" value="*" />
    <sub name="$rtvAreaMask" value="IT Servers,IT Central" />
</role>

```

### 3. Save the file.

### 4. Open the **users.xml** file, located in the your **project directory/servers/central** directory, in a text editor. By default, there are three users defined, **super**, **admin** and **demo**:

```

<?xml version="1.0"?>
<users xmlns="www.sl.com" >
  <user>
    <name>super</name>
    <password>0133401351013460133501348</password>
    <role>super</role>
  </user>
  <user>
    <name>admin</name>
    <password>0133101334013430133901344</password>
    <role>admin</role>
  </user>
  <user>
    <name>demo</name>
    <password>01334013350134301345</password>
    <role>read</role>
  </user>
</users>

```

### 5. Add the new role you just created to this file and optionally add values for the substitutions that define the visible part of the CMDB and actionable alerts (as described above). For example:

```

<?xml version="1.0"?>
<users xmlns="www.sl.com" >
  <user>
    <name>super</name>
    <password>0133401351013460133501348</password>
    <role>super</role>
  </user>
  <user>
    <name>admin</name>
    <password>0133101334013430133901344</password>
    <role>admin</role>
  </user>
  <user>
    <name>demo</name>
    <password>01334013350134301345</password>
    <role>read</role>
  </user>
  <user>
    <name>Johnson</name>
    <password>0133801335013420134201345</password>
    <role>ITmanager</role>
  </user>
</users>

```

### 6. Save the file.

7. Add as many users to the **users.xml** file as needed. NOTE: Use the `encode_string` utility to *Encrypt Password*.
8. **Save** the file.
9. Restart the Display Server, if you are using the Thin Client, and/or the Viewer if you have installations that are working locally.

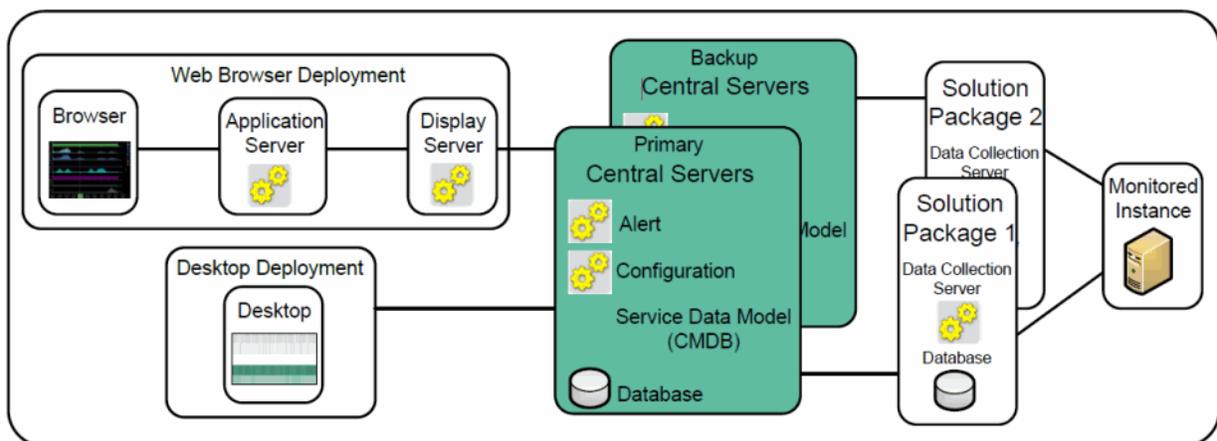
You have finished configuring RTView Enterprise Monitor Role Management.

## Configure High Availability

This section describes how to configure High Availability (HA) for RTView Enterprise Monitor. HA prevents the loss of data and alerts during failover.

HA requires two host machines, a Primary Host and a Backup Host. You configure HA by editing configuration files and defining two environment variables on each host (PRIMARYHOST and BACKUPHOST) with their IP addresses. It is required that identical versions of RTView Enterprise Monitor be installed on the hosts.

The following figure illustrates the RTView Enterprise Monitor components that are the subject of this section.



To configure HA you setup the Primary and Backup Hosts, verify your setup, test the failover process to the Backup Host and verify the Primary Host is restored to the primary server for the pair.

**At this point you have:**

- Verified “[System Requirements](#)”.
- Completed instructions in “[Installation](#)” for the RTView Enterprise Monitor platform.
- Completed instructions in “[Configure Central Servers](#)”.
- Completed instructions in “[Configure Solution Package](#)” (you have configured a local RTView Enterprise Monitor deployment and Web Browser RTView Enterprise Monitor deployment. That is, displays such as the **All Management Areas - “[Area Heatmap](#)”** are populated with JVM data from RTView Enterprise Monitor servers and the CMDB database).
- Have Solution Package-specific displays showing monitoring data from your environment (you do not yet see Solution Package data in displays such as the **All Management Areas - “[Area Heatmap](#)”**).
- Completed instructions in “[Configure Service Data Model](#)”.
- Completed instructions in “[Configure Databases of the Central Servers](#)” (you have configured the Central Server Database for your production environment).

**To setup HA on the Primary and Backup Hosts:**

1. Configure “[Alert Notification Persistence](#)” on the Primary and Backup Host.
2. On each of the hosts in the HA pair, define two environment variables: PRIMARYHOST and BACKUPHOST, which are loaded by the property files on both Windows and UNIX.
3. On the Primary Host, rename the following files as described:
  - a. Rename the **rtvservers.dat** file, located in your [project directory/servers](#) directory, to **rtvservers.dat.keep**.
  - b. Rename the **rtvservers-ha.dat** file, located in your [project directory/servers](#) directory, to **rtvservers.dat**.
4. Open the **emcommon.properties** file, located in your [project directory/conf](#) directory, in a text editor and make the following edits under **ALERT CONFIGURATION**:
  - a. Uncomment the following lines:
 

```
ConfigClient.sl.rtvview.sql.sqlldb=ALERTDEFS - - - __none - - -
ConfigClient.sl.rtvview.sub=$rtvConfigDataServer:CONFIG_SERVER
ConfigClient.sl.rtvview.alert.ssadataserver=CONFIG_SERVER
ConfigClient.sl.rtvview.alert.actionauditdataserver=CONFIG_SERVER
ConfigClient.sl.rtvview.alert.persistDataServer=CONFIG_SERVER
```
  - b. Change alert persistence from false to true: collector.sl.rtvview.alert.persistAlerts=**true**
  - c. **Save** and exit the file.
5. From the Primary Host, copy the following files to the Backup Host as described:
  - a. Copy the **rtvservers.dat** file, located in your [project directory/servers](#) directory, to the Backup Host [project directory/servers](#) directory.
  - b. Copy the **emcommon.properties** file, located in your [project directory/conf](#) directory, to the Backup Host [project directory/conf](#) directory.
6. On the Backup Host, in an [initialized command window](#) change directory (cd) to your [project directory/servers](#) directory.

7. Create a script file (for example, **start\_backup\_servers.bat**) to execute the following scripts which start all RTView Enterprise Monitor processes:

**Windows**

```
start_rtv central-backup
start_rtv rtvrules-backup
start_rtv rtmgr-backup
start_rtv <packagename>-backup dataserver
```

where **packagename** is the name of the Solution Package to execute under HA. Add one line for each of the Solution Packages that the Backup Host must execute.

**UNIX**

```
start_rtv.sh central-backup
start_rtv.sh rtvrules-backup
start_rtv.sh rtmgr-backup
start_rtv.sh <packagename>-backup dataserver
```

where **packagename** is the name of the Solution Package to execute under HA. Add one line for each of the Solution Packages that the Backup Host must execute.

8. Test your HA setup:

- a. On the Primary Host, in an [initialized command window](#) change directory (cd) to your [project directory/servers](#) directory and start all RTView Enterprise Monitor processes by typing:

**Windows**

```
start_rtv all
```

**UNIX**

```
start_rtv.sh all
```

- b. On the Backup Host, in an [initialized command window](#) change directory (**cd**) to your [project directory/servers](#) directory and execute the script you created in the previous step. For example, if you created the file **start\_backup\_servers.bat** previously, type: **start\_backup\_servers.bat**.

- c. On the Primary Host, start the Viewer by typing:

**Windows**

```
start_rtv viewer
```

**UNIX**

```
start_rtv.sh viewer
```

---

**Note:** You can also start RTView Enterprise Monitor in the Thin Client.

---

9. In the Monitor, open the **JVM Process Views** - "[All JVMs Heatmap](#)" display and verify that all JVMs on both hosts are running. If all JVMs on both hosts are running, continue to next step. If not, review previous configuration steps.
10. Verify that all RTView Enterprise Monitor processes are running on the Primary Host. Depending on the type of process, there are different ways to verify:

**a. Back-End Servers:** Open the **Architecture** - “[System Overview](#)” display and mouse-over the rectangle associated with the servers to view the IP address of the host.

---

**Note:** To view all data for all available Data Servers, open the **RTView Servers** - “[Data Servers](#)” display and choose Connection (in the upper combo box). The **Connection String** column in the **Connection Status** table shows host names.

---

**b. Central Servers** (Configuration Server and Alert Server and Directory): Open the **Architecture** - “[System Overview](#)” display, then double-click in the **Configuration Server or Alert Server and Directory** object to open the **RTView Servers** - “[Data Servers](#)” display. See the **Connection Status** table **Connection String** column to view the host name.

**c. Historian Servers:** Open the **RTView Servers** - “[Historian Servers](#)” display, select the Source and Connection of your Historian from the drop-down menus and verify the **Primary Server** light is green.

**11.** Test failover to the Backup Host:

**a.** Stop the Primary Host by either executing the **stop\_rtv all** script (or the **stop\_rtv.sh all** script for UNIX) on the Primary Host or shutting it down (briefly).

**b.** In the **JVM Process Views** - “[All JVMs Heatmap](#)” display, verify that all JVMs on the Primary Host are shown as inactive.

**c.** Verify the Backup Host is currently acting as the Primary Host by repeating Steps 9 and 10.

**12.** Verify the Primary Host takes over as the Primary Host:

**a.** Stop the Backup Host by either executing the **stop\_rtv all** script (or the **stop\_rtv.sh all** script for UNIX) on the Backup Host or shutting it down (briefly).

**b.** On the Primary Host, in an [initialized command window](#) change directory (**cd**) to your [project directory/servers](#) directory and start all RTView Enterprise Monitor processes by typing:

**Windows**  
**start\_rtv all**

**UNIX**  
**start\_rtv.sh all**

**c.** On the Primary Host, start the Viewer by typing:

**Windows**  
**start\_rtv viewer**

**UNIX**  
**start\_rtv.sh viewer**

**d.** Repeat Steps 9 and 10 to verify that all RTView Enterprise Monitor processes are running on the Primary Host.

You have finished configuring High Availability.

## CHAPTER 3 Alert Configuration

This section describes how to configure alert notification, the RTVRULES Solution Package, as well as other optional alert behavior and features. This section includes:

- “Overview” on page 53
- “Configure Alert Notification” on page 54: This section describes how to configure alerts to execute an automated action.
- “Configure the RTVRULES Solution Package” on page 61: This section describes how to configure the RTVRULES Solution Package.
- “Configure Dual Write for Distributed Alert Server” on page 62: Create custom filters and a **Custom Filter** drop-down menu for the **Alert Views** - “RTView Alerts Table” display.
- “Configure Alert Groups” on page 64: Create groups of alerts that you can then use to filter the displays in the following views: “All Management Areas”, “Multi Area Service Views”, “Single Area Service Views” and “Component Views”.
- “Configure Alert Filters” on page 65: Create custom filters and a **Custom Filter** drop-down menu for the **Alert Views** - “RTView Alerts Table” display.

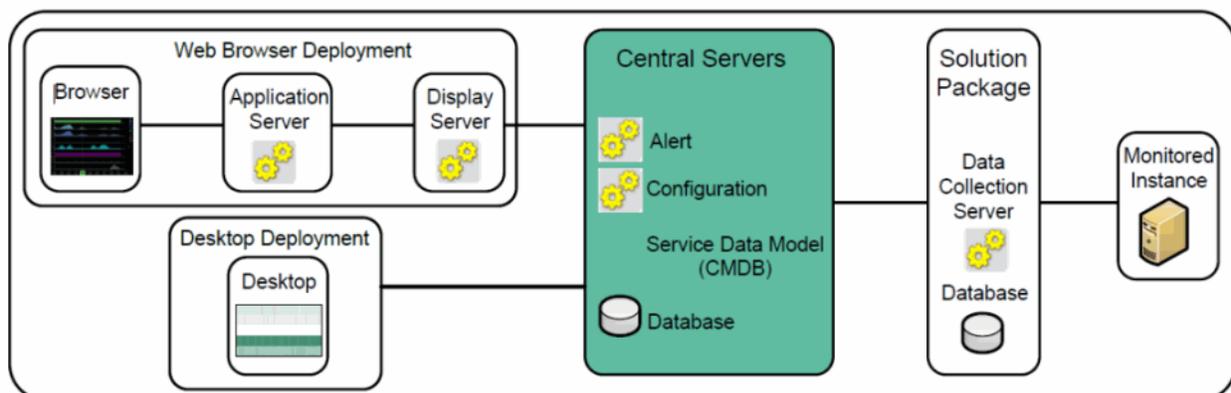
These configurations are optional.

For details about configuring alert thresholds, see **Administration** - “Alert Administration”.

---

## Overview

The following figure illustrates the RTView Enterprise Monitor components that are the subject of this section.



This section does not describe how to adjust alert thresholds. For details about configuring alert thresholds, see **Administration** - “Alert Administration”.

You track and manage alerts in your RTView Enterprise Monitor system using the **Alert Views** - "RTView Alerts Table" display, track the history of alerts using the **Alert Views** - "Alert History Table" display, and set alert thresholds using the **Administration** - "Alert Administration" display. You can also view the audit trail of managed alerts in the "RTView Alerts Table" and threshold settings in the **Administration** - "Alert Administration" display by looking at the **Administration** - "Alert Action Audit Trail" and the **Administration** - "Alert Admin Audit" displays.

---

## Configure Alert Notification

This section describes how to configure alert notification on the Central Server. RTView Enterprise Monitor provides alerts concerning conditions in your Solution Packages through RTView alerts. This section describes how to configure the alerts to execute an automated action (such as sending an email alert). These actions are generated on the Central Alert Server.

By default, alerts execute a **.bat** script. The script, by default, is not configured to execute an automated action. However, you can uncomment a line in the script that prints alert data to standard output. Or, you can modify the script to execute an automated action.

If you are upgrading from RTView Enterprise Monitor 1.2 or earlier, see the Upgrade Notes for "Alert Notifications" on page 15.

This section includes:

- "Configure Central Alert Notification" on page 54
- "Configure Optional Backend Server Notification" on page 60

### At this point you have:

- Verified "System Requirements"
- Completed instructions in "Installation" for the *full* RTView Enterprise Monitor platform
- Completed instructions in "Configure Central Servers"

## Configure Central Alert Notification

This section describes how to configure alert notification on the Central Alert Server.

This section includes:

- "Additional Optional Properties" on page 59
- "Alert Notification Persistence" on page 60

---

**Note:** These instructions assume you use the [project directory](#). When you uncomment the line in the script that prints alert data to standard output, both the scripts and the Java command handler output alert information to standard output. The alert output appears in the Data Server log file, or in the command window or shell in which the Data Server was started. The following is a sample output from the alert command script:

---

```
----- Alert command script executed: DOMAINNAME=EM-PACKAGE,
ALERTNAME=OcObjectCountDeltaUpCache, ALERTINDEX=siml9097~DistributedCache1~near-
product-1-3, ALERTID=1075, ALERTSEVERITY=2, ALERTTEXT=High Alert Limit exceeded current
```

```
value: 3054.0 limit: 2.0 #####
```

There are two options for configuring RTView Enterprise Monitor alert notification on the Central Server:

- [“Using a Batch File or Shell Script” on page 55](#): This technique requires switching to an OS-specific set of alert definitions that execute the appropriate file type. A sample batch file and a sample shell script are provided which can be customized as needed.
- [“Using the Java Command Handler” on page 57](#): The Java source for the RTView Enterprise Monitor Java command handler is provided to facilitate customization.

### Using a Batch File or Shell Script

A sample batch file, **my\_alert\_actions.bat**, and a sample shell script, **my\_alert\_actions.sh**, which are located in the **rtvapm/common/bin** directory, are provided as templates that you can modify as needed. Use the appropriate file for the platform that hosts the Central Alert Server. By default, both scripts send alert information to standard output.

To uncomment the line in the script so that alert data prints to standard output, see:

- [“To configure Using Windows Batch File” \(next\)](#)
- [“To configure Using UNIX/Linux Shell Script”](#)

### To configure Using Windows Batch File

1. Copy the **my\_alert\_actions.bat** file, located in the **rtvapm/common/bin** directory, into your [project directory/servers/central](#) directory.
2. Open the **rtvapm.properties** file, located in the **rtvapm/common/conf** directory, in a text editor.
3. Verify the following properties are set as shown:

```
# command to execute for new alerts
sl.rtvew.alert.notifiercommandnew=system cmd '$alertActionScript.$scriptEnding
$domainName +$alertName+ "$alertIndex+" +$alertID+ +$alertSeverity+ +$alertText'
# command to execute on the first severity change
sl.rtvew.alert.notifiercommandfirstsevchange=system cmd
'$alertActionScript.$scriptEnding $domainName +$alertName+ "$alertIndex+" +$alertID+
+$alertSeverity+ +$alertText'
# Substitutions to define the script executed by the above command
sl.rtvew.sub=$scriptEnding:bat
sl.rtvew.sub=$alertActionScript:my_alert_actions
```

4. Open the **my\_alert\_actions.bat** file, located in your [project directory/servers/central](#) directory, and uncomment the echo line (near the end of the file) to print alert information to standard output. Or, you can modify the script to execute an automated action (such as sending an email alert).
5. Open the **emcommon.properties** file, located in your **project directory/conf** directory, and verify the following are set as shown:

```
sl.rtvew.alert.notifierenabled=false
AlertAggregator.sl.rtvew.alert.notifierenabled=true
```

6. Restart the Central Alert Server.

## To configure Using UNIX/Linux Shell Script

1. Copy the **my\_alert\_actions.sh** file, located in the **rtvapm/common/bin** directory, into your **project directory/servers/central** directory.
2. Open the **rtvapm.properties** file, located in the **rtvapm/common/conf** directory, in a text editor.
3. Verify the following properties are set as shown:

```
# command to execute for new alerts
sl.rtvview.alert.notifiercommandnew=system cmd '$alertActionScript.$scriptEnding
$domainName +$alertName+ "$alertIndex+" +$alertID+ +$alertSeverity+ +$alertText'
# command to execute on the first severity change
sl.rtvview.alert.notifiercommandfirstsevchange=system cmd
'$alertActionScript.$scriptEnding $domainName +$alertName+ "$alertIndex+" +$alertID+
+$alertSeverity+ +$alertText'
# Substitutions to define the script executed by the above command
sl.rtvview.sub=$scriptEnding:bat
sl.rtvview.sub=$alertActionScript:my_alert_actions
```

4. Open the **rtview.properties** file, located in your **project directory/servers/central** directory, and copy/paste the following into it:

```
sl.rtvview.sub=$scriptEnding:bat
sl.rtvview.sub=$alertActionScript:my_alert_actions
```

5. Change the **bat** suffix to **sh** and **my\_alert\_actions** to **./my\_alert\_actions**.
6. Save the **rtview.properties** file.
7. Open the **my\_alert\_actions.sh** file, located in your **project directory/servers/central** directory, and uncomment the echo line (near the end of the file) to print alert information to standard out. Or, you can modify the script to execute an automated action (such as sending an email alert).
8. Open the **emcommon.properties** file, located in your **project directory/conf** directory, and verify the following are set as shown:

```
sl.rtvview.alert.notifierenabled=false
AlertAggregator.sl.rtvview.alert.notifierenabled=true
```

9. Restart the Central Alert Server.

### Batch File or Shell Script Substitutions

The default **my\_alert\_actions** scripts use the substitutions described in the table below. When you customize the script, you can use a use substitution to get any of the columns in the **Alert Table**. To do this, modify the **sl.rtvview.alert.notifiercommandnew** and **sl.rtvview.alert.notifiercommandfirstsevchange** properties from Step 3 (above) to replace the default substitutions with the substitutions you want to use. You must make corresponding modifications to your script to use modified substitution values.

The substitution names map to the names of the columns in the **Alert Table**. Convert the column name to camel case and if it does not start with Alert, prepend alert to it. For example, to use the value of the **Alert Name** column, use **\$alertName**. To use the value of the **ID** column, use **\$alertID**. To use the value of the **Row Update Time** column, use **\$alertRowUpdateTime**. The following table contains the substitutions used by the default **my\_alert\_actions** scripts:

| Substitution           | Description   | Values             |
|------------------------|---|--------------------|
| <b>\$alertId</b>       | This substitution specifies the unique ID for the alert.<br>For example:<br><b>alertId = 1004</b>   | Text or<br>Numeric |
| <b>\$alertIndex</b>    | This substitution specifies which source triggered the alert. With tabular objects, the first column of data is typically the <b>Index</b> column. The value in the <b>Index</b> column is a name that uniquely identifies each table row. The <b>alertIndex</b> uses the <b>Index</b> column name.<br><br>For example, if the <b>CapacityLimitAllCaches</b> alert is configured to monitor all of your caches, and to trigger when any of the caches exceed the specified capacity threshold, the <b>alertIndex</b> indicates specifically which cache triggered the alert.<br><br>With scalar objects, which do not have a table and therefore do not have a column (the <b>useTabularDataFlag</b> property is <b>False</b> ), the <b>alertIndex</b> is blank.<br>For example:<br><b>alertIndex = MyCache01</b> | Text or<br>Numeric |
| <b>\$alertName</b>     | This substitution specifies the name of the alert.<br>For example:<br><b>alertName = CapacityLimitAllCaches</b>   | Values<br>vary.    |
| <b>\$alertSeverity</b> | This substitution specifies the severity level of the alert.<br><b>0</b> : The alert limit has not been exceeded therefore the alert is not activated.<br><b>1</b> : The alert warning limit has been exceeded.<br><b>2</b> : The alert alarm limit has been exceeded.<br>For example:<br><b>alertSeverity = 1</b>  | Numeric            |
| <b>\$alertText</b>     | This substitution specifies the text that is displayed when the alert executes.<br>For example:<br><b>alertText = High Warning Limit exceeded, current value: 0.9452 limit: 0.8</b>   | Text               |
| <b>\$alertTime</b>     | This value is the time the alert was initially generated.   | Text               |

### Using the Java Command Handler

1. Open the **custom\_handlers.properties** file, located in the **rtvapm\common\conf** directory, in a text editor.
2. Locate the following text in the **custom\_handlers.properties** file and select it for copying:

```
#sl.rtvview.alert.notifiercommandnew=system cust
'my_alert_notification.$domainName.$alertNotifyType.$alertNotifyCol' $alertNotifyTable
#sl.rtvview.alert.notifiercommandfirstsevchange=system cust
'my_alert_notification.$domainName.$alertNotifyType.$alertNotifyCol' $alertNotifyTable
```

3. Open the **rtview.properties** file, located in your [project directory/servers/central](#) directory, and paste the selected text into it.
4. In the **rtview.properties** file, uncomment the line to enable the Java command handler.
5. Verify that the **rtvapm\_custom.jar** file is built per the “[Customizing the Java Command Handler](#)” on [page 58](#) instructions.
6. Open the **custom\_handler.properties** file and verify that the following line is the correct path to the **rtvapm\_custom.jar**. If it is not the correct path, copy the line into the **rtview.properties** file in your **project directory/servers/central** directory and edit the path as needed:

```
sl.rtvview.cp=%RTVAPM_USER_HOME%/custom/lib/rtvapm_custom.jar
```

7. Save the **rtview.properties** file.
8. Restart the Central Alert Server using the following command line argument:

**Windows**

**-properties:%RTVAPM\_HOME%/common/conf/custom\_handlers**

**UNIX**

**-properties:\$RTVAPM\_HOME/common/conf/custom\_handlers**

### Customizing the Java Command Handler

The source for the RTView Enterprise Monitor Java handler is provided in the **RtvApmCommandHandler.java** file, located in your [project directory\custom\src\com\sl\rtvapm\custom](#) directory. By default, the handler prints the alert data to standard output. To change this behavior perform the following steps:

1. Open the **RtvApmCommandHandler.java** file.
2. Modify the **OutputAlertString** method as needed. You can replace this method with your own if you modify the **invokeCommand** method to call it, and your method accepts the same arguments as **OutputAlertString**.
3. Save the **RtvApmCommandHandler.java** file.
4. Compile **RtvApmCommandHandler.java** and rebuild **rtvapm\_custom.jar** using the supplied script (**make\_classes.bat** or **make\_classes.sh**) in your **project directory\custom\src** directory.
5. Restart the Central Alert Server using the following command line argument:

**Windows**

**-properties:%RTVAPM\_HOME%/common/conf/custom\_handlers**

**UNIX**

**-properties:\$RTVAPM\_HOME/common/conf/custom\_handlers**

## Java Command Handler Substitutions

When you customize the Java Command Handler, there is no need to modify the **sl.rtvew.alert.notifiercommandnew** and **sl.rtvew.alert.notifiercommandfirstsevchange** properties in the **custom\_handlers.properties** file. The entire **Alert Table** row is passed into the Java Command Handler for each alert that notifies so that all information regarding those alerts is available. The following substitutions are used:

| Argument                  | Description   |
|---------------------------|---|
| <b>\$alertNotifyType</b>  | This substitution specifies to show the value of the notification type so you can use the same command for all notifications. Values are <b>NEW_ALERT</b> , <b>CLEARED_ALERT</b> , <b>FIRST_SEV_CHANGE</b> or <b>COLUMN_CHANGED</b> . |
| <b>\$alertNotifyCol</b>   | This substitution only applies when the <b>notifyType</b> is <b>COLUMN_CHANGED</b> . Specifies to use a semi-colon delimited list of column names that changed from the <b>alertNotifierColumns</b> .                                 |
| <b>\$alertNotifyTable</b> | This substitution specifies the row in the alert table that corresponds to this notification into the command.  |

## Additional Optional Properties

- **sl.rtvew.alert.notifiercommandcleared** - Set this to the command to execute when an alert is cleared. By default, no command is configured. To execute a script, copy the **notifiercommandnew** line and replace **\$alertActionScript** with the name of the script you want to execute. To execute a custom java command, see the example in **common\conf\custom\_handlers.properties**.
- **sl.rtvew.alert.notifiercommandchanged** - Set this to the command to execute when a column in the **Alert Table** changes. To execute a script, copy the **notifiercommandnew** line and replace **\$alertActionScript** with the name of the script you want to execute. To execute a custom java command, see the example in **common\conf\custom\_handlers.properties**. This must be used in conjunction with the **sl.rtvew.alert.notifiercolumns** property
- **sl.rtvew.alert.notifiercolumns** - Set this to the name of one or more columns to execute the **sl.rtvew.alert.notifiercommandchanged** notification when they change. For multiple columns, use a semi-colon delimited list. Note that this should be limited to the minimum number of necessary columns, preferably less than 5, as a large number of columns increases the persistence load on the Central Alert Server.
- **sl.rtvew.alert.notifiertimetrace** - Set this to debug Alert Server performance issues related to notification. This property enables you to see how many notifications are being generated and how long it takes to execute them. To enable tracing, add this to your properties file: **sl.rtvew.alert.notifiertimetrace=1**. A value of **1** outputs a trace similar to the following for all notifications:

```
notify: 14 alerts, queue time=1, processing time=0, cmd process time=6, cmd execute time=179,
total time=186
```

And outputs a trace similar to the following for timer renotifications:

```
renotify: 14 alerts, processing time=0, query time=0, cmd process time=0, cmd execute time=159,
total time=159
```

A value of **2** outputs additional information for renotifications:

```
renotify: 14 alerts, processing time=0, query time=1, cmd process time=0(subTime=0,
alertStrTime=0, setupTime=0, attachRowTime=0), cmd execute time=143, total time=144
```

- **sl.rtvview.alert.notifierrenottime** and **sl.rtvview.alert.notifiercommandrenot** - Used together, these two properties set renotification on all open and unacknowledged alerts. **sl.rtvview.alert.notifierrenottime** specifies the rate (in seconds) to renotify, which must be a value greater than **30**. If it is set to a value greater than **0** and less than **30**, the value of **30** is used. **sl.rtvview.alert.notifiercommandrenot** specifies the command to execute for renotifications. If **sl.rtvview.alert.notifierrenottime** is set to a value greater than **0** and **sl.rtvview.alert.notifiercommandrenot** is blank, the command specified in **sl.rtvview.alert.notifiercommandnew** is used. Commented-out examples of these properties are available in **common\conf\rtvapm.properties**, **common\conf\custom\_handler.properties** and in the custom command handler.

### Alert Notification Persistence

To prevent duplication and missed notifications after restart or failover, you must configure the Central Alert Server for alert persistence and also add the following tables to your ALERTDEFS database:

- ALERT\_PERSIST\_TABLE\_CENTRAL
- ALERT\_NOTIF\_PERSIST\_TABLE: Notification information is persisted to this table.

The schemas for both tables are in **%RTVAPM\_HOME%\common\dbconfig**. For ALERT\_PERSIST\_TABLE\_CENTRAL, use the same schema as ALERT\_PERSIST\_TABLE. To enable notification persistence, override the following property in the **emcommon.properties** file, located in the **projects\emsample\conf\** directory: **AlertAggregator.sl.rtvview.alert.persistAlerts=true**

---

**Note:** An example of Alert Persistence is available in the **emsample** directory. This example requires a database connection to one of our recommended database engines and the following setting in **projects\emsample\conf\emcommon.properties** must be set to **true**: **collector.sl.rtvview.alert.persistAlerts=false**. This feature should be set and tested before configuring HA.

---

The **notifiercommandfirstsevchange** notification is not persisted and executes the first time the severity changes on an unacknowledged alert each time the Central Alert Server starts. This means that a notification is executed the first time it changes on a new alert, and again the first time it changes after the Central Alert Server is restarted or fails over.

Notification information is persisted to the ALERT\_NOTIF\_PERSIST\_TABLE for each notification that is executed. In order to optimize performance of the Central Alert Server, limit the number of columns specified in the **sl.rtvview.alert.notifiercolumns** property to the minimum number of necessary columns, preferably less than **5**. The more columns you notify on, the greater the number of notifications that are written to the database.

### Configure Optional Backend Server Notification

The above sections describe configuring the Central Alert Server to execute all notifications. You may also configure any of the Solution Package Data Servers to notify on only the alerts in that server. To enable notification on a Solution Package Data Server, add the following property to the properties file for that Data Server: **sl.rtvview.alert.notifierenabled=true**

This can be done in addition to the Central Alert Server notification. To disable the Central Alert Server notification, set the following property in **emcommon.properties** to false: **AlertAggregator.sl.rtvview.alert.notifierenabled=true**

## Configure the RTVRULES Solution Package

This section describes how to configure the RTVRULES Solution Package, located in your [project directory/servers/rtvrules](#) directory.

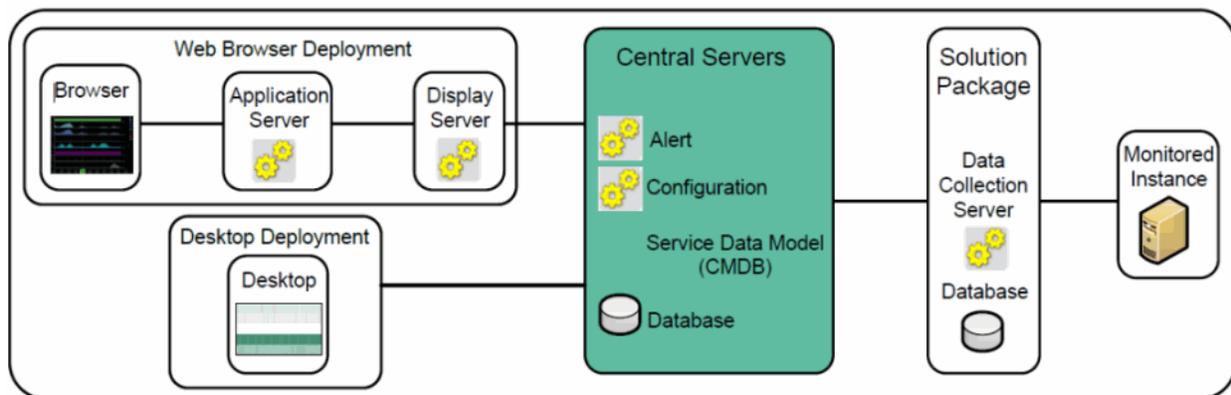
The RTVRULES Solution Package is designed to reduce the number of escalated, low-level alerts to upper management tiers. This enables you to, for example, set a time frame for IT to resolve an alert before the alert is escalated.

To configure this behavior, you use the “EM-SERVICE CI Type” in the **Administration - “CMDB Admin”** display to establish dependencies among Services, then use the Duration attribute in the **Administration - “Alert Administration”** display to delay the execution of the following alerts:

- **RtvEmServiceAlert:** This discrete alert is generated when a Service has one or more alerts on any associated CIs.
- **RtvEmServiceAlertImpactHigh:** This limits alert is generated when a Service has an Alert Impact value that exceeds the specified threshold on any associated CI.

**Note:** Unexpected behavior can arise if loops in the relationships among Services are created.

The following figure illustrates the RTView Enterprise Monitor components that are the subject of this section.



**At this point you have:**

- Verified “[System Requirements](#)”.
- Completed instructions in “[Installation](#)” for the *full* RTView Enterprise Monitor platform.
- Completed instructions in “[Configure Central Servers](#)”.
- Completed instructions in “[Configure Solution Package](#)” (you have configured a local RTView Enterprise Monitor deployment and Web Browser RTView Enterprise Monitor deployment. That is, displays such as the **All Management Areas** - “[Area Heatmap](#)” are populated with JVM data from RTView Enterprise Monitor servers and the CMDB database).
- Have Solution Package-specific displays showing monitoring data from your environment (you do not yet see Solution Package data in displays such as the **All Management Areas** - “[Area Heatmap](#)”).
- Completed instructions in “[Configure Service Data Model](#)”.
- Completed instructions in “[Configure Databases of the Central Servers](#)” (you have configured the Central Server Database for your production environment).

**To configure the RTVRULES Solution Package:**

1. If relationships are not yet established among Services, define these relationships using the new CI Type in the **Administration** - “[CMDB Admin](#)” display. For details, see [Configure the Service Data Model, “EM-SERVICE CI Type” on page 31](#).
2. In an [initialized command window](#), change directory (**cd**) to the your [project directory/servers](#) directory.
3. Start the RTView Enterprise Monitor Servers by typing:  
**start\_rtv all**

---

**Note:** This starts the databases, Configuration Server, Display Server, RTVMGR, RTVRULES, Alert Server and Directory Servers.

---

4. Start the Viewer by typing:  
**start\_rtv viewer**
5. In the Monitor, open the **Administration** - “[Alert Administration](#)” display and enable the **RtvEmServiceAlert** and **RtvEmServiceAlertImpactHigh** alerts.

You have finished configuring the RTVRULES Solution Package.

---

## Configure Dual Write for Distributed Alert Server

Dual write is for distributed Alert Server deployments in which the Data Server hosting alerts is on a different system from the Central Alert Server and client. This configuration mitigates the delays with **Alert Table** updates which occur in this type of deployment. However, this setup also causes the data in the **Alert Table** to be temporarily out of sync with the master alert data. Consider the limitations of this feature before using it.

By default, this feature is disabled.

### Default Behavior

When a user clicks the **Own**, **Suppress**, **Unsuppress** or **Close** button in the **Alert Table**, the associated command executes on the selected alert in the Data Server that is hosting the alert. The hosting Data Server updates the alerts and pushes the updated alert data to the Central Alert Server. The Central Alert Server then pushes the updated alert data to the client hosting the display and the **Alert Table** gets updated.

### Dual Write Enabled Behavior

When dual write is enabled, the command is applied directly to the Central Alert Server alert cache--before the action is executed on the Data Server that is hosting the alert. This reduces the delay between executing the action and seeing the result in the **Alert Table**.

### To Enable Dual Write

To enable dual write, include the following property in the properties file for the Display Viewer or Display Server. For example, for the **rtview.properties** file, located in the **projects\emsample\servers\central** directory, we add:

```
sl.rtview.sub=$rtvUserEnableAlertDualWrite:1
```

### Limitations

The following limitations apply when dual write is enabled:

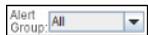
1. If an alert is cleared, clicking on **Suppress** or **Unsuppress** updates the Central Alert Server cache, but not the actual alert. The suppressed state of an alert cannot change after the alert is cleared.
2. Clicking on the **Close** button immediately updates the **Cleared** value in the **Alert Table**, but the **Cleared Reason** value does not update until the server hosting the alert closes the alert and sends an update.
3. If the server hosting the alert sends an update between the time you click on one of the buttons listed and the time that server processes the associated action, the value in the table toggles between the new value and the old value. For example, you select an alert and **Suppress** it. At the same time, the alert severity changes in the back-end server. The table initially updates with old severity with **SUP** set to **true**, then updates with the new severity with **Sup** set to **false**, and then updates with the new severity with **Sup** set to **true**. If your Central Alert Server is configured to notify when the **Sup** column changes, you receive notifications for all three of these changes (**true, false, true**).
4. If the server hosting the selected alert is not connected or not enabled when you click **Own**, **Suppress**, **Unsuppress** or **Close**, the value in the **Alert Table** updates but that value is not applied to the real alert. When the server hosting the alert connects again, the value reverts to the previous value. This is not likely to occur because the **Own**, **Suppress**, **Unsuppress** or **Close** buttons are disabled with the server hosting the selected alert is not connected or is not enabled. However, it is possible that you perform the action just as the server hosting the alert is exiting before the buttons are disabled.

## Configure Alert Groups

This section describes how to configure Alert Groups. The Alert Group configuration is optional. This feature allows you to associate your alerts with Alert Groups that can then be used to filter the alerts included in the displays under the following navigation tree Views:

- “All Management Areas”
- “Multi Area Service Views”
- “Single Area Service Views”
- “Component Views”
- **Alert Views** (the “RTView Alerts Table” and “Alert History Table” only)

The filter can also be applied to the navigation tree when RTView Enterprise Monitor is run in alert-viewer mode. If you have configured Alert Groups, the following Alert Group filter drop-down menu appears at the top of each display that supports Alert Group filtering:



This drop-down menu contains the defined Alert Groups as well as two pre-defined options:

- **All** - Removes the Alert Group filter and includes all alerts.
- **None** - Filters to all alerts that are not included in any Alert Group.

Select an item in the **Alert Group** filter drop-down menu to filter the alerts displayed by that Alert Group. You can set the default Alert Group on an application, per-user or per-role basis. For example, you can organize your alerts into **Infrastructure**, **Performance** and **Availability** and then assign the default Alert Group based on the type of alerts the user is responsible for, enabling them to focus on and prioritize only those alerts.

An Alert Group can contain as many alerts as needed. A single alert can belong to multiple Alert Groups. Since alerts that are not members of an Alert Group are added to the **None** Alert Group, you cannot define an Alert Group named **None**.

These instructions assume you use the your [project directory](#).

### To configure Alert Groups

1. Determine your Alert Groups.
2. Define an Alert Group by adding a row to the CITYPE\_ALERTMAP table in the RTVCONFIG database, where the **CITYPE** value is **GROUP-AlertGroupName** and the **ALERTNAME** value is the name of the alert to include in the Alert Group. The schema for this table is included in **dbconfig\create\_rtvconfig\_\*.sql**. For example, to define an Alert Group named **Availability** and add the **JvmNotConnected** alert to it, you add the following row:

**GROUP-Availability -- JvmNotConnected**

3. To add additional alert names to the Alert Group, add a row for each alert name. For example, to set three alerts in the **Availability** Alert Group you add the following rows:

**GROUP-Availability -- JvmNotConnected**

**GROUP-Availability -- xyzAlertName**

**GROUP-Availability -- 123AlertName**

NOTE: A single alert name can belong to multiple Alert Groups.

4. In the properties file used by your Central Configuration server, add the following property:

**ConfigCollector.sl.rtvview.cache.config=rtv\_config\_cache\_source\_db.rtv**

NOTE: This property is included in **projects/emsample/servers/central/central.properties**. It is commented out by default, but must be uncommented in order to use Alert Groups.

5. Open the **All Management Areas** - ["Area Heatmap"](#) display and verify that the **Alert Group** drop-down menu appears at the top.
6. Select an Alert Group from the **Alert Group** drop-down menu and verify that only alerts for the selected Alert Group are included in the heatmap.
7. Open the **Architecture** - ["RTView Cache Tables"](#) display, select **CONFIG-SERVER** from the **Data Server** drop-down menu, then select the **RtvAlertGroupMap** cache table from the upper table. This cache lists all defined Alert Groups.
8. Verify the list of defined Alert Groups and their alert name members in the **RtvAlertGroupMap** table. NOTE: The table includes the **None** Alert Group, which is defined, by default, to include all alerts that are not members of a user-defined Alert Group.
9. Optionally, specify the default Alert Group filter. To add an application default, set the **\$rtvAlertGroupFilter** substitution to the name your default Alert Group filter in the properties file used by your Viewer application. For example, to set the default Alert Group filter to **Availability**, enter: **sl.rtvview.sub=\$rtvAlertGroupFilter:Availability**

In the **projects\emsample** project, you would add this property to **emsample\servers\central\rtvview.properties**.

To add a per-role or per-user default, set the **\$rtvAlertGroupFilter** substitution value in your **users.xml** or **roles.xml** file. For example, to set the default Alert Group filter to **Availability**, enter: **sub name="\$rtvAlertGroupFilter" value="Availability"**

For details about the **users.xml** or **roles.xml** files, see ["Configure User and Role Management"](#) on page 45.

For details about configuring Alert Groups for custom displays, see the [Chapter 28, "Creating Custom Solution Packages"](#) .

---

## Configure Alert Filters

This section describes how to configure the **Custom Filter** drop-down menu which is used for creating custom, user-defined filters in the **Alert Views** - ["RTView Alerts Table"](#) display. This configuration is optional.

When custom filters are defined for the logged in user, a **Custom Filter** drop-down menu is added to the **Alert Views** - "RTView Alerts Table" display (in the upper right portion of the display).



The **Custom Filter** drop-down menu is a predefined list of standard filters that are applied to the **Alert Views** - "RTView Alerts Table". All filters that are supported by the controls at the top of the **Alert Views** - "RTView Alerts Table" display can be used to define the **Custom Filter** drop-down menu.

When you select a custom filter, the filter controls at the top of the display then reflect that custom filter's settings, as well as the data in the table. For example, let us say you define a custom filter named **All Suppressed Jvm Critical Alerts** that filters the table to show only **Suppressed** and **Critical** alerts with **Jvm** in the **Alert Name** field. When you select this custom filter the **Field Filter** is then set to **Alert Name**, the **Search Text** field is then set to **Jvm**, the **Warning** check-box is then deselected and the **Suppressed** check-boxes is selected, and the table is then filtered accordingly. If the filter fields change such that the filter no longer matches the selected custom filter, the custom filter selection is cleared.

The **Custom Filter** drop-down menu contains all filter options that are specified for the logged in user. The **Custom Filter** drop-down menu only appears in the **Alert Views** - "RTView Alerts Table" display if at least one custom filter is defined for that user.

You configure the **Custom Filter** drop-down menu by creating one or more custom filters. To create the filter you add a table row to the CUSTOM\_ALERT\_FILTERS table in the ALERTDEFS database. You define the custom filter per user with match criteria for each of the filter controls in the **Alert Views** - "RTView Alerts Table" display. See the schemas in the **RTVAPM\_HOME\common\dbconfig** directory for the correct schema to use for your database. The CUSTOM\_ALERT\_FILTERS table also resides in the database in the **ensample** folder.

---

**Note:** The CUSTOM\_ALERT\_FILTERS table was added to the ALERTDEFS database in version 1.3.0. Users upgrading from previous versions must add this table to the ALERTDEFS database.

---

## To configure Alert Filters

Add a row for each custom filter to the CUSTOM\_ALERT\_FILTERS table, located in the ALERTDEFS database. The following are the available table columns you can define, all of which are of type String.

| Column Name | Value   |
|-------------|---|
| <b>User</b> | Specifies the name of the user who can use this filter. This must correspond to the value specified for the <b>User</b> in the RTView Enterprise Monitor login. |
| <b>Key</b>  | Specifies the name of the filter. This value is used in the <b>Custom Filter</b> drop-down menu.  |

|                                   |  |
|-----------------------------------|--|
| <b>rtvAlertDynFilter</b>          | Specifies the name of the column in the <b>Alerts Table</b> to filter on. This corresponds to the value in the <b>Field Filter</b> drop-down menu in the display. This must be the actual column name, which is sometimes different than the displayed column name. Valid values are blank, <b>Time</b> , <b>Last Update Time</b> , <b>Count</b> , <b>ID</b> , <b>Cleared</b> , <b>Acknowledged</b> , <b>Owner</b> , <b>Alert Name</b> , <b>Primary Service</b> , <b>CIName</b> , <b>CITYPE</b> , <b>Alert Index</b> , <b>Alert Text</b> , <b>Severity</b> , <b>Source</b> , <b>Cleared Reason</b> , <b>AlertClass</b> , <b>CompID</b> , <b>TicketID</b> , <b>TicketGroup</b> and any other custom columns you added to the <b>RTView Alerts Table</b> . A <blank> value indicates this filter should not be used. NOTE: If you specified an <b>RTView Alerts Table</b> columns list, you can use any values from the <b>RTView Alerts Table</b> columns list. |
| <b>rtvAlertDynTextFilter</b>      | Specifies the value in the <b>rtvAlertDynFilter</b> column must equal. This corresponds to the <b>Search Text</b> field in the display.  |
| <b>rtvAlertDynTextFilterRegEx</b> | Specifies whether to use Regex for the <b>rtvAlertDynFilter</b> and <b>rtvAlertDynTextFilter</b> filters, where <b>1</b> is use to Regex and <b>0</b> is NOT to use Regex. This corresponds to the <b>RegEx</b> check-box in the display.  |
| <b>rtvClearedFilter</b>           | Specifies to filter on the <b>Cleared</b> column. This corresponds to the <b>All/Open/Closed</b> radio buttons in the display. Valid values are: <ul style="list-style-type: none"> <li>• <b>false</b> shows only open alerts</li> <li>• <b>true</b> shows only closed alerts</li> <li>• <b>*</b> (asterisk) shows both</li> </ul>   |
| <b>rtvAckFilter</b>               | Specifies to filter on the <b>Suppressed</b> column. This corresponds to the <b>Suppressed</b> check-box in the display. Valid values are: <ul style="list-style-type: none"> <li>• <b>false</b> shows only unsuppressed alerts</li> <li>• <b>true</b> shows only suppressed alerts</li> <li>• <b>*</b> (asterisk) shows both</li> </ul>   |
| <b>ownerFilter</b>                | Specifies to filter on the <b>Owner</b> column. This corresponds to the <b>Owner Filter</b> drop-down menu in the display. Valid values are: <ul style="list-style-type: none"> <li>• &lt;blank&gt; shows alerts that are not owned as well as the logged in user name (which corresponds to the <b>Owned by Me</b> drop-down menu selection)</li> <li>• <b>*</b> (asterisk) shows owned and not owned alerts</li> </ul>   |
| <b>rtvWarningFilter</b>           | Specifies to filter on warning alerts. That is, where the alert <b>Severity</b> is equal to <b>1</b> . Valid values are: <ul style="list-style-type: none"> <li>• <b>1</b> shows warning alerts</li> <li>• &lt;blank&gt; does NOT show warning alerts</li> </ul>   |
| <b>rtvCriticalFilter</b>          | Specifies to filter on critical alerts. That is, where the alert <b>Severity</b> is equal to <b>2</b> or <b>3</b> . Valid values are: <ul style="list-style-type: none"> <li>• <b>2</b> shows critical alerts</li> <li>• <b>3</b> shows critical alerts</li> <li>• &lt;blank&gt; does NOT show critical alerts</li> </ul>  |
| <b>rtvOwnerLoc</b>                | Specifies to filter on the CMDB owner. This corresponds to the <b>Owner</b> value in the <b>CMDB Filter</b> field. Valid values are: <ul style="list-style-type: none"> <li>• the name of an owner from your CMDB which shows only alerts for that owner</li> <li>• <b>*</b> (asterisk) which does NOT filter by CMDB owner</li> <li>• &lt;blank&gt; shows only alerts without an owner</li> </ul>   |

---

|                          |   |
|--------------------------|---|
| <b>rtvAreaLoc</b>        | <p>Specifies to filter on the CMDB area. This corresponds to the area value in the <b>CMDB Filter</b> field. Valid values are:</p> <ul style="list-style-type: none"><li>• the name of an area from your CMDB which shows only alerts for that area</li><li>• * (asterisk) which does NOT filter by CMDB area</li></ul>   |
| <b>rtvGroupLoc</b>       | <p>Specifies to filter on the CMDB group. This corresponds to the <b>Group</b> value in the <b>CMDB Filter</b> field. Valid values are:</p> <ul style="list-style-type: none"><li>• the name of a group from your CMDB which shows only alerts for that group</li><li>• * (asterisk) which does NOT filter by CMDB group</li></ul>                                |
| <b>rtvServiceLoc</b>     | <p>Specifies to filter on the CMDB service. This corresponds to the <b>Service</b> value in the <b>CMDB Filter</b> field. Valid values are:</p> <ul style="list-style-type: none"><li>• the name of a service from your CMDB which shows only alerts for that service</li><li>• * (asterisk) which does NOT filter by CMDB service</li></ul>                      |
| <b>rtvEnvironmentLoc</b> | <p>Specifies to filter on the CMDB environment. This corresponds to the <b>Environment</b> value in the <b>CMDB Filter</b> field. Valid values are:</p> <ul style="list-style-type: none"><li>• the name of an environment from your CMDB which shows only alerts for that environment</li><li>• * (asterisk) which does NOT filter by CMDB environment</li></ul> |

---

## CHAPTER 4 User Interface Configuration

This section describes how to configure the RTView Enterprise Monitor user interface. These configurations are optional. This section includes:

- [“Change Order of Navigation Tabs” on page 69](#): Modify order of Monitor tabs and hide globally or per-role.
- [“Modify the CUSTOM Tab” on page 70](#): Modify, add or remove Monitor tabs and add or remove custom views.
- [“Configure RTView Alerts Table Columns” on page 73](#): Change which columns are shown in the **Alerts Table**, which column to sort on and whether to sort a column by ascending or descending order.
- [“Add Owned By Me to RTView Alerts Table” on page 75](#): Add a table that only shows alerts for the logged in user to the RTView Alerts Table.

---

### Change Order of Navigation Tabs

This section describes how to change the order and visibility of the navigation tabs (**SERVICE TREE**, **SERVICE VIEWS**, **COMPONENTS**, **ALERTS** and **ADMIN**). For details about modifying user-defined tabs (such as **CUSTOM**), see [“Modify the CUSTOM Tab” on page 70](#).



By default, RTView Enterprise Monitor has the following tabs in this order: **SERVICE TREE**, **SERVICE VIEWS**, **COMPONENTS**, **ALERTS** and **ADMIN**, followed by all user-defined tabs from the `rtv_custom.xml` file.

Use the `$rtvNavTabList` substitution to modify the order and visibility of these tabs either globally or on a per-role basis. The `$rtvNavTabList` substitution supports a comma separated list of Tab ID's which overrides the default tab list. The initial display is set to the first item in the navigation tree for the first tab in the list. For example, the following property limits and reorders the tabs to **CUSTOM**, **SERVICE TREE** and **ADMIN**:

```
uiprocess.sl.rtvview.sub=$rtvNavTabList:Custom,CMDB,Admin
```

These are the Tab IDs for the standard RTView Enterprise Monitor tabs:

- **Tab ID** - Tab Label
- **CMDB** - SERVICE TREE
- **Service** - SERVICE VIEWS
- **Components** - COMPONENTS
- **Alerts** - ALERTS
- **Admin** - ADMIN

For user-defined tabs, use the value in the **TabID** column of the **TabTreeSelection** table in the **rtv\_custom.xml** file.

### To apply globally:

To apply a modification of your navigation tabs globally, add the **\$rtvNavTabList** substitution to your **central.properties** file.

### To apply per role:

To specify different tabs per role, add the **\$rtvNavTabList** substitution to your **roles.xml** file and list the tabs for that role. For example, the following limits and reorders the tabs for the **admin** role to **ADMIN, SERVICE TREE, ALERTS**:

```
<role>
<name>admin</name>
<displays>
<include>ALL</include>
</displays>
<sub name="$rtvNavTabList" value="Admin,CMDB,Alerts"/>
</role>
```

Roles that set **\$rtvNavTabList** to blank get the default tabs (listed above), roles that do not set **\$rtvNavTabList** get the global value set in **central.properties**, and if no value is set in **central.properties** it gets the default tabs.

---

## Modify the CUSTOM Tab

The **CUSTOM** tab is provided as a location for adding user-defined views. The **CUSTOM** tab can be removed or renamed. You can also add additional custom tabs. This section includes:

- ["Replacing Tab Content,"](#) next
- ["Renaming the CUSTOM Tab"](#) on page 70
- ["Removing the CUSTOM Tab"](#) on page 71
- ["Adding Tabs"](#) on page 71

### Replacing Tab Content

To replace the contents of the **CUSTOM** tab with your custom views:

1. Copy your custom view (**.rtv**) files to the project directory.
2. Modify **custom\_views\_navtree.xml** to replace the tree contents with your custom views.

### Renaming the CUSTOM Tab

To rename the **CUSTOM** tab:

Modify **rtv\_custom.xml TabTable** to change the **CUSTOM** label in the **TabLabel** column to your custom tab label. Do NOT change the **Custom** value in the **Group** column.

## Removing the CUSTOM Tab

To remove the **CUSTOM** tab:

Modify **rtv\_custom.xml** to remove the Custom row from the **TabTable** and **TabTreeSelection** tables.

## Adding Tabs

1. Choose a Tab ID for your **CUSTOM** tab. This is not the label, but a unique ID that will be used internally to identify your tab. For this example, we will use **MyCustomTab** for the Tab ID. You cannot use the following for the Tab ID:

- Custom
- CMDB
- Service
- Alerts
- Components

2. Create a navigation accordion view for your tab in your project directory:

- Copy **custom\_views\_acc.rtv** to a new file name. In this example, we copy it to **mycustomtab\_acc.rtv**.
- Open **mycustomtab\_acc.rtv** in the Display Builder:
  1. **runb\_appmon mycustomtab\_acc.rtv**.
  2. Modify the Custom Views label above the navigation accordion.
  3. Select the navigation accordion and edit the **selectedValue** property. Change the **Filter** value to your Tab ID (**MyCustomTab** in this example).
  4. Open the data attachment in the **navOptionsForFilter** function and change the **Filter** value to your Tab ID (**MyCustomTab** in this example).
  5. Save your display and exit the Display Builder.

3. Create a navigation tree for your tab. Note that each node in the tree must be a unique display/substitution value.

- Copy **custom\_views\_navtree.xml** to a new filename, **mycustomtab\_navtree.xml**.
- Replace the nodes in **mycustomtab\_navtree.xml** with your nodes.

4. Add the new navigation tree to **central.properties**:

```
# MyCustomTab tab
```

```
uiprocess.sl.rtvview.xml.xmlsource=mycustomtab_navtree.xml 0 mycustomtab_navtree.xml
0 1
```

```
uiprocess.sl.rtvview.cache.config=rtv_tabtree_cache_source.rtv
```

```
$rtvNavTreeFilename:mycustomtab_navtree.xml $rtvNavTabName:MyCustomTab
```

5. Add your new tab to **rtv\_custom.xml**. In a text file editor, open **rtv\_custom.xml** and edit the following:

- Add a new row to the **TabTable** with the label, Tab ID and navigation view you created in Step 2:

```
<tr>
<td>MyCustomTabLabel</td>
<td>MyCustomTab</td>
<td>mycustomtab_acc</td>
</tr>
```

- Add a new row to the **TabTreeSelection** table with the Tab ID:

```
<tr>
<td>MyCustomTab</td>
<td>MyCustomTab_1</td>
<td></td>
<td>MyCustomTab</td>
```

## Configure RTView Alerts Table Columns

RTView Enterprise Monitor allows you to specify which columns to include in the **Alert Views** - "RTView Alerts Table". You can also specify which column to sort on (rather than the **Time** column) and whether to sort a column by ascending or descending order.

This configuration impacts the **RTView Alerts Table** in the following displays and any custom displays that include **rtv\_alerts\_table\_common.rtv**:

- **Alert Views** - "RTView Alerts Table" display (**rtv\_alerts\_table.rtv**)
- **Service Summary Views** - "Service By CI Type" display (**rtv\_service\_citype\_summary.rtv**)
- **Service Summary Views** - "Service Summary" display (**rtv\_service\_summary.rtv**)
- **Multi Area Service Views** - "Services CI Type Summary" display (**rtv\_allareas\_allservices\_citype\_summary.rtv**)
- **Single Area Service Views** - **Services CI Type Summary** display (**rtv\_area\_allservices\_citype\_summary.rtv**) By default, this display is not included in the navigation tree.

The screenshot shows the 'Alerts Table' interface. At the top, there are filters for 'Current' alert group, 'All' alert group, and a search text field. Below the filters, a summary bar indicates: Total 166 / 166, Critical 164 / 164, Warning 2 / 2, and Suppressed 0. The main table has columns: First Occ, Last Occ, Count, Sup, Owner, Alert Name, and Primary Service. The table contains multiple rows of alert data, with some rows highlighted in yellow and others in red. At the bottom, there are checkboxes for 'id', 'Closed', 'Closed Reason', and 'Alert Index', along with 'Go To CI', 'Options', and 'Details' buttons.

| First Occ         | Last Occ          | Count | Sup                      | Owner      | Alert Name                  | Primary Service |
|-------------------|-------------------|-------|--------------------------|------------|-----------------------------|-----------------|
| 04/11/16 15:50:48 | 04/11/16 15:50:48 | 1     | <input type="checkbox"/> | Jvm        | JvmCpuPercentHigh           | JVM             |
| 04/11/16 15:50:28 | 04/11/16 15:50:28 | 1     | <input type="checkbox"/> | Jvm        | JvmCpuPercentHigh           | Localhost       |
| 04/11/16 13:08:06 | 04/11/16 15:44:22 | 931   | <input type="checkbox"/> | Jvm        | JvmCpuPercentHigh           | Localhost       |
| 04/11/16 15:50:27 | 04/11/16 15:50:27 | 1     | <input type="checkbox"/> | BwProcess  | BwProcessExecutionTimeHigh  | BW-PROCESS      |
| 04/11/16 15:50:27 | 04/11/16 15:50:27 | 1     | <input type="checkbox"/> | BwProcess  | BwProcessExecutionTimeHigh  | BW-PROCESS      |
| 04/11/16 15:50:27 | 04/11/16 15:50:27 | 1     | <input type="checkbox"/> | BwProcess  | BwProcessExecutionTimeHigh  | BW-PROCESS      |
| 04/11/16 15:50:27 | 04/11/16 15:50:27 | 1     | <input type="checkbox"/> | BwProcess  | BwProcessExecutionTimeHigh  | BW-PROCESS      |
| 04/11/16 15:50:03 | 04/11/16 15:50:03 | 1     | <input type="checkbox"/> | BwProcess  | BwProcessExecutionTimeHigh  | BW-PROCESS      |
| 04/11/16 15:50:03 | 04/11/16 15:50:03 | 1     | <input type="checkbox"/> | BwProcess  | BwProcessExecutionTimeHigh  | BW-PROCESS      |
| 04/11/16 14:59:59 | 04/11/16 14:59:59 | 1     | <input type="checkbox"/> | BwProcess  | BwProcessExecutionTimeHigh  | BW-PROCESS      |
| 04/11/16 15:50:27 | 04/11/16 15:50:27 | 1     | <input type="checkbox"/> | BwProcess  | BwProcessElapsedTimeHigh    | BW-PROCESS      |
| 04/11/16 15:50:27 | 04/11/16 15:50:27 | 1     | <input type="checkbox"/> | BwProcess  | BwProcessElapsedTimeHigh    | BW-PROCESS      |
| 04/11/16 15:50:27 | 04/11/16 15:50:27 | 1     | <input type="checkbox"/> | BwProcess  | BwProcessElapsedTimeHigh    | BW-PROCESS      |
| 04/11/16 15:50:27 | 04/11/16 15:50:27 | 1     | <input type="checkbox"/> | BwProcess  | BwProcessElapsedTimeHigh    | BW-PROCESS      |
| 04/11/16 15:50:03 | 04/11/16 15:50:03 | 1     | <input type="checkbox"/> | BwProcess  | BwProcessElapsedTimeHigh    | BW-PROCESS      |
| 04/11/16 15:50:03 | 04/11/16 15:50:03 | 1     | <input type="checkbox"/> | BwProcess  | BwProcessElapsedTimeHigh    | BW-PROCESS      |
| 04/11/16 14:59:59 | 04/11/16 14:59:59 | 1     | <input type="checkbox"/> | BwProcess  | BwProcessElapsedTimeHigh    | BW-PROCESS      |
| 04/11/16 11:51:45 | 04/11/16 11:51:45 | 1     | <input type="checkbox"/> | BwEngine   | BwEngineMemUsedHigh         | BW-ENGINE       |
| 04/11/16 11:51:45 | 04/11/16 11:51:45 | 1     | <input type="checkbox"/> | BwEngine   | BwEngineMemUsedHigh         | BW-ENGINE       |
| 04/11/16 11:51:45 | 04/11/16 11:51:45 | 1     | <input type="checkbox"/> | BwEngine   | BwEngineMemUsedHigh         | BW-ENGINE       |
| 04/11/16 11:51:45 | 04/11/16 11:51:45 | 1     | <input type="checkbox"/> | BwEngine   | BwEngineMemUsedHigh         | BW-ENGINE       |
| 04/11/16 15:50:31 | 04/11/16 15:50:31 | 1     | <input type="checkbox"/> | BwActivity | BwActivityExecutionTimeHigh | BW-PROCESS      |
| 04/11/16 15:50:31 | 04/11/16 15:50:31 | 1     | <input type="checkbox"/> | BwActivity | BwActivityExecutionTimeHigh | BW-PROCESS      |
| 04/11/16 15:50:31 | 04/11/16 15:50:31 | 1     | <input type="checkbox"/> | BwActivity | BwActivityExecutionTimeHigh | BW-PROCESS      |
| 04/11/16 15:50:31 | 04/11/16 15:50:31 | 1     | <input type="checkbox"/> | BwActivity | BwActivityExecutionTimeHigh | BW-PROCESS      |

By default, the **RTView Alerts Table** (`rtv_alerts_table_common.rtv`) includes the following columns in the following order:

- Time (the column label is **First Occ**)
- Last Update Time (the column label is **Last Occ**)
- **Count**
- **Alert Index** (hidden by default)
- **ID** (hidden by default)
- Cleared (the column label is **Closed** and is hidden by default)
- Cleared Reason (the column label is **Closed Reason** and is hidden by default)
- Acknowledged (the column label is **Sup**)
- **Owner**
- **Alert Name**
- **PrimaryService** (the column label is **Primary Service**)
- CName (the column label is **CI**)
- **Alert Text**
- **AlertClass**
- **CompID**
- **TicketID**
- **TicketGroup**

## Changing the Default Columns

To change the default columns, add the following property to the properties file used by your Display Viewer application:

```
sl.rtvview.sub=$rtvUserAlertTableColumns:'Time:94 Last Update Time:93 Count:50  
ID:50 Cleared:40 Cleared Reason:85 Acknowledged:40 Owner:70 Alert Name:134  
Alert Index:150 PrimaryService:150 CName:117 Alert Text:1000 AlertClass:83  
CompID:75 TicketID:69 TicketGroup:86'
```

Replace everything after **\$rtvUserAlertTableColumns:** with the column names and column widths in the order you want. The above example configures the default setup for the columns. The value after **\$rtvUserAlertTableColumns:** must be enclosed in single quotes and use the following syntax:

```
'colName:colWidth colName2:colWidth2'
```

Valid column names are **Time**, **Last Update Time**, **Count**, **ID**, **Cleared**, **Cleared Reason**, **Acknowledged**, **Owner**, **Alert Name**, **PrimaryService**, **CName**, **CITYPE**, **Alert Index**, **Alert Text**, **Severity**, **Source**, **AlertClass**, **CompID**, **TicketID**, **TicketGroup** and any other custom columns you have added to the **RTView Alerts Table**.

## Exposing ID, Cleared, Cleared Reason and Alert Index Columns

The ID, Cleared, Cleared Reason and Alert Index columns are always included, but are hidden by default. To show them, add the following properties to the properties file used by your Display Viewer application:

**# Show the Closed column in the alert table if set to 1, hide it if set to 0**  
**sl.rtvview.sub=\$rtvUserShowCleared:1**  
**# Show the Closed Reason column in the alert table if set to 1, hide it if set to 0**  
**sl.rtvview.sub=\$rtvUserShowClearedReason:1**  
**# Show the ID column in the alert table if set to 1, hide it if set to 0**  
**sl.rtvview.sub=\$rtvUserShowId:1**  
**# Show the Alert Index column in the alert tables**  
**sl.rtvview.sub=\$rtvUserShowAlertIndex:1**

If the ID, Cleared and Cleared Reason columns are specified in the **\$rtvUserAlertTableColumns**, the columns are positioned in columns according to that order. If they are not specified in the **\$rtvUserAlertTableColumns**, they are positioned after (to the right of) the columns specified in **\$rtvUserAlertTableColumns**. In **rtv\_alerts\_table.rtv (Alert Views - RTView Alerts Table)**, you can also toggle the visibility of these columns using the check-boxes at the bottom of the display.

---

**Note:** The values in **\$rtvUserAlertTableColumns** also populate the **Field Filter** drop-down menu in the **rtv\_alerts\_table.rtv (Alert Views->RTView Alerts Table)**. The **Field Filter** drop-down menu also always contains the ID, Closed and Closed Reason columns whether or not those columns are visible.

---

## Changing the Sort Column and Order

By default, the **RTView Alerts Table** is sorted by the **Time** column in descending order to show new alerts first. You can configure the **RTView Alerts Table** to sort by a different column and by descending order. To configure the columns in this way, include the following in the properties file used by your Display Viewer application and edit accordingly:

**# Set this to the name of the column on which to sort.**  
**sl.rtvview.sub=\$rtvUserAlertTableSortColumn:Time**  
**# Set this to 1 to sort ascending or 0 to sort descending**  
**sl.rtvview.sub=\$rtvUserAlertTableSortAsc:0**

---

**Note:** You can also change the column sorted on in the display by clicking the header of the column you want to sort on.

---

Examples of all of these properties are included in the emsample demo in **%RTVAPM\_HOME%\projects\emsample\servers\central\rtview.properties**.

All of the above substitutions can be set on a per-user or per-role basis if the RTView login is enabled and custom users or roles are defined. See the documentation for information on how to define substitution values for custom users and roles.

## Add Owned By Me to RTView Alerts Table

RTView Enterprise Monitor allows you to include the **Alerts Owned By Me** table in the lower portion of the **Alert Views - "RTView Alerts Table"** display.

The **Alerts Owned By Me** table shows all open (not cleared) alerts owned by the logged in user. Filters selected in the display do not apply to this table.

The screenshot shows the RTView Alerts Table interface. At the top, there is a navigation bar with 'Admin', 'Alerts Table', and the date '09-Oct-2015 16:27'. Below this is a filter section with 'Field Filter', 'Search Text', and 'CMDB Filter'. The main table displays a list of alerts with columns for 'First Occ', 'Last Occ', 'Count', 'Sup', 'Owner', 'Alert Name', 'Primary Service', and 'CI'. A sub-table titled 'Alerts Owned by Me' is visible at the bottom, showing alerts owned by the user 'admin'.

| First Occ         | Last Occ          | Count | Sup                      | Owner | Alert Name               | Primary Service | CI                       | Severity |
|-------------------|-------------------|-------|--------------------------|-------|--------------------------|-----------------|--------------------------|----------|
| 06/20/13 16:06:53 | 06/20/13 16:06:53 | 1     | <input type="checkbox"/> |       | EmsServerPendingMsgsH... | EMS-SERVER      | top://192.168.200.172... | High Wi  |
| 06/20/13 16:06:53 | 06/20/13 16:06:53 | 1     | <input type="checkbox"/> |       | EmsServerPendingMsgsH... | EMS-SERVER      | top://192.168.200.171... | High All |
| 06/20/13 16:06:53 | 06/20/13 16:06:53 | 1     | <input type="checkbox"/> |       | EmsServerPendingMsgsH... | EMS-SERVER      | top://192.168.200.171... | High All |
| 06/20/13 16:06:53 | 06/20/13 16:06:53 | 1     | <input type="checkbox"/> |       | EmsServerPendingMsgsH... | EMS-SERVER      | top://192.168.200.172... | High All |
| 06/20/13 16:06:52 | 06/20/13 16:09:07 | 3     | <input type="checkbox"/> | admin | JvmNotConnected          | JVM             | localhost:BWMON-LO...    | Server c |
| 06/20/13 16:06:52 | 06/20/13 16:08:47 | 2     | <input type="checkbox"/> |       | JvmNotConnected          | MQ-WLM          | localhost:WLM-LOCAL      | Server c |
| 06/20/13 16:06:52 | 06/20/13 16:08:47 | 2     | <input type="checkbox"/> |       | JvmNotConnected          | MQ-WLM          | localhost:MQMON-LO...    | Server c |
| 06/20/13 16:06:52 | 06/20/13 16:09:07 | 3     | <input type="checkbox"/> | admin | JvmNotConnected          | WSM-PROD        | localhost:WSM-LOCAL      | Server c |
| 06/20/13 16:06:52 | 06/20/13 16:08:47 | 2     | <input type="checkbox"/> |       | JvmNotConnected          | CUSTOM-DEV      | localhost:CUSTOM-LO...   | Server c |
| 06/20/13 16:06:52 | 06/20/13 16:08:47 | 2     | <input type="checkbox"/> |       | JvmNotConnected          | OCMON-PROD      | localhost:OCMON-LO...    | Server c |
| 06/20/13 16:06:52 | 06/20/13 16:08:47 | 2     | <input type="checkbox"/> |       | JvmNotConnected          | JVM             | localhost:TOMCAT         | Server c |
| 06/20/13 16:06:52 | 06/20/13 16:08:47 | 2     | <input type="checkbox"/> |       | JvmNotConnected          | MISCMON-PROD    | localhost:MISCMON-L...   | Server c |

| First Occ         | Last Occ          | Count | Sup                                 | Owner | Alert Name               | Primary Service | CI                    | Severity |
|-------------------|-------------------|-------|-------------------------------------|-------|--------------------------|-----------------|-----------------------|----------|
| 06/20/13 16:06:53 | 06/20/13 16:09:08 | 6     | <input checked="" type="checkbox"/> | admin | EmsServerPendingMsgsH... | EMS-SERVER      | top://SLPRO29:7222    | High All |
| 06/20/13 16:06:52 | 06/20/13 16:09:07 | 3     | <input type="checkbox"/>            | admin | JvmNotConnected          | JVM             | localhost:BWMON-LO... | Server c |
| 06/20/13 16:06:52 | 06/20/13 16:09:07 | 3     | <input type="checkbox"/>            | admin | JvmNotConnected          | WSM-PROD        | localhost:WSM-LOCAL   | Server c |

By default, the **Alerts Owned By Me** table is hidden. To show this table, add the following line to the **rtview.properties** file in the directory where you run the Display Viewer or Display Server:

```
sl.rtvview.sub=$rtvUserShowDualTables:1
```

**Note:** This property resides in **emsample\servers\central\rtview.properties** but commented out.

The **Alerts Owned By Me** table can be set on a per-user or per-role basis if the RTView login is enabled and custom users or roles are defined.

For details about how to define substitution values for custom users and roles, see "Configure User and Role Management" on page 45.

## CHAPTER 5 Using the Monitor

This section describes how to read and use RTView Enterprise Monitor displays. This section includes:

- [“Overview” on page 78](#): This section describes the GUI navigation, elements and structure.
- [“Enterprise Monitor Views/Displays” on page 100](#): This section describes RTView Enterprise Monitor displays.

This Guide also includes the following technology-specific Solution Packages:

- [“Connector for Oracle Enterprise Manager” on page 283](#)
- [“Solution Package for Amazon Web Services” on page 285](#)
- [“Solution Package for Docker” on page 287](#)
- [“Solution Package for IBM DB2” on page 311](#)
- [“Solution Package for IBM WebSphere” on page 313](#)
- [“Solution Package for IBM WebSphere MQ” on page 315](#)
- [“Solution Package for Microsoft SQL Server” on page 317](#)
- [“Solution Package for MongoDB” on page 319](#)
- [“Solution Package for Node.js” on page 349](#)
- [“Solution Package for Oracle Coherence” on page 375](#)
- [“Solution Package for Oracle Database” on page 505](#)
- [“Solution Package for Oracle WebLogic” on page 507](#)
- [“Solution Package for Red Hat JBoss” on page 511](#)
- [“Solution Package for Solace Message Router” on page 513](#)
- [“Solution Package for TIBCO ActiveMatrix” on page 603](#)
- [“Solution Package for TIBCO ActiveMatrix Businessworks” on page 605](#)
- [“Solution Package for TIBCO ActiveSpaces” on page 697](#)
- [“Solution Package for TIBCO BusinessEvents” on page 701](#)
- [“Solution Package for TIBCO EMS Monitor” on page 755](#)
- [“Solution Package for TIBCO Hawk” on page 881](#)
- [“Solution Package for UX” on page 887](#)
- [“Solution Package for VMware vCenter” on page 929](#)

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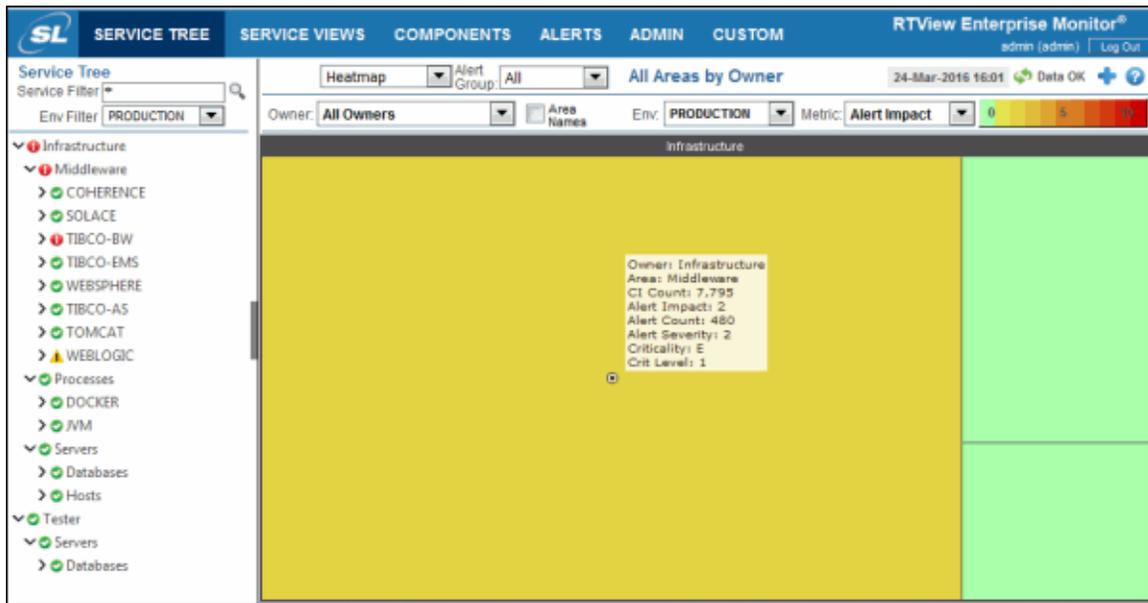
## Overview

This section describes how displays are structured and organized, how to read heatmaps, tables and trend graphs, as well as GUI functionality and navigation. This section includes:

- [“Navigation Tabs” on page 79](#)
- [“Fundamental Structure of Displays” on page 92](#)
- [“Heatmaps” on page 93](#)
- [“Tables” on page 94](#)
- [“Trend Graphs” on page 96](#)
- [“Popup Menu” on page 97](#)
- [“Title Bar” on page 99](#)

RTView Enterprise Monitor uses visual cues (such as color coding, graphic charts and sizing of shapes) to communicate the current state of all elements in your system. RTView Enterprise Monitor comes with Solution Packages that you can optionally install (such as the GlassFish or Business Works Monitors). The optional Solution Packages are not described in this document.

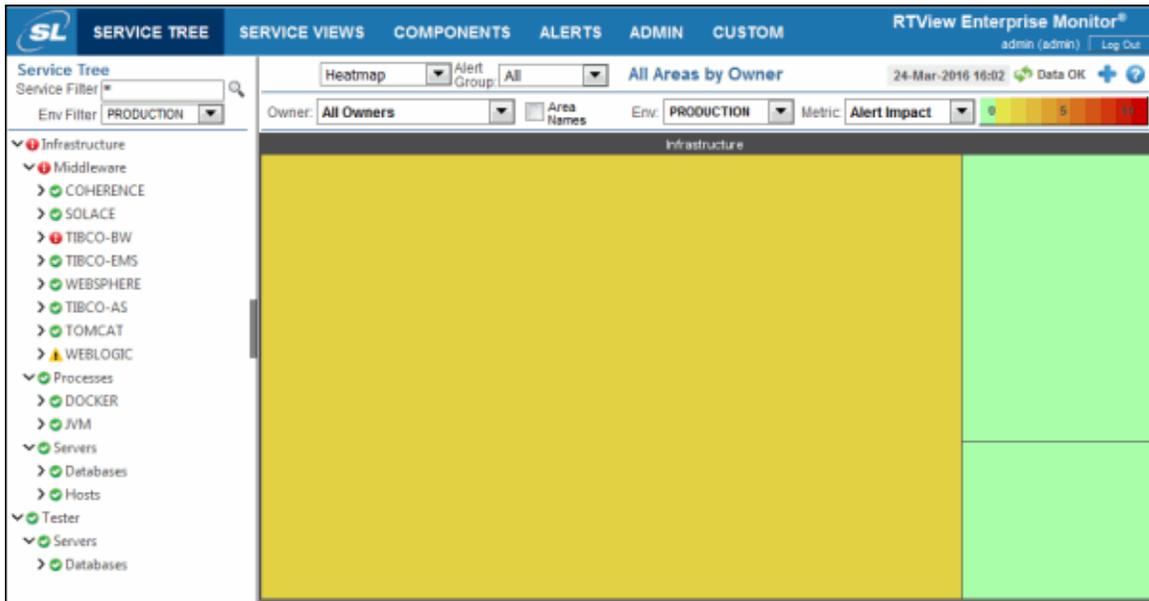
## Navigation Tabs



There are six different tabs that run along the upper portion of the window:

- **“SERVICE TREE Tab”**: provides a tree structure view of your defined CMDB with 4 levels of hierarchy: **Owner>Area>Group>Service**. The tree is configurable and should be set up to represent how a support person likes to conceptually think of the vast number of items that are being monitored. Tree contents are filtered by the \$rtvOwnerMask, \$rtvAreaMask, \$rtvGroupMask and \$rtvServiceMask values for the logged in user. For details, see **Substitutions for User and Role Management**.
- **“SERVICE VIEWS Tab”**: provides an alternate way of accessing the primary RTView Enterprise Monitor displays also found in the **SERVICE TREE** tab. This tab might be used by power users who are very familiar with their monitoring environment and choose not to visualize the entire service tree.
- **“COMPONENTS Tab”**: provides access to the **JVM Process Views**, the **Tomcat Servers Views**, the **RTView Servers Views**, and any Views included with the Solution Packages that you have installed. This tab organizes the monitoring information by technology or vendor and allows you to view the health state of your technology footprint without logical or service groupings. Specialists that understand in some depth how the technologies are deployed, configured, load-balanced, and scale based on load will gain benefit on the organization of performance metrics by the important functional sub-components of the technology.
- **“ALERTS Tab”**: provides a view of the current active alerts in the system and allows you to manage those alerts by owning them, acknowledging them, and/or suppressing them. Tree contents are filtered by the \$rtvOwnerMask, \$rtvAreaMask, \$rtvGroupMask and \$rtvServiceMask values for the logged in user. For details, see **Substitutions for User and Role Management**.
- **“ADMIN Tab”**: can be accessed by administrators of RTView Enterprise Monitor, who can use this tab during installation to set up proper alert settings, to describe logical and service groupings that drive the construction of the Service Tree, and to “monitor the monitor” view of the current health state of RTView Enterprise Monitor and how it is currently deployed and configured.
- **“CUSTOM Tab”**: provides a location where you can add your own tab and views.

## SERVICE TREE Tab



The **SERVICE TREE** tab provides a tree structure view of your defined CMDB with 4 levels of hierarchy: **Owner>Area>Group>Service** (see “[Fundamental Structure of Displays](#)” for more information). This tab is the primary source for understanding the health of your services and for drilling down to analyze issues. The Service Tree, which is configurable, shows user-defined logical groupings of the infrastructure and middleware used to support applications and should be set up to represent how support personnel like to conceptually think of the vast number of items that are being monitored. These groupings could, for example, contain a collection of monitored Configuration Items used to support a specific application or a service, or they could contain Configuration Items relevant to varying technologies located at specific data centers. The Service Tree aggregates the current alert state of any item in a group to indicate which groups have items that need to be investigated, and you can use a variety of visual clues to prioritize and analyze the issues. You can also determine priority using the Alert Impact view in the heatmaps to identify which alert conditions will be the most impactful to your business, and you can then analyze the situation using a variety of tools including:

- **Key Metrics:** allows you to view the cross-correlation of Configuration Items relevant to a grouping or service and how their performance may affect each other and the services they support.
- **Drill Down CI Summary Views:** provides a way to analyze how a particular Configuration Item has been performing over time.
- **Metric Explorer:** allows you to choose specific metrics to chart when analyzing several critical performance metrics over time.

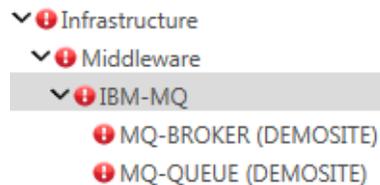
This tab allows you to filter the navigation tree content by service and environment (see figure below). The environment you select also sets the **Environment** filter on the main panel. Note that changing the **Environment** filter on the main panel does not set the **Environment** filter in the navigation panel.



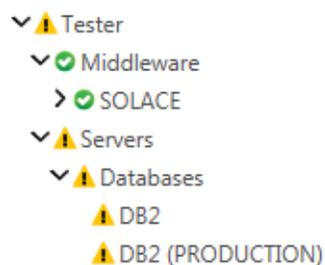
## Alerts

Each level within the Service Tree has a red, yellow, or green icon next to it, which indicate the highest alert level for that particular Owner, Area, Group, or Service. These icons allow you to instantly recognize problem areas within your system and allow you to drill down to quickly find the source of the issue. A red icon  indicates that one or more alerts exceeded their ALARM LEVEL threshold, a yellow icon  indicates that one or more alerts exceeded their WARNING LEVEL threshold, and a green icon  indicates that no alerts exceeded their WARNING or ALARM LEVEL threshold.

The Owner, Area, and Group automatically display the icon representing the highest level alert for their associated services with red (ALARM LEVEL threshold exceeded) being the most serious, yellow (WARNING LEVEL threshold exceeded) being intermediate, and green meaning everything is functioning normally. For example, if any of the services within a particular **Owner>Area>Group** have one or more alerts that exceeded their ALARM LEVEL threshold and, hence, have a red icon next to it in the tree, then the associated Owner, Area, and Group levels will also have the same red icon. In the example below, you can see that the MQ Broker service has one or more alerts that exceeded their ALARM LEVEL threshold and has a red indicator. As a result, the Owner, Area, and Group also have the red indicator



If the highest alert level for the services within a particular **Owner>Area>Group** is a service that has one or more alerts that exceeded their WARNING LEVEL threshold and, hence, has a yellow icon next to it in the tree, then the associated Owner, Area, and Group levels will also have the same yellow icon. In the example below, you can see that the DB2 database has one or more alerts that exceeded its WARNING LEVEL threshold and has a yellow indicator. Since none of the other services in this particular tree have alerts that exceeded their ALARM LEVEL threshold, then the associated Owner, Area, and Group also have the yellow indicator since the WARNING LEVEL threshold is the highest alert level threshold exceeded.



## Available Displays

The following displays are available in the following levels in this tab:

### Owner Level (top level)

To access the following displays, select an Owner Level option (**Infrastructure**, for example) to display an Owner level display. Select one of the following options from the drop-down in the upper left-hand corner of the display to view the associated display:

| Drop-down Option | Display                                    | Description   |
|------------------|--|---|
| <b>Heatmap</b>   | <a href="#">"Area Heatmap" on page 102</a> | Heatmap of the most critical alerts for all Areas of your system, with the option to filter by Owner, Environment and alert Metric. |
| <b>Area</b>      | <a href="#">"Area Table" on page 103</a>   | Table of data shown in the <a href="#">"Area Heatmap"</a> with the option to filter by Owner and Environment.                       |

---

**Note:** When selecting an Owner Level option, the display that opens by default will be the one that was last selected. For example, if Heatmap was the display that was previously selected, Heatmap will display by default again.

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### Area Level (second level down)

To access the following displays, select an Area Level option (**Middleware** in the example above) to display an Area Level display. Select one of the following options from the drop-down in the upper left-hand corner of the display to view the associated display:

| Drop-down Option  | Display  | Description   |
|-------------------|--|---|
| <b>By Group</b>   | <a href="#">"Group/Service Heatmap" on page 106</a>    | Heatmap of alert states for Services by Area, with the option to filter by Area, Group, Environment and alert Metric, and the option to show Group and Service Names. |
| <b>By Region</b>  | <a href="#">"Group/Region Heatmap" on page 108</a>     | Heatmap as described for the <b>Group / Service Heatmap</b> (above), with the option to filter by Region and no option to show Service Names.                         |
| <b>Table</b>      | <a href="#">"Group / Service Table" on page 110</a>    | Table of data shown in the <a href="#">"Group/Service Heatmap" on page 106</a> .  |
| <b>By CI Type</b> | <a href="#">"Services CI Type Summary" on page 112</a> | Table that shows the health state of Services per CI Type.  |
| <b>History</b>    | <a href="#">"Services History Heatmap" on page 115</a> | Heatmap of alert states, over time, for Services in a selected Area, with the option to filter by Group, Environment and alert Metric.                                |

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**Note:** When selecting an Area Level option, the display that opens by default will be the one that was last selected. For example, if Group/Service Heatmap was the display that was previously selected, Group/Service Heatmap will display by default again.

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### Group Level (third level down)

To access the following displays, select a Group Level option (IBM-MQ in the example above) to display a Group Level display. Select one of the following options from the drop-down in the upper left-hand corner of the display to view the associated display:

| Drop-down Option  | Display   | Description   |
|-------------------|---|---|
| <b>By Group</b>   | "Single Area: Group/Service Heatmap" on page 118    | Heatmap of alert states for Services by Area, with the option to filter by Area, Group, Environment and alert Metric, and the option to show Group and Service Names. |
| <b>By Region</b>  | "Single Area: Region/Service Heatmap" on page 120   | Heatmap as described for the <b>Group / Service Heatmap</b> (above), with the option to filter by Region and no option to show Service Names.                         |
| <b>Table</b>      | "Single Area: Group / Service Table" on page 122    | Table of the data shown in the "Single Area: Group/Service Heatmap" on page 118.  |
| <b>By CI Type</b> | "Single Area: Services CI Type Summary" on page 124 | Table that shows the health state of Services per CI Type.  |
| <b>History</b>    | "Single Area: Services History Heatmap" on page 127 | Heatmap of alert states, over time, for Services in a selected Area, with the option to filter by Group, Environment and alert Metric.                                |

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**Note:** When selecting a Group Level option, the display that opens by default will be the one that was last selected. For example, if Group/Service Heatmap was the display that was previously selected, Group/Service Heatmap will display by default again.

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### Service Level (fourth level down)

To access the following displays, select a Service Level option (MQ Broker (DEMOSITE) in the example above) to display a Service Level display. Select one of the following options from the drop-down in the upper left-hand corner of the display to view the associated display:

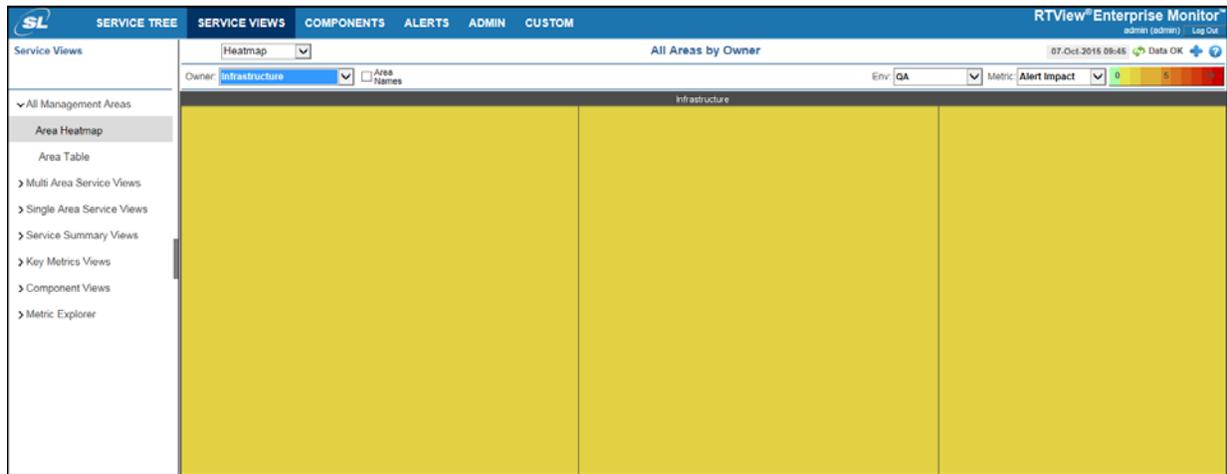
| Drop-down Option        | Display                                | Description  |
|-------------------------|--|--|
| <b>By CI Type</b>       | "Service By CI Type" on page 129       | Table of alert states for a Service organized CI Type, with general alert information.                                       |
| <b>Summary</b>          | "Service Summary" on page 133          | Table of CIs by Service, with detailed alert information.  |
| <b>Health</b>           | "Service Health Heatmap" on page 137   | Heatmap of CIs by Service, with the option to filter by Owner, Area, Group, Environment and alert Metric, and show CI Names. |
| <b>KM Heatmap</b>       | "Service KM Heatmap" on page 140       | Heatmap of Key Metrics current data for one or more Services in your CMDB hierarchy.   |
| <b>KM Table</b>         | "Service KM Table" on page 143         | Table of Key Metrics current data for one or more Services.  |
| <b>KM History</b>       | "Service KM History" on page 147       | History heatmap of Key Metrics historical data for one or more Services.   |
| <b>KM History (Alt)</b> | "Service KM History (Alt)" on page 151 | History heatmap of Key Metrics historical data for one or more Services.   |

**Note:** When selecting a Service Level option, the display that opens by default will be the one that was last selected. For example, if By CI Type was the display that was previously selected, By CI Type will display by default again.

Select the following button, which is available when you select either **By CI Type (Service By CI Type display)** or **Summary (Service Summary display)** from the drop down list, to open the associated display:

| Button  | Display                       | Description   |
|---|-------------------------------|---|
|  | "Metric Explorer" on page 173 | The Metric Explorer (MX) is a tool for creating and viewing custom dashboards, referred to as MX Views. |

## SERVICE VIEWS Tab



The **SERVICE VIEWS** tab is a simplified version of the **SERVICE TREE** tab that uses drop down navigation to access displays without the complexity of the service tree. This tab contains the following Views:

- [“All Management Areas” on page 101](#): Displays in this View show the health of your entire system using aggregated data from all Areas. Use these displays to quickly identify critical conditions across all Areas in your system, then drill-down to investigate in lower-level displays.
- [“Multi Area Service Views” on page 105](#): Displays in this View show the health of Services for one or more Groups. Use these displays to identify critical conditions across all Areas or a single Area. Drill-down to investigate in lower-level displays.
- [“Single Area Service Views” on page 117](#): Displays in this View show the health of Services for one or more Groups. Use these displays to identify critical conditions across a single Area. Drill-down to investigate in lower-level displays.
- [“Service Summary Views” on page 129](#): Displays in this View show the health of CI Types. Use these displays for a closer view of a critical condition, including alert details.
- [“Single Area Service Views” on page 117](#): Displays in this View show all CI details and drill-down to displays that are relevant to the CI Type.
- [“Key Metrics Views” on page 139](#): The Key Metrics (KM) feature shows how close a metric is approaching its threshold (rather than your ACTIVE alerts and their impact on the overall application or service), enabling you to anticipate performance problems BEFORE the alert threshold is crossed and analyze the circumstances that led up to error conditions.
- [“Metric Explorer” on page 173](#): The Metric Explorer (MX) is a tool that allows end-users to quickly create custom dashboards for metrics they specifically want to analyze.

## COMPONENTS Tab

The **COMPONENTS** tab organizes the monitoring information by technology or vendor and allows you to view the health state of your technology footprint without logical or service groupings. This tab also contains deep summaries and drill-downs to the subcomponents that comprise a particular technology. By default, this tab provides access to the **JVM Process Views**, the **Tomcat Servers Views**, the **RTView Servers Views**, and any Views included with the Solution Packages that you have installed. The following views are available via this tab:

- **“JVM Process Views” on page 178:** Displays in this View show performance data for monitored Java Virtual Machine (JVM) Processes. Use these displays to monitor performance of your JVMs.
- **“Tomcat Servers” on page 192:** Displays in this View show performance data for monitored Tomcat applications. Use these displays to monitor Tomcat connections and performance of your Web applications and modules.
- **“RTView Servers” on page 202:** Displays in this View show data gathered by RTView and performance metrics for your RTView Servers.

Refer to the documentation specific to the Solution Packages you have installed for more information on their displays.

There are two different ways to view the available displays: **By Technology** and **By Vendor**.

### By Technology Button

The **By Technology** button lists the available displays by the type of technology (Application/ Web Servers, Middleware, Databases, Processes, Hosts/VMs, Connectors, Other).

| All JMX Connections   |                          |                                     |       |                 |       |       |               |            |              |       |             |
|-----------------------|--------------------------|-------------------------------------|-------|-----------------|-------|-------|---------------|------------|--------------|-------|-------------|
| Connection            | Expired                  | Connected                           | Alert | Host            | Port  | CPU % | Max Heap      | Mem Used % | Display Name | URL   | RtvAppTy... |
| ALERT_SERVER          | <input type="checkbox"/> | <input checked="" type="checkbox"/> |       | localhost       | 10023 | 18.6  | 492,896,256   | 55.7       |              |       | 3 local     |
| ALERTHISTORIAN        | <input type="checkbox"/> | <input checked="" type="checkbox"/> |       | localhost       | 10025 | 0.6   | 477,233,152   | 4.1        |              |       | 11 local    |
| AMXMON-HISTORIAN      | <input type="checkbox"/> | <input checked="" type="checkbox"/> |       | localhost       | 3367  |       |               | 0          |              |       | 0 local     |
| AMXMON-SLHOST-WIN3    | <input type="checkbox"/> | <input checked="" type="checkbox"/> |       | 192.168.200.133 | 6368  | 2.0   | 954,466,304   | 37.8       |              |       | 3 local     |
| AMXMON-SLHOST-WIN4    | <input type="checkbox"/> | <input checked="" type="checkbox"/> |       | 192.168.200.134 | 6368  | 2.0   | 954,466,304   | 31.7       |              |       | 3 local     |
| BW6MON-SLHOST-WIN3    | <input type="checkbox"/> | <input checked="" type="checkbox"/> |       | 192.168.200.133 | 3368  | 0.9   | 954,466,304   | 20.2       |              |       | 3 local     |
| BW6MON-SLHOST-WIN4    | <input type="checkbox"/> | <input checked="" type="checkbox"/> |       | 192.168.200.134 | 3368  | 1.0   | 954,466,304   | 20.2       |              |       | 3 local     |
| BWMON-HISTORIAN       | <input type="checkbox"/> | <input checked="" type="checkbox"/> |       | localhost       | 3367  |       | 0             |            |              |       | 0 local     |
| BWMONITOR-WIN-8       | <input type="checkbox"/> | <input checked="" type="checkbox"/> |       | 192.168.200.138 | 3368  |       | 0             |            |              |       | 0 local     |
| CONFIG_SERVER         | <input type="checkbox"/> | <input checked="" type="checkbox"/> |       | localhost       | 10013 | 2.4   | 477,233,152   | 34.9       |              |       | 3 local     |
| DISPLAYSERVER         | <input type="checkbox"/> | <input checked="" type="checkbox"/> |       | localhost       | 10024 | 4.0   | 477,233,152   | 62.9       |              |       | 5 local     |
| DISPLAYSERVER_DARK... | <input type="checkbox"/> | <input checked="" type="checkbox"/> |       | localhost       | 10124 | 2.5   | 477,233,152   | 29.9       |              |       | 5 local     |
| EMISMON-HISTORIAN     | <input type="checkbox"/> | <input checked="" type="checkbox"/> |       | localhost       | 3167  |       | 0             |            |              |       | 0 local     |
| EMISMONITOR-WIN-8     | <input type="checkbox"/> | <input checked="" type="checkbox"/> |       | 192.168.200.138 | 3168  | 1.3   | 954,466,304   | 28.6       |              |       | 3 local     |
| EMISMON-SLHOST-WIN3   | <input type="checkbox"/> | <input checked="" type="checkbox"/> |       | 192.168.200.133 | 3168  | 1.9   | 954,466,304   | 17.1       |              |       | 3 local     |
| EMISMON-SLHOST-WIN4   | <input type="checkbox"/> | <input checked="" type="checkbox"/> |       | 192.168.200.134 | 3168  | 1.6   | 954,466,304   | 20.4       |              |       | 3 local     |
| local                 | <input type="checkbox"/> | <input checked="" type="checkbox"/> |       | localhost       |       | 1.8   | 954,466,304   | 12.8       |              | local | 3 local     |
| MISCOM-HISTORIAN      | <input type="checkbox"/> | <input checked="" type="checkbox"/> |       | localhost       | 3967  |       | 0             |            |              |       | 0 local     |
| MISCOM-SLHOST-WIN3    | <input type="checkbox"/> | <input checked="" type="checkbox"/> |       | 192.168.200.133 | 3968  | 13.0  | 1,071,316,992 | 95.4       |              |       | 3 local     |
| MISCOM-SLHOST-WIN4    | <input type="checkbox"/> | <input checked="" type="checkbox"/> |       | 192.168.200.134 | 3968  | 5.3   | 985,661,440   | 64.4       |              |       | 3 local     |
| MQMON-64-OL7-3        | <input type="checkbox"/> | <input checked="" type="checkbox"/> |       | 192.168.200.73  | 3468  | 4.2   | 1,037,959,168 | 9.4        |              |       | 3 local     |
| MQMON-HISTORIAN       | <input type="checkbox"/> | <input checked="" type="checkbox"/> |       | localhost       | 3467  |       | 0             |            |              |       | 0 local     |
| MQMON-SLHOST-WIN3     | <input type="checkbox"/> | <input checked="" type="checkbox"/> |       | 192.168.200.133 | 3468  | 3.7   | 954,466,304   | 35.6       |              |       | 3 local     |
| OCMON-64-OL7-1        | <input type="checkbox"/> | <input checked="" type="checkbox"/> |       | 192.168.200.71  | 9911  |       | 0             |            |              |       | 0 local     |
| OCMON-64-OL7-4        | <input type="checkbox"/> | <input checked="" type="checkbox"/> |       | 192.168.200.74  | 9911  | 0.4   | 954,728,448   | 1.6        |              |       | 3 local     |
| OCMONITOR-WIN-8       | <input type="checkbox"/> | <input checked="" type="checkbox"/> |       | 192.168.200.138 | 9911  |       | 0             |            |              |       | 0 local     |
| OCMON-SLHOST-WIN3     | <input type="checkbox"/> | <input checked="" type="checkbox"/> |       | 192.168.200.133 | 9911  | 3.8   | 954,466,304   | 27.6       |              |       | 3 local     |
| OCMON-SLHOST-WIN7     | <input type="checkbox"/> | <input checked="" type="checkbox"/> |       | 192.168.200.137 | 9911  |       | 0             |            |              |       | 0 local     |
| RTVMGR-HISTORIAN      | <input type="checkbox"/> | <input checked="" type="checkbox"/> |       | localhost       | 3067  |       | 0             |            |              |       | 0 local     |
| RTVMGR-SLHOST-WIN3    | <input type="checkbox"/> | <input checked="" type="checkbox"/> |       | 192.168.200.133 | 3068  | 1.7   | 954,466,304   | 10.9       |              |       | 3 local     |
| RTVMGR-SLHOST-WIN4    | <input type="checkbox"/> | <input checked="" type="checkbox"/> |       | 192.168.200.134 | 3068  | 1.8   | 954,466,304   | 12.8       |              |       | 3 local     |
| RTV/RULES             | <input type="checkbox"/> | <input checked="" type="checkbox"/> |       | 192.168.200.134 | 3868  | 0.5   | 715,849,728   | 10.2       |              |       | 3 local     |
| RTV/RULES-SLHOST-WIN3 | <input type="checkbox"/> | <input checked="" type="checkbox"/> |       | 192.168.200.133 | 3868  | 0.5   | 715,849,728   | 18.1       |              |       | 3 local     |
| SOLMON-64-OL7-6       | <input type="checkbox"/> | <input checked="" type="checkbox"/> |       | 192.168.200.76  | 4168  | 1.5   | 954,728,448   | 47.7       |              |       | 3 local     |



## ALERTS Tab

The screenshot shows the RTView Enterprise Monitor Alerts tab. The interface includes a navigation tree on the left, a search and filter section at the top, and a main table of alerts. The table has columns for 'First Occ', 'Last Occ', 'Count', 'Sup', 'Owner', 'Alert Name', 'Primary Service', and 'CI'. The table lists multiple alerts for 'BwActivityExecutionTimeHi' and 'BwProcessAbortRateHigh' on 'SLHOST6(domain6).dor'. Summary statistics at the top show 197 total alerts, 197 critical, 0 warning, and 0 suppressed.

The **ALERTS** tab provides a view of the current active alerts in the system and allows you to manage those alerts by owning them, acknowledging them, and/or suppressing them. You can navigate and filter the alert list by using the service tree to focus on alerts by logical or service groupings. This tab is customizable and can be interfaced with an existing trouble ticket system so that alerts that require an action can be tracked and managed by those systems.

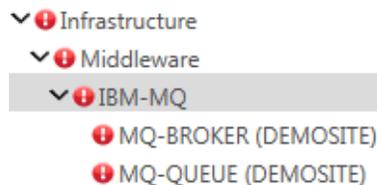
This tab allows you to filter the navigation tree content by service and environment (see figure below). The environment you select also sets the **Environment** filter on the main panel. Note that changing the **Environment** filter on the main panel does not set the **Environment** filter in the navigation panel.



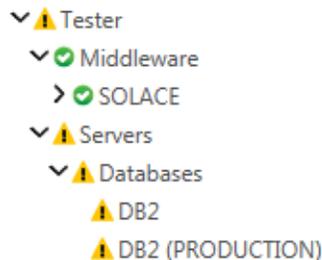
### Alert Icons

Each level within the Alerts tab service tree has a red, yellow, or green icon next to it, which indicate the highest alert level for that particular Owner, Area, Group, or Service. These icons allow you to instantly recognize problem areas within your system and allow you to drill down to quickly find the source of the issue. A red icon  indicates that one or more alerts exceeded their ALARM LEVEL threshold, a yellow icon  indicates that one or more alerts exceeded their WARNING LEVEL threshold, and a green icon  indicates that no alerts exceeded their WARNING or ALARM LEVEL threshold.

The Owner, Area, and Group automatically display the icon representing the highest level alert for their associated services with red (ALARM LEVEL threshold exceeded) being the most serious, yellow (WARNING LEVEL threshold exceeded) being intermediate, and green meaning everything is functioning normally. For example, if any of the services within a particular **Owner>Area>Group** have one or more alerts that exceeded their ALARM LEVEL threshold and, hence, have a red icon next to it in the tree, then the associated Owner, Area, and Group levels will also have the same red icon. In the example below, you can see that the MQ Broker service has one or more alerts that exceeded their ALARM LEVEL threshold and has a red indicator. As a result, the Owner, Area, and Group also have the red indicator



If the highest alert level for the services within a particular **Owner>Area>Group** is a service that has one or more alerts that exceeded their WARNING LEVEL threshold and, hence, has a yellow icon next to it in the tree, then the associated Owner, Area, and Group levels will also have the same yellow icon. In the example below, you can see that the DB2 database has one or more alerts that exceeded its WARNING LEVEL threshold and has a yellow indicator. Since none of the other services in this particular tree have alerts that exceeded their ALARM LEVEL threshold, then the associated Owner, Area, and Group also have the yellow indicator since the WARNING LEVEL threshold is the highest alert level threshold exceeded.



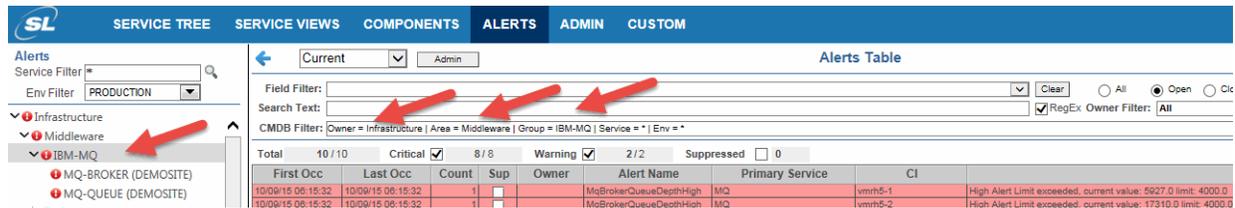
### Available Displays

To access the following displays, select one of the following options from the drop-down in the upper left-hand corner of the display to view the associated display:

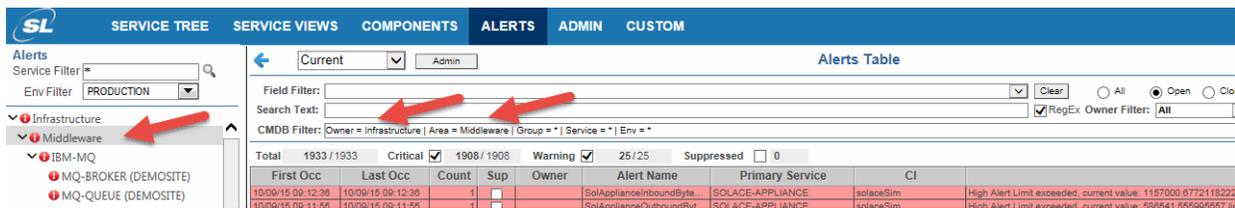
| Drop-down Option | Display                           | Description   |
|------------------|-----------------------------------|---|
| <b>Current</b>   | "RTView Alerts Table" on page 209 | This display allows you to track and manage all alerts that have occurred in the system, as well as to add comments, acknowledge, or assign Owners to alerts. |
| <b>History</b>   | "Alert History Table" on page 214 | This display allows you to track the history of any alert that has occurred in your RTView Enterprise Monitor system.   |

**Note:** When selecting an option at any level, the display that opens by default will be the one that was last selected. For example, if History was the display that was previously selected, History will display by default again.

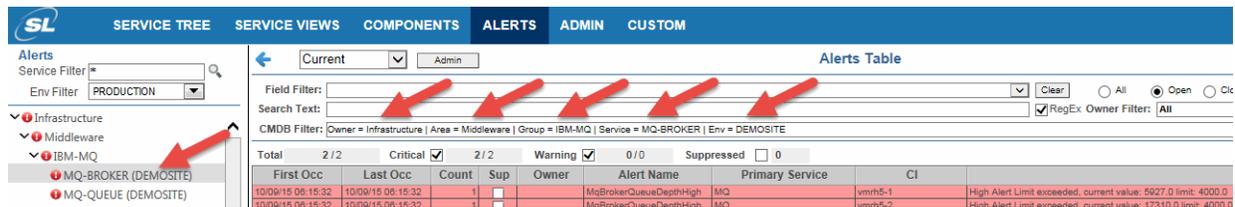
When you select an option at any of the **Owner>Area>Group>Services** levels in the **RTView Alerts Table** display, the display automatically filters the list of alerts based on the level you selected. For example, if you were to select the IBM-MQ option at the Group level, then the filter will be set to Owner=Infrastructure, Area=Middleware, Group=IBM-MQ (the option at the level you selected), and Service and Environment will be set to \* (or all services and environments for that particular Group).



If you were to select the Middleware option at the Area level, then the filter will be set to Owner=Infrastructure, Area=Middleware (the option at the level you selected), and Group and Service and Environment will be set to \* (or all groups, services, and environments for that particular Area).



If you were to select the Middleware option at the Area level, then the filter will be set to Owner=Infrastructure, Area=Middleware, Group=IBM-MQ, Service=MQ-BROKER, and Environment=DEMOSITE (the option at the level you selected).



### Available Display via a Button

If you select the **Current** option from the drop down list, the following button is available on the **RTView Alerts Table** display. Select the following button to open the associated display:

| Button  | Display                            | Description   |
|---|------------------------------------|---|
|  | "Alert Administration" on page 218 | This display allows you to set global or override alert thresholds. |

## ADMIN Tab

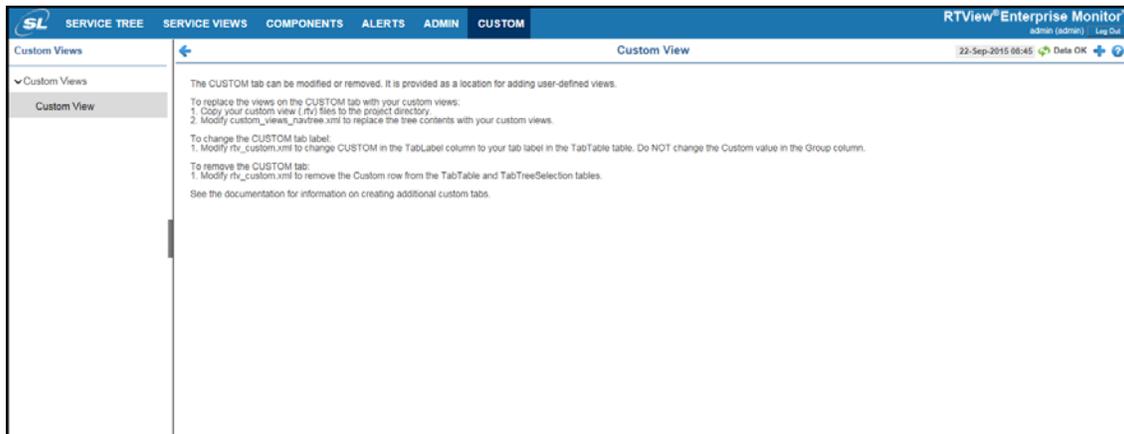
The screenshot shows the 'ADMIN' tab in RTView Enterprise Monitor, specifically the 'Alert Administration' view. The interface is divided into a left-hand navigation pane and a main content area. The navigation pane includes sections for 'Alert Administration', 'Alert Admin Audit', 'Alert Action Audit', 'CMDB Administration', and 'Architecture'. The main content area features a table of alerts with the following columns: Alert, Warning Level, Alarm Level, Duration, Alert Enabled, and Override Count. Below the table is a 'Settings for Selected Alert' form with fields for Name, Description, Warning Level, Alarm Level, Duration (Secs.), and Enabled, along with a 'Save Settings' button.

| Alert                                   | Warning Level | Alarm Level | Duration | Alert Enabled                       | Override Count |
|---|---------------|-------------|----------|-------------------------------------|----------------|
| AcwInstanceCpuHigh                      | 50            | 75          | 30       | <input checked="" type="checkbox"/> | 0              |
| AcwInstanceDiskReadBytesHigh            | 100000        | 200000      | 30       | <input checked="" type="checkbox"/> | 0              |
| AcwInstanceDiskReadOpsHigh              | 100           | 200         | 30       | <input checked="" type="checkbox"/> | 0              |
| AcwInstanceDiskWriteBytesHigh           | 100000        | 200000      | 30       | <input checked="" type="checkbox"/> | 0              |
| AcwInstanceDiskWriteOpsHigh             | 100           | 200         | 30       | <input checked="" type="checkbox"/> | 0              |
| AcwInstanceNetworkReadBytesHigh         | 100000        | 200000      | 30       | <input checked="" type="checkbox"/> | 0              |
| AcwInstanceNetworkWriteBytesHigh        | 100000        | 200000      | 30       | <input checked="" type="checkbox"/> | 0              |
| AmxServiceHitRateHigh                   | 200           | 400         | 30       | <input checked="" type="checkbox"/> | 0              |
| AmxServiceNodeFailRateHigh              | 200           | 400         | 30       | <input checked="" type="checkbox"/> | 0              |
| AmxServiceNodeHitRateHigh               | 200           | 400         | 30       | <input checked="" type="checkbox"/> | 0              |
| AmxServiceNodeMovingAvgHitRateHigh      | 200           | 400         | 30       | <input checked="" type="checkbox"/> | 0              |
| AmxServiceNodeMovingAvgResponseTimeHigh | 200           | 400         | 30       | <input checked="" type="checkbox"/> | 0              |
| AmxServiceNodeResponseTimeHigh          | 200           | 400         | 30       | <input checked="" type="checkbox"/> | 0              |
| AmxServiceResponseTimeHigh              | 200           | 400         | 30       | <input checked="" type="checkbox"/> | 0              |
| Bw6AppNodeCpuUsedHigh                   | 50            | 80          | 30       | <input type="checkbox"/>            | 0              |
| Bw6AppNodeMemUsedHigh                   | 50            | 80          | 30       | <input type="checkbox"/>            | 0              |
| Bw6AppProcessCreatedRateHigh            | 50            | 80          | 30       | <input checked="" type="checkbox"/> | 0              |
| Bw6AppProcessElapsedTimeHigh            | 100           | 200         | 30       | <input type="checkbox"/>            | 0              |
| Bw6AppProcessExecutionTimeHigh          | 50            | 80          | 30       | <input type="checkbox"/>            | 0              |
| Bw6AppProcessFailedRateHigh             | 50            | 80          | 30       | <input type="checkbox"/>            | 0              |
| Bw6ProcessActivityErrorRateHigh         | 100           | 200         | 30       | <input type="checkbox"/>            | 0              |
| Bw6ProcessCreatesRateHigh               | 50            | 80          | 30       | <input type="checkbox"/>            | 0              |
| Bw6ProcessElapsedTimeHigh               | 100           | 200         | 30       | <input type="checkbox"/>            | 0              |
| Bw6ProcessExecutionTimeHigh             | 50            | 80          | 30       | <input type="checkbox"/>            | 0              |
| Bw6ProcessFailedRateHigh                | 50            | 80          | 30       | <input type="checkbox"/>            | 0              |
| Bw6ProcessSuspendRateHigh               | 50            | 80          | 30       | <input type="checkbox"/>            | 0              |

The **ADMIN** tab can only be accessed by administrators of RTView Enterprise Monitor, who can use this tab during installation to set up proper alert settings, to describe logical and service groupings that drive the construction of the Service Tree, and to “monitor the monitor” view of the current health state of RTView Enterprise Monitor and how it is currently deployed. This tab provides access to the **Alert Administration**, **CMDB Administration**, and **Architecture** Views. See the following sections for more information:

- **“Administration” on page 218:** Displays in this View allow you to set alert thresholds, track alert management, and modify your Service Data Model.
- **“CMDB Administration” on page 227:** Use this display to setup, view, or modify your Service Data Model (CMDB), including: adding, renaming, deleting or merging your CMDB hierarchical elements (Owners, Areas, Groups or Services), associating CIs with Services and assigning or modifying CI attributes (such as Criticality).
- **“Architecture” on page 232:** Displays in this View show RTView Enterprise Monitor system information such as a topological view of your components and their connection state, configuration definitions and mapping, and performance metrics for your Cache Tables and Data Servers.

## CUSTOM Tab



The **CUSTOM** tab provides a location where you can add your own custom tab and views, and create diagram displays. See the following sections for more information:

- [“Modify the CUSTOM Tab” on page 70](#)
- [“Diagram Views” on page 256](#)

## Fundamental Structure of Displays

To interpret RTView Enterprise Monitor displays it is helpful to understand the Service Data Model. The Service Data Model, also referred to as the CMDB, is a database that forms the fundamental structure of all RTView Enterprise Monitor displays, and enables data aggregation and filtering.

The Service Data Model has a four level hierarchy which is, from the highest level (Owner) to the lowest level (Service):

- Owner
- Area
- Group
- Service

The Service Data Model maps all the Configuration Items (CIs) in your RTView Enterprise Monitor system to one or more Services (CIs are items being monitored by RTView Enterprise Monitor--servers, processes and so forth--anything that can be configured). Each Service is mapped to a Group, each Group to an Area and each Area to an Owner. Displays are organized and populated with data according to this hierarchy. This mapping enables RTView Enterprise Monitor to aggregate data for several hundreds of CIs, and allows objects (heatmaps, tables and so forth) to filter data shown according to user selections.

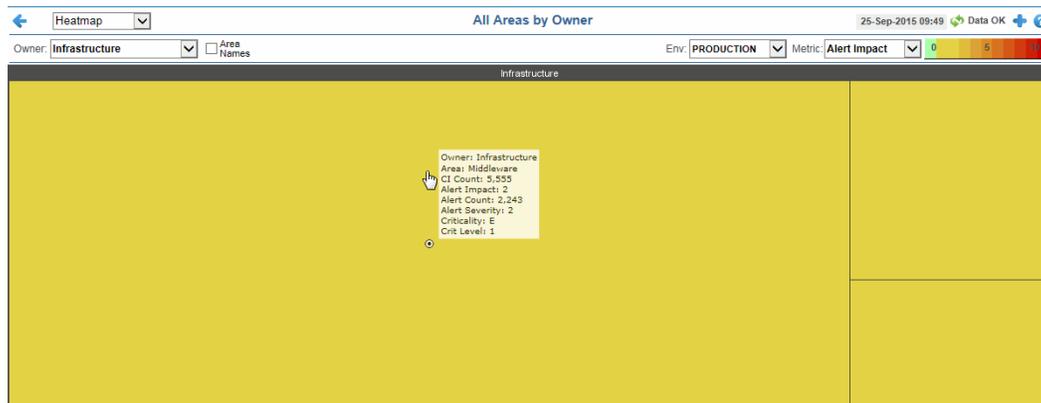
For details about the configuring the Service Data Model, see the Configure Service Data Model section.

## Heatmaps

Heatmaps organize CIs (according to the Service Data Model) into rectangles and use color to highlight the most critical value in each. Heatmaps enable you to view various alert metrics in the same heatmap using drop-down menus. Each Metric has a color gradient bar that maps relative values to colors. In most heatmaps, the rectangle size represents the number of CIs in the rectangle; a larger size is a larger value. Heatmaps include drop-down menus to filter data by Owner, Area, Group, Service, Region and Environment. The filtering options vary among heatmaps.

For example, the **All Management Areas - "Area Heatmap"** (shown in the following figure) illustrates a typical RTView Enterprise Monitor heatmap. The heatmap contains a **Metric** drop-down menu with options to show **Alert Impact**, **Alert Severity**, **Alert Count** and **Criticality** (menu options vary according to the data populating the heatmap). **Alert Impact** is selected and its corresponding color gradient bar  is shown. Each rectangle represents all CIs in an Area. The red rectangle in the heatmap indicates that one or more CIs in that Area currently has an alert in an alarm state. The yellow rectangles in the heatmap indicate that one or more CIs in those Areas currently have an alert in a warning state. A green rectangle would indicate that no alert is in a warning or alarm state in an Area.

Continuing with our example, there are two filtering options. You can choose to show all Owners or a single Owner, and all Environments or a single Environment. Each rectangle represents an Area. The rectangle size represents the number of CIs in the rectangle; a larger size is a larger value. Use the check-boxes  to include or exclude labels in the heatmap. Move your mouse over a rectangle to see additional information. The following figure illustrates the mouse-over feature in which we see all the **Metric** drop-down values.



In most heatmaps, you can also drill-down to more detail by clicking a rectangle in the heatmap. Or, click Open New Window  and then drill-down. The drill-down opens a display that contains relevant and more detailed data.

### Filter By:

The following filtering options are typically included:

**Owner:** Choose an Owner to see metrics for Areas associated with that Owner.

**Area:** Choose an Area to see metrics for Groups associated with that Area and Owner.

**Group:** Choose a Group to see metrics for Services associated with that Group, Area and Owner.

**Service:** Choose a Service to see metrics for Environments associated with that Service, Group, Area and Owner.

**Env:** Choose an Environment to see metrics for Environments associated with that Service, Group, Area and Owner.

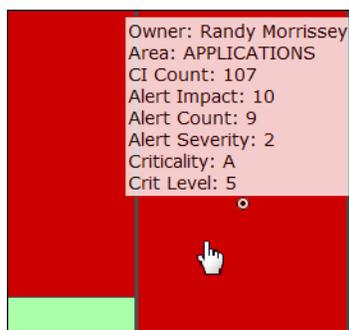
**Metric:**

Choose the type of metric to show in the heatmap. Each metric has its own gradient bar that maps relative values to colors:

- Alert Impact** The product of the maximum Alert Severity of alerts in the heatmap rectangle multiplied by the maximum Criticality of alerts in the heatmap rectangle. Values range from **0** - **10**, as indicated in the color gradient  bar, where **10** is the highest Alert Impact.
- Alert Severity** The maximum level of alerts in the heatmap rectangle. Values range from **0** - **2**, as indicated in the color gradient  bar, where **2** is the highest Alert Severity.
-  Red indicates that one or more metrics have reached their alarm threshold. Metrics that have exceeded their specified ALARM LEVEL threshold have an Alert Severity value of **2**.
  -  Yellow indicates that one or more metrics have reached their alarm threshold. Metrics that have exceeded their specified WARNING LEVEL threshold have an Alert Severity value of **1**.
  -  Green indicates that no metrics have reached their alert thresholds. Metrics that have not exceeded their specified thresholds have an Alert Severity value of **0**.
- Alert Count** The total number of critical and warning alerts in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average alert count.
- Criticality** The maximum level of Criticality (rank of importance) in the heatmap rectangle. Values range from 1 to 5, as indicated in the color gradient  bar, where 5 is the highest Criticality.
- Criticality is specified in the Service Data Model (CMDB) by your administrator. Criticality values are listed in the **Component Views** - "**CI / Service Table**" display, which range from **A** to **E**, where **A** is the highest Criticality (level **5** maps to a Criticality of A and level **1** maps to a Criticality of **E** with equally spaced intermediate values).

**Mouse-over**

The mouse-over functionality provides additional detailed data in an over imposed pop-up window when you mouse-over a heatmap. The following figure illustrates mouse-over functionality in a heatmap object. In this example, when you mouse-over a host, details are shown such as **CI Count**, **Alert Impact**, **Alert Severity**, and **Criticality**.

**Tables**

Tables organize CIs (according to the Service Data Model) into columns and rows of data. Tables contain the same data that is shown in the heatmap in the same View, providing a text and numeric perspective of the data shown in that heatmap, and additional data not included the heatmap.

For details about the Service Data Model, see the Configure Service Data Model section.

| Service     | Region | Alert Severity | Alert Count | Alert Impact | Service Criticality | CI Count | Environment | Group     |
|-------------|--------|----------------|-------------|--------------|---------------------|----------|-------------|-----------|
| TBE-CLUSTER | AMER   |                | 1           | 2            | E                   | 2        | QA          | TIBCO-BE  |
| EMS-QUEUE   | AMER   |                | 6           | 2            | E                   | 2        | QA          | TIBCO-EMS |
| EMS-SERVER  | AMER   |                | 2           | 2            | E                   | 1        | QA          | TIBCO-EMS |
| EMS-TOPIC   | AMER   |                | 8           | 2            | E                   | 4        | QA          | TIBCO-EMS |
| TOMCAT      | AMER   |                | 0           | 0            | E                   | 1        | QA          | TOMCAT    |
| TOMCAT-APP  | AMER   |                | 0           | 0            | E                   | 2        | QA          | TOMCAT    |

Table rows sometimes use color to indicate the current most critical alert state for all CIs associated with the row. For example, the figure above illustrates a table in which each row is a different Service. The **CI Count** column indicates the number of CIs associated with the Service. The first row in the table is the **OC-CLUSTER** Service. The **CI Count** column indicates the Service has four CIs. The yellow row color indicates that one or more alerts exceeded their warning threshold for one or more CIs associated with the Service.

Continuing with the above example, the second row in the table is the **TRANSACTION** Service. The **CI Count** column indicates has one CI associated with the Service. The red row color indicates that one or more alerts exceeded their critical threshold for the CI associated with the Service (in this case there is a single CI).

The row color coding is as follows:

**Row Color Code:**

Tables with colored rows indicate the following:

- Red indicates that one or more alerts exceeded their ALARM LEVEL threshold in the table row.
- Yellow indicates that one or more alerts exceeded their WARNING LEVEL threshold in the table row.
- Green indicates that no alerts exceeded their WARNING or ALARM LEVEL threshold in the table row.

**Sorting**

You can sort the rows of a table for any defined columns. To do so, you click on the column title. A symbol appears when sorting in ascending order, and the inverted symbol when sorting in descending order.

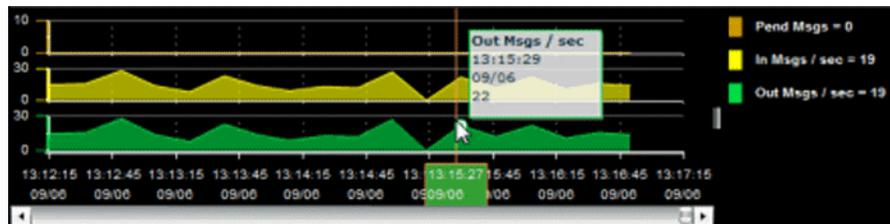
The following figure illustrates the Sort  option for table columns. In this example, the **Severity Level** column is sorted in descending order (from high to low values).

| CType | CName                                     | Severity | AlertCount | AlertImpact |
|-------|---|----------|------------|-------------|
| JVM   | localhostGLASSFISH_SERVER_8               | Red      | 1          | 10          |
| JVM   | localhostMYDEMO_DATASERVER                | Red      | 1          | 8           |
| JVM   | localhostMYDEMO_DISPLAYSERVER             | Red      | 1          | 8           |
| JVM   | sldemos.com_213415_RTADB                  | Red      | 1          | 10          |
| JVM   | localhostBWM-DB-1                         | Yellow   | 1          | 5           |
| WAS   | SLHOST12Node01Cell:SLHOST12Node01:server1 | Yellow   | 1          | 5           |
| JVM   | localhostRTVMGR_DATABASE                  | Yellow   | 1          | 5           |
| JVM   | localhostRTVMGR_DATASERVER                | Green    | 0          | 0           |
| JVM   | localhostWLM_DATABASE                     | Green    | 0          | 0           |
| EMS   | tcp://SLHOST10:7021                       | Green    | 0          | 0           |
| EMS   | tcp://SLHOST10:7020                       | Green    | 0          | 0           |
| WLS   | TestDomain.ManagedServer2                 | Green    | 0          | 0           |

## Trend Graphs

Trend graphs enable you to view and compare various important metrics over time, such as server memory utilization, server throughput, the number of clients being served by the server, or the total amount of data sent to clients. You can use trend graphs to assess utilization and performance trends.

For example, the following figure illustrates a typical trend graph. In this example, metrics for **Pending Messages**, **Incoming Messages** and **Outgoing Messages** are traced.



By default, the time range end point is the current time. To change the time range for the trend graph click **Open Calendar** , choose the date and time, then click **OK**. Or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM:ss**. For example, **Apr 26, 2012 5:01 PM**. Click **Apply**. Use the **Navigation Arrows**   to move forward or backward one time period (the time period selected from the **Time Range** drop-down menu). Click **Restore to Now** to reset the time range end point to the current time.

## Mouse-over

The mouse-over functionality provides additional detailed data in an over imposed pop-up window when you mouse-over trend graphs. The above figure illustrates mouse-over functionality. In this example, when you mouse-over a single dot, or data point, in the **Out Msgs / sec** trend graph, a pop-up window shows data for that data point. In this case, the X-axis value is **13:15:29 hours on September 6th**, and the Y-axis value is **22 Outbound messages per second**.

## Log Scale

Typically, trend graphs provide the Log Scale option. Log Scale enables you to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. Log Scale makes data on both scales visible by applying logarithmic values rather than actual values to the data.

## Time Range

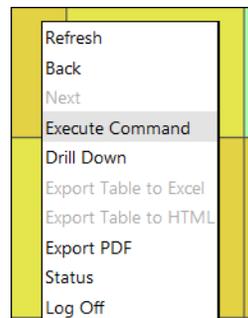
Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. By default, the time range end point is the current time. To enter a specific time range, click the associated ellipsis button .



To change the time range click the Open Calendar button , choose the date and time, then click **OK**. Or, enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM:ss** (for example, Aug 21, 2011 12:24 PM) and click **Apply**. Use the Navigation Arrows   to move forward or backward one time period (the time period selected from the Time Range drop-down menu). Click **Restore to Now** to reset the time range end point to the current time.

## Popup Menu

Typically, you can right-click on displays to open a popup menu. By default, options include **Refresh**, **Back**, **Next**, **Execute Command**, **Drill Down**, **Export Table to Excel**, **Export Table to HTML**, **Export PDF**, **Status** and **Log Off**. The following figure illustrates the popup menu in a heatmap.

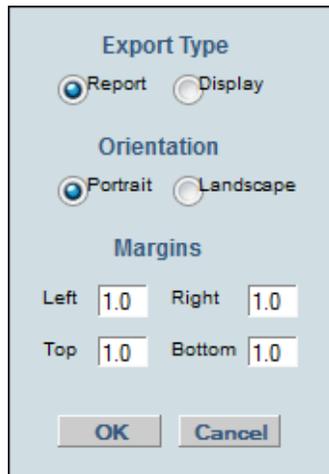


## Export PDF Report

You can quickly export reports for displays, or for tables and grid objects in a display, to a PDF file.

**To generate a report for a display:**

Right-click on the display and select **Export PDF**. The **Export to PDF** dialog opens.

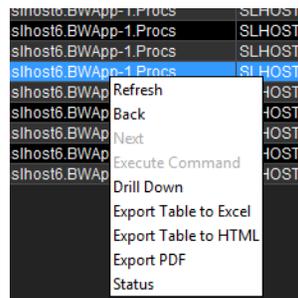


Set the margins and choose the **Export Type**:

- **Report**: Generates an image of the display on the first page, followed by at least one page for each table or object grid in the display. As many pages as are necessary to show all the data in each table or object grid are included in the report. This enables you to view all data in a table or object grid that you otherwise must use a scrollbar to see. If there are no tables or object grids in your display, you only get a image of the display.
- **Display**: Generates an image of the display in PDF format. Choose the page orientation (**Portrait** or **Landscape**), set the page margins and click **OK**. The report opens in a new window.

#### To generate a report for a table or grid object in a display:

Right-click on the table or grid object and choose **Export PDF**, **Export Table to Excel** or **Export Table to HTML**.

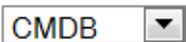


## Title Bar

Displays share the same top layer in the title bar, as shown below.

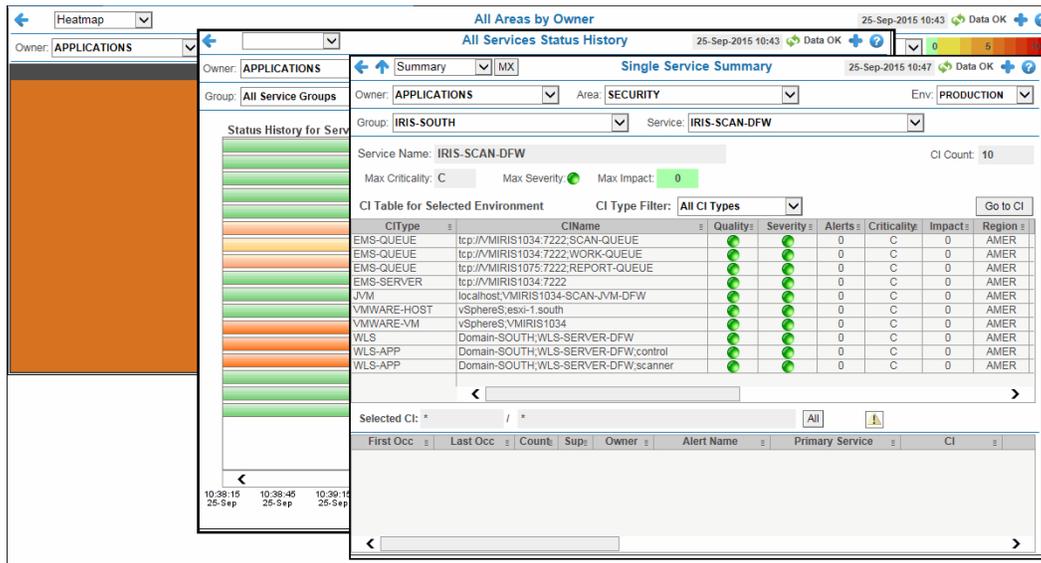


The following table describes the functionality in the display title bar.

|   |  |
|---|--|
|    | Opens the previously open display.   |
|    | Opens the display that is up one level.  |
|    | Navigates to a display that is most commonly accessed from the current display. The target display differs among displays.   |
|    | Navigates to displays that are most commonly accessed from the current display. The drop-down menu options differ among displays.  |
|    | Opens the Alerts Table display in a new window.  |
|  | The current date and time. If the time is incorrect, this might indicate that RTView stopped running. When the date and time is correct and the <b>Data OK</b> indicator is green, this is a strong indication that the platform is receiving current and valid data.  |
|  | The data connection state. Red indicates the data source is disconnected (for example, if the Data Server is not receiving data, or if the Display Server does not receive data from the Data Server, this will be red). Green indicates the data source is connected. When the date and time is correct and the <b>Data OK</b> indicator is green, this is a strong indication that the platform is receiving current and valid data. |
|  | Opens an instance of the same display in a new window. Each window operates independently, allowing you to switch views, navigate to other displays in RTView EM, and compare server performance data. For illustration, see <b>Multiple Windows</b> .   |
|  | Opens the online help page for the current display.  |
|  | The number of items (for example, CIs or Areas) in the display.  |

## Multiple Windows

The following illustrates the usage of the Open New Window  to open multiple windows.



The screenshot displays the Enterprise Monitor interface with three overlapping windows:

- Heatmap:** A window on the left showing a heatmap view.
- All Areas by Owner:** A window in the background showing a list of service groups.
- Single Service Summary:** The foreground window showing details for the service 'IRIS-SCAN-DFW'. It includes a table of CI types for the selected environment.

| CType       | CName                               | Quality | Severity | Alerts | Criticality | Impact | Region |
|-------------|-------------------------------------|---------|----------|--------|-------------|--------|--------|
| EMS-QUEUE   | tcp://MIRIS1034.7222:SCAN-QUEUE     | ●       | ●        | 0      | C           | 0      | AMER   |
| EMS-QUEUE   | tcp://MIRIS1034.7222:WORK-QUEUE     | ●       | ●        | 0      | C           | 0      | AMER   |
| EMS-QUEUE   | tcp://MIRIS1075.7222:REPORT-QUEUE   | ●       | ●        | 0      | C           | 0      | AMER   |
| EMS-SERVER  | tcp://MIRIS1034.7222                | ●       | ●        | 0      | C           | 0      | AMER   |
| JVM         | localhost:VMIRIS1034-SCAN-JVM-DFW   | ●       | ●        | 0      | C           | 0      | AMER   |
| VMWARE-HOST | vsphereS.esxi-1.south               | ●       | ●        | 0      | C           | 0      | AMER   |
| VMWARE-VM   | vsphereS.VMIRIS1034                 | ●       | ●        | 0      | C           | 0      | AMER   |
| WLS         | Domain-SOUTH:WLS-SERVER-DFW         | ●       | ●        | 0      | C           | 0      | AMER   |
| WLS-APP     | Domain-SOUTH:WLS-SERVER-DFW:control | ●       | ●        | 0      | C           | 0      | AMER   |
| WLS-APP     | Domain-SOUTH:WLS-SERVER-DFW:scanner | ●       | ●        | 0      | C           | 0      | AMER   |

## Enterprise Monitor Views/Displays

This section describes the Views and displays that come with the RTView Enterprise Monitor. This section describes the following Views:

- "All Management Areas" on page 101
- "Multi Area Service Views" on page 105
- "Single Area Service Views" on page 117
- "Service Summary Views" on page 129
- "Key Metrics Views" on page 139
- "Component Views" on page 165
- "Metric Explorer" on page 173
- "JVM Process Views" on page 178
- "Tomcat Servers" on page 192
- "RTView Servers" on page 202
- "Alert Views" on page 209
- "Administration" on page 218
- "CMDB Administration" on page 227
- "Architecture" on page 232
- "Property Views" on page 246
- "Diagram Views" on page 256
- "Additional Displays" on page 266

This Guide also includes the following technology-specific Solution Packages:

- [“Connector for Oracle Enterprise Manager” on page 283](#)
- [“Solution Package for Amazon Web Services” on page 285](#)
- [“Solution Package for Docker” on page 287](#)
- [“Solution Package for IBM DB2” on page 311](#)
- [“Solution Package for IBM WebSphere” on page 313](#)
- [“Solution Package for IBM WebSphere MQ” on page 315](#)
- [“Solution Package for Microsoft SQL Server” on page 317](#)
- [“Solution Package for MongoDB” on page 319](#)
- [“Solution Package for Node.js” on page 349](#)
- [“Solution Package for Oracle Coherence” on page 375](#)
- [“Solution Package for Oracle Database” on page 505](#)
- [“Solution Package for Oracle WebLogic” on page 507](#)
- [“Solution Package for Red Hat JBoss” on page 511](#)
- [“Solution Package for Solace Message Router” on page 513](#)
- [“Solution Package for TIBCO ActiveMatrix” on page 603](#)
- [“Solution Package for TIBCO ActiveMatrix Businessworks” on page 605](#)
- [“Solution Package for TIBCO ActiveSpaces” on page 697](#)
- [“Solution Package for TIBCO BusinessEvents” on page 701](#)
- [“Solution Package for TIBCO EMS Monitor” on page 755](#)
- [“Solution Package for TIBCO Hawk” on page 881](#)
- [“Solution Package for UX” on page 887](#)
- [“Solution Package for VMware vCenter” on page 929](#)

## All Management Areas

These displays present the highest-level summary views of alert states for your entire system. Aggregated data is organized by Owners and shows all Areas, while highlighting the most critical alert states using color. Data can be filtered by Owner, Area, Environment and alert Metric. Data is filtered by the \$rtvOwnerMask and \$rtvAreaMask values for the logged in user. For details, see **Configure User and Role Management**.

Use these displays to monitor critical alerts anywhere in your system, and investigate those alerts in lower-level displays. Because these displays immediately show you any critical alert in your system, users typically keep one of these displays open for quick monitoring. Click an Area in the display to drill-down and view the selected Area in the **Multi Area Service Views** displays.

The **All Management Areas** displays present the same aggregated data in tabular and heatmap formats. Displays in this View are:

- [“Area Heatmap” on page 102](#): Heatmap of the most critical alerts for all Areas of your system, with the option to filter by Owner, Environment and alert Metric.
- [“Area Table” on page 103](#): Table of data shown in the **All Management Areas - “Area Heatmap”** with the option to filter by Owner and Environment.

## Area Heatmap

View the most critical alert state for all monitored instances throughout your system. Consider keeping this display open to monitor conditions in your system. The heatmap organizes monitored instances by one or all Owners for all Areas, and uses color to show the most critical alert state in each. Each rectangle in the heatmap represents a management Area (for example, Applications, Demo Systems and so forth), which are also grouped by Owner. The rectangle size represents the number of CIs in the rectangle; a larger size is a larger value.

Use the available drop-down menus or right-click to filter data shown in the display. Use the check-boxes  to include or exclude labels in the heatmap. Move your mouse over a rectangle to see additional information. By default, this display shows all Owners, all Environments and the Alert Impact.

Drill-down and investigate by clicking a rectangle in the heatmap to view details for the selected Area in the display that was last selected under **Multi Area Service Views**. For example, if the last selected display under **Multi Area Service Views** was “Group / Service Table”, then clicking an Area in the heatmap results in displaying details in the **Group / Service Table** display.



### Title Bar:

Indicators and functionality might include the following:

Open the previous and upper display. and navigate to displays commonly accessed from this display.

19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

CIs: 3,047 The number of items in the display.

Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

Open the online help page for this display.

**Filter By:**

The following filtering options are typically included:

**Owner:** Choose an Owner to see metrics for Areas associated with that Owner.

**Area:** Choose an Area to see metrics for Groups associated with that Area and Owner.

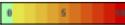
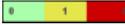
**Group:** Choose a Group to see metrics for Services associated with that Group, Area and Owner.

**Service:** Choose a Service to see metrics for Environments associated with that Service, Group, Area and Owner.

**Env:** Choose an Environment to see metrics for Environments associated with that Service, Group, Area and Owner.

**Metric:**

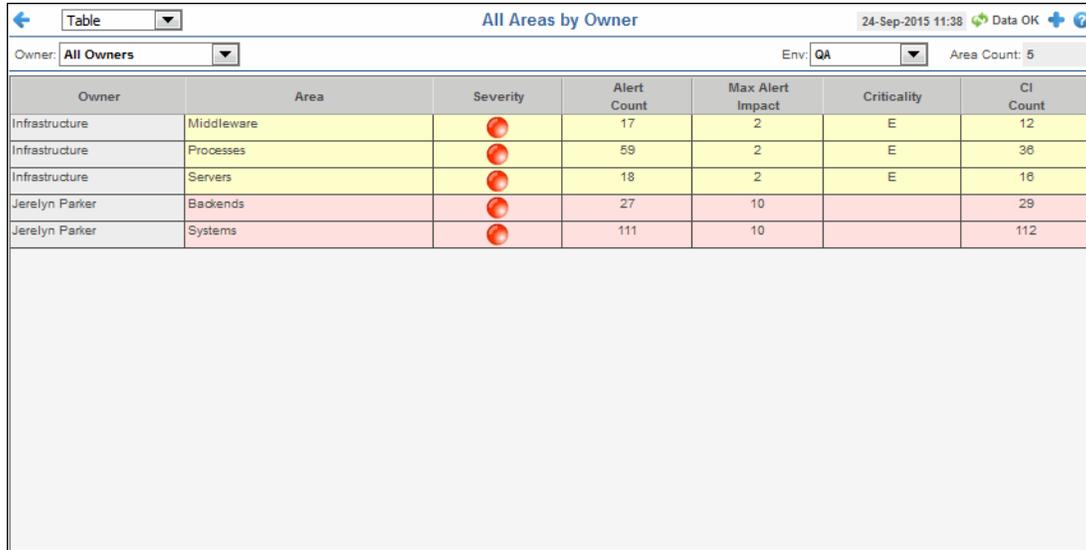
Choose the type of metric to show in the heatmap. Each metric has its own gradient bar that maps relative values to colors:

|                       |  |
|-----------------------|--|
| <b>Alert Impact</b>   | The product of the maximum Alert Severity of alerts in the heatmap rectangle multiplied by the maximum Criticality of alerts in the heatmap rectangle. Values range from <b>0</b> - <b>10</b> , as indicated in the color gradient  bar, where <b>10</b> is the highest Alert Impact.  |
| <b>Alert Severity</b> | The maximum level of alerts in the heatmap rectangle. Values range from <b>0</b> - <b>2</b> , as indicated in the color gradient  bar, where <b>2</b> is the highest Alert Severity. <ul style="list-style-type: none"> <li> Red indicates that one or more metrics have reached their alarm threshold. Metrics that have exceeded their specified ALARM LEVEL threshold have an Alert Severity value of <b>2</b>.</li> <li> Yellow indicates that one or more metrics have reached their alarm threshold. Metrics that have exceeded their specified WARNING LEVEL threshold have an Alert Severity value of <b>1</b>.</li> <li> Green indicates that no metrics have reached their alert thresholds. Metrics that have not exceeded their specified thresholds have an Alert Severity value of <b>0</b>.</li> </ul> |
| <b>Alert Count</b>    | The total number of critical and warning alerts in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average alert count.   |
| <b>Criticality</b>    | The maximum level of Criticality (rank of importance) in the heatmap rectangle. Values range from 1 to 5, as indicated in the color gradient  bar, where 5 is the highest Criticality. <p>Criticality is specified in the Service Data Model (CMDB) by your administrator. Criticality values are listed in the <b>Component Views</b> - "<b>CI / Service Table</b>" display, which range from <b>A</b> to <b>E</b>, where <b>A</b> is the highest Criticality (level <b>5</b> maps to a Criticality of <b>A</b> and level <b>1</b> maps to a Criticality of <b>E</b> with equally spaced intermediate values).</p>   |

**Area Table**

View data from the **All Management Areas** - "**Area Heatmap**" in a tabular format: all alert states (alert Impact, Severity, Count, Criticality and CI Count) for all Areas, Owners and Environments. Each row in the table is a different Area (for example, **Applications**, **Demo Systems** and so forth). Use this display to check the status of your systems by Area, Owner and Environment, and to compare detailed metrics across all Areas in your organization.

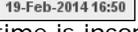
Use the available drop-down menus or right-click to filter data shown in the display. Click Sort  to order column data. Drill-down and investigate by clicking a row in the table to view details for the selected Area in the display that was last selected under **Multi Area Service Views**. For example, if the last selected display under **Multi Area Service Views** was “Group / Service Table”, then clicking an Area in the heatmap results in displaying details in the **Group/Service Table** display.



| Owner          | Area       | Severity  | Alert Count | Max Alert Impact | Criticality | CI Count |
|----------------|------------|---|-------------|------------------|-------------|----------|
| Infrastructure | Middleware |  | 17          | 2                | E           | 12       |
| Infrastructure | Processes  |  | 59          | 2                | E           | 38       |
| Infrastructure | Servers    |  | 18          | 2                | E           | 16       |
| Jerelyn Parker | Backends   |  | 27          | 10               |             | 29       |
| Jerelyn Parker | Systems    |  | 111         | 10               |             | 112      |

### Title Bar:

Indicators and functionality might include the following:

-   Open the previous and upper display.
-  and  navigate to displays commonly accessed from this display.
-  The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
-  The number of items in the display.

-  **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
-  Open the **Alert Views - RTView Alerts Table** display.
-  Open an instance of this display in a new window.
-  Open the online help page for this display.

### Row Color Code:

Tables with colored rows indicate the following:

-  Red indicates that one or more alerts exceeded their ALARM LEVEL threshold in the table row.
-  Yellow indicates that one or more alerts exceeded their WARNING LEVEL threshold in the table row.
-  Green indicates that no alerts exceeded their WARNING or ALARM LEVEL threshold in the table row.

**Filter By:**

The following filtering options are typically included:

**Owner:** Choose an Owner to see metrics for Areas associated with that Owner.

**Area:** Choose an Area to see metrics for Groups associated with that Area and Owner.

**Group:** Choose a Group to see metrics for Services associated with that Group, Area and Owner.

**Service:** Choose a Service to see metrics for Environments associated with that Service, Group, Area and Owner.

**Env:** Choose an Environment to see metrics for Environments associated with that Service, Group, Area and Owner.

**Fields and Data**

This display includes:

**Area Count** The current number of Areas shown in the table.

**(Table)**

Each row in the table is a different Area.

|                         |  |
|-------------------------|--|
| <b>Owner</b>            | The name of the person or Group the Area is designated to.   |
| <b>Area</b>             | The name of the Area where the alert data originated.  |
| <b>Severity</b>         | The maximum level of alerts in the Area. Values range from <b>0</b> to <b>2</b> , where <b>2</b> is the greatest Severity:<br> One or more alerts exceeded their ALARM LEVEL threshold in the Area.<br> One or more alerts exceeded their WARNING LEVEL threshold in the Area.<br> No alert thresholds have been exceeded in the Area. |
| <b>Criticality</b>      | The Criticality (rank of importance) specified in the Service Data Model (CMDB) by your administrator. Criticality values are listed in the Component Views / CI Service Table display, which range from A to E, where A is the highest Criticality. This value is used to determine the value for Alert Impact.   |
| <b>Max Alert Impact</b> | The highest value that Alert Impact has had for the Area.  |
| <b>Alert Count</b>      | The total number of critical and warning alerts for the Area.  |
| <b>CI Count</b>         | The total number of configurable items associated with the Area.   |

## Multi Area Service Views

These displays present aggregated data of alert states for all Services for all Areas. Data can be filtered by Area, Group, Environment, and alert Metric. Data is filtered by the \$rtvOwnerMask, \$rtvAreaMask and \$rtvGroupMask values for the logged in user. For details, see **Configure User and Role Management**.

Use these displays, for example, to isolate the Area and Environment in which a critical alert is occurring. If you see a critical alert, get information by comparing alert metrics (such as how many other items are potentially affected).

These displays drill-down to the **Service Summary Views** - “[Service By CI Type](#)” display. The **Multi Area Service Views** displays present data in tabular and heatmap formats. Displays in this View are:

- “[Group/Service Heatmap](#)” on page 106: Heatmap of alert states for Services by Area, with the option to filter by Area, Group, Environment and alert Metric, and the option to show Group and Service Names.
- “[Group/Region Heatmap](#)” on page 108: Heatmap as described for the **Group / Service Heatmap** (above), with the option to filter by Region and no option to show Service Names.
- “[Group / Service Table](#)” on page 110: Table of **Group/Service Heatmap** data.
- “[Services CI Type Summary](#)” on page 112: Table that shows the health state of Services per CI Type.
- “[Services History Heatmap](#)” on page 115: Heatmap of alert states, over time, for Services in a selected Area, with the option to filter by Group, Environment and alert Metric.

## Group/Service Heatmap

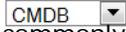
View heatmap of alert states for Services in one or all Areas, filter by Group or Environment, and optionally show Service Names. The heatmap organizes Services by one or all Areas. Each rectangle in the heatmap represents a Service (for example, Applications, Demo Systems and so forth), which are grouped by Area. The rectangle size represents the number of CIs in the Service; a larger size is a larger value.

Use the available drop-down menus or right-click to filter data shown in the display. Use the check-boxes  to include or exclude labels in the heatmap. Move your mouse over a rectangle to see additional information. Drill-down and investigate by clicking a rectangle in the heatmap to view details in the last display that was viewed under either the **Service Summary Views** or **Key Metrics Views**. For example, if the last selected display was the “[Service Summary](#)” display under “[Single Area Service Views](#)” and you clicked on a rectangle in the **Group / Service Heatmap**, the details would display in the **Service Summary** display. If the last selected display was the “[Service KM Table](#)” display under “[Key Metrics Views](#)”, then clicking a rectangle in the **Group / Service Heatmap** displays the details in the **Service KM Table**.



**Title Bar:**

Indicators and functionality might include the following:

  Open the previous and upper display.  and  navigate to displays commonly accessed from this display.

 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 Cts: 3,047 The number of items in the display.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

**Note:** The “Up” Arrow () opens the most recently viewed display under “All Management Areas”. For example, if the last viewed display under **All Management Areas** was **Area Table**, then clicking  opens the “Area Table” display.

**Filter By:**

The following filtering options are typically included:

**Owner:** Choose an Owner to see metrics for Areas associated with that Owner.

**Area:** Choose an Area to see metrics for Groups associated with that Area and Owner.

**Group:** Choose a Group to see metrics for Services associated with that Group, Area and Owner.

**Service:** Choose a Service to see metrics for Environments associated with that Service, Group, Area and Owner.

**Env:** Choose an Environment to see metrics for Environments associated with that Service, Group, Area and Owner.

**Metric:**

Choose the type of metric to show in the heatmap. Each metric has its own gradient bar that maps relative values to colors:

**Alert Impact** The product of the maximum Alert Severity of alerts in the heatmap rectangle multiplied by the maximum Criticality of alerts in the heatmap rectangle. Values range from **0** - **10**, as indicated in the color gradient  bar, where **10** is the highest Alert Impact.

**Alert Severity** The maximum level of alerts in the heatmap rectangle. Values range from **0** - **2**, as indicated in the color gradient  bar, where **2** is the highest Alert Severity.

-  Red indicates that one or more metrics have reached their alarm threshold. Metrics that have exceeded their specified ALARM LEVEL threshold have an Alert Severity value of **2**.
-  Yellow indicates that one or more metrics have reached their alarm threshold. Metrics that have exceeded their specified WARNING LEVEL threshold have an Alert Severity value of **1**.
-  Green indicates that no metrics have reached their alert thresholds. Metrics that have not exceeded their specified thresholds have an Alert Severity value of **0**.

**Alert Count** The total number of critical and warning alerts in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average alert count.

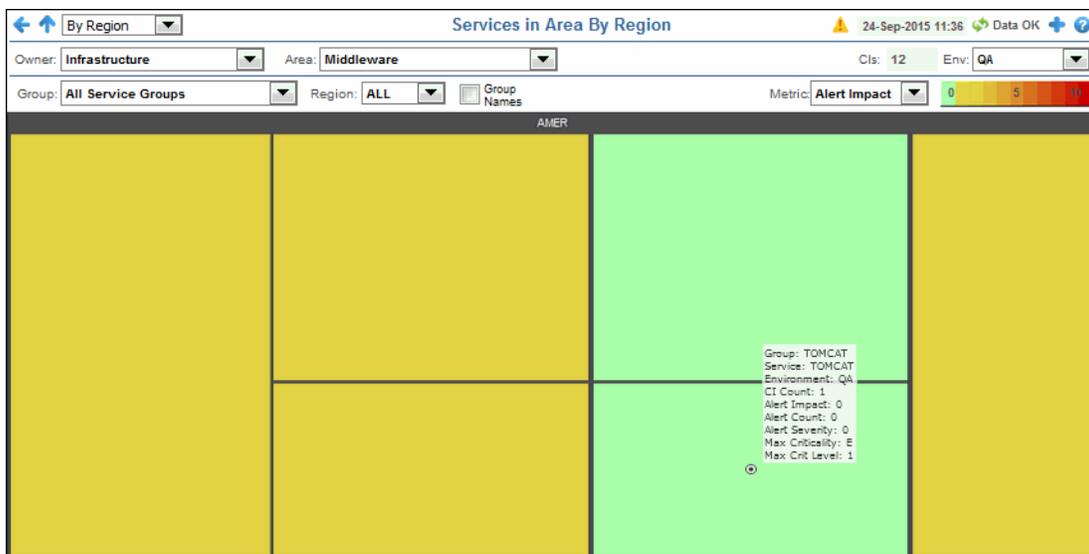
**Criticality** The maximum level of Criticality (rank of importance) in the heatmap rectangle. Values range from 1 to 5, as indicated in the color gradient  bar, where 5 is the highest Criticality.

Criticality is specified in the Service Data Model (CMDB) by your administrator. Criticality values are listed in the **Component Views - "CI / Service Table"** display, which range from **A** to **E**, where **A** is the highest Criticality (level **5** maps to a Criticality of A and level **1** maps to a Criticality of **E** with equally spaced intermediate values).

## Group/Region Heatmap

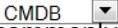
View heatmap of alert states for one or all Services, Areas, Environment or Regions, and optionally show Service Names. The heatmap organizes CIs by one or all Groups. Each rectangle in the heatmap represents a Group, which are grouped by Area. The rectangle size represents the number of CIs in the Service; a larger size is a larger value.

Use the available drop-down menus or right-click to filter data shown in the display. Use the check-boxes  to include or exclude labels in the heatmap. Move your mouse over a rectangle to see additional information. Drill-down and investigate by clicking a rectangle in the heatmap to view details in the last display that was viewed under either the **Service Summary Views** or **Key Metrics Views**. For example, if the last selected display was the **"Service Summary"** display under **"Single Area Service Views"** and you clicked on a rectangle in the **Group / Region Heatmap**, the details would display in the **Service Summary** display. If the last selected display was the **"Service KM Table"** display under **"Key Metrics Views"**, then clicking a rectangle in the **Group / Region Heatmap** displays the details in the **Service KM Table**.



**Title Bar:**

Indicators and functionality might include the following:

  Open the previous and upper display.  and  navigate to displays commonly accessed from this display.

 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 The number of items in the display.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

**Note:** The “Up” Arrow () opens the most recently viewed display under “All Management Areas”. For example, if the last viewed display under **All Management Areas** was **Area Table**, then clicking  opens the “Area Table” display.

**Filter By:**

The following filtering options are typically included:

**Owner:** Choose an Owner to see metrics for Areas associated with that Owner.

**Area:** Choose an Area to see metrics for Groups associated with that Area and Owner.

**Group:** Choose a Group to see metrics for Services associated with that Group, Area and Owner.

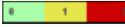
**Service:** Choose a Service to see metrics for Environments associated with that Service, Group, Area and Owner.

**Env:** Choose an Environment to see metrics for Environments associated with that Service, Group, Area and Owner.

**Metric:**

Choose the type of metric to show in the heatmap. Each metric has its own gradient bar that maps relative values to colors:

**Alert Impact** The product of the maximum Alert Severity of alerts in the heatmap rectangle multiplied by the maximum Criticality of alerts in the heatmap rectangle. Values range from **0** - **10**, as indicated in the color gradient  bar, where **10** is the highest Alert Impact.

**Alert Severity** The maximum level of alerts in the heatmap rectangle. Values range from **0** - **2**, as indicated in the color gradient  bar, where **2** is the highest Alert Severity.

-  Red indicates that one or more metrics have reached their alarm threshold. Metrics that have exceeded their specified ALARM LEVEL threshold have an Alert Severity value of **2**.
-  Yellow indicates that one or more metrics have reached their alarm threshold. Metrics that have exceeded their specified WARNING LEVEL threshold have an Alert Severity value of **1**.
-  Green indicates that no metrics have reached their alert thresholds. Metrics that have not exceeded their specified thresholds have an Alert Severity value of **0**.

**Alert Count** The total number of critical and warning alerts in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average alert count.

**Criticality** The maximum level of Criticality (rank of importance) in the heatmap rectangle. Values range from 1 to 5, as indicated in the color gradient  bar, where 5 is the highest Criticality.

Criticality is specified in the Service Data Model (CMDB) by your administrator. Criticality values are listed in the **Component Views - "CI / Service Table"** display, which range from **A** to **E**, where **A** is the highest Criticality (level **5** maps to a Criticality of A and level **1** maps to a Criticality of **E** with equally spaced intermediate values).

### Group / Service Table

This table displays data shown in the **Group/Service** and **Group/Region** heatmaps. View Service metrics (Impact, Severity, Count and Criticality, and CI Count) for one or all Areas, Owners, Groups and Environments, and compare detailed metrics across all Areas in your organization. The table lists Services by Owner and Area. Each row in the table is a different Service. The color of the circle in the **Alert Severity** column represents the most critical alert state for that Service.

Use the available drop-down menus or right-click to filter data shown in the display. Click Sort  to order column data. Drill-down and investigate by clicking a row in the table to view details in the last display that was viewed under either the **Service Summary Views** or **Key Metric Views**. For example, if the last selected display was the **"Service Summary"** display under **"Single Area Service Views"** and you clicked on a row in the table, the details would display in the **Service Summary** display. If the last selected display was the **"Service KM Table"** display under **"Key Metrics Views"**, then clicking a row in the table displays the details in the **Service KM Table**.

| Service     | Region | Alert Severity  | Alert Count | Alert Impact | Service Criticality | CI Count | Environment | Group     |
|-------------|--------|---|-------------|--------------|---------------------|----------|-------------|-----------|
| TBE-CLUSTER | AMER   |  | 1           | 2            | E                   | 2        | QA          | TIBCO-BE  |
| EMS-QUEUE   | AMER   |  | 6           | 2            | E                   | 2        | QA          | TIBCO-EMS |
| EMS-SERVER  | AMER   |  | 2           | 2            | E                   | 1        | QA          | TIBCO-EMS |
| EMS-TOPIC   | AMER   |  | 8           | 2            | E                   | 4        | QA          | TIBCO-EMS |
| TOMCAT      | AMER   |  | 0           | 0            | E                   | 1        | QA          | TOMCAT    |
| TOMCAT-APP  | AMER   |  | 0           | 0            | E                   | 2        | QA          | TOMCAT    |

**Title Bar:**

Indicators and functionality might include the following:



Open the previous and upper display.

and  navigate to displays commonly accessed from this display.

The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

The number of items in the display.



The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.



Open the **Alert Views - RTView Alerts Table** display.



Open an instance of this display in a new window.



Open the online help page for this display.

**Note:** The “Up” Arrow (  ) opens the most recently viewed display under “All Management Areas”. For example, if the last viewed display under **All Management Areas** was **Area Table**, then clicking  opens the “Area Table” display.

**Row Color Code:**

Tables with colored rows indicate the following:



Red indicates that one or more alerts exceeded their ALARM LEVEL threshold in the table row.



Yellow indicates that one or more alerts exceeded their WARNING LEVEL threshold in the table row.



Green indicates that no alerts exceeded their WARNING or ALARM LEVEL threshold in the table row.

**Filter By:**

The following filtering options are typically included:

**Owner:** Choose an Owner to see metrics for Areas associated with that Owner.

**Area:** Choose an Area to see metrics for Groups associated with that Area and Owner.

**Group:** Choose a Group to see metrics for Services associated with that Group, Area and Owner.

**Service:** Choose a Service to see metrics for Environments associated with that Service, Group, Area and Owner.

**Env:** Choose an Environment to see metrics for Environments associated with that Service, Group, Area and Owner.

**Fields and Data**

This display includes:

**Service/Region Count** The total number of Services listed in the table. This value is determined by the selections made from display drop-down menus.

**Area** The name of the Area where the alert data originated.

**Service** The name of the Service where the alert data originated.

**Region** The name of the Region to which the Service applies.

- Severity** The maximum level of alerts in the row. Values range from **0** to **2**, where **2** is the greatest Severity:
  - One or more alerts exceeded their ALARM LEVEL threshold in the Service.
  - One or more alerts exceeded their WARNING LEVEL threshold in the Service.
  - No alert thresholds have been exceeded in the Service.
- Alert Count** The total number of critical and warning alerts for the Service.
- Alert Impact** The maximum of the products of maximum Alert Severity multiplied by the Criticality of all CIs for the Service. Values range from **0** - **10**, where **10** is the highest Alert Impact.
- Service Criticality** The Criticality (rank of importance) specified in the Service Data Model (CMDDB) by your administrator. Criticality values are listed in the **Component Views / CI Service Table** display, which range from A to E, where A is the highest Criticality.
- CI Count** The total number of configurable items associated with the Area.
- Environment** The name of the Environment to which the Service applies.
- Group** The name of the Environment to which the Service applies.
- CI Count** The name of the Group to which the Service applies.

### Services CI Type Summary

This display lists the health state of Services by CI Type and allows you to manage alerts. In the upper table, each column is a CI Type and each row is a Service. Select a row in the table to view details in the lower table.

Use the available drop-down menus or right-click to filter data shown in the display. Click Sort to order column data.

By CI Type
Service Health By CI Type
07-Oct-2015 10:02 Data OK

Owner: Infrastructure Area: All Areas
CIs: 80 Env: QA

Group: All Service Groups
 Valid CI Types Only Service/Region Count: 12

| Service       | All                                   | JVM | AMX | AMX | AMX | BW | BW | BW | EMS | EMS | EMS | Active | Tomcat | Tomcat | Oracle |
|---------------|---------------------------------------|-----|-----|-----|-----|----|----|----|-----|-----|-----|--------|--------|--------|--------|
| ORACLE        | <span style="color: red;">●</span>    | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0   | 0   | 0      | 0      | 0      | 0      |
| HOST          | <span style="color: yellow;">●</span> | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0   | 0   | 0      | 0      | 0      | 0      |
| VMWARE-HOST   | <span style="color: yellow;">●</span> | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0   | 0   | 0      | 0      | 0      | 0      |
| VMWARE-VM     | <span style="color: yellow;">●</span> | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0   | 0   | 0      | 0      | 0      | 0      |
| JVM           | <span style="color: red;">●</span>    | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0   | 0   | 0      | 0      | 0      | 0      |
| SOLACE-BRIDGE | <span style="color: green;">●</span>  | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0   | 0   | 0      | 0      | 0      | 0      |
| TBE-CLUSTER   | <span style="color: green;">●</span>  | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0   | 0   | 0      | 0      | 0      | 0      |
| EMS-QUEUE     | <span style="color: red;">●</span>    | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0   | 0   | 0      | 0      | 0      | 0      |
| EMS-SERVER    | <span style="color: red;">●</span>    | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0   | 0   | 0      | 0      | 0      | 0      |
| EMS-TOPIC     | <span style="color: red;">●</span>    | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0   | 0   | 0      | 0      | 0      | 0      |

Service: ORACLE
CI Type: \*
 Open Suppress Close

| First Occ         | Last Occ           | Count | Sup                      | Owner | Alert Name              | Primary Service | CI               | Alert Text  |
|-------------------|--------------------|-------|--------------------------|-------|-------------------------|-----------------|------------------|---|
| 10/06/15 11:05:16 | 10/07/15 06:18:... | 580   | <input type="checkbox"/> |       | OrainstanceNumActive... | Oracle          | testBedOracle11g | High Alert Limit exceeded, current value: 25.0 limit: 15.0          |
| 10/06/15 11:05:16 | 10/07/15 06:19:... | 2     | <input type="checkbox"/> |       | OraDatabaseTablespac... | Oracle          | testBedOracle11g | High Alert Limit exceeded, current value: 93.38 limit: 90.0         |
| 10/06/15 11:05:16 | 10/07/15 06:19:... | 9     | <input type="checkbox"/> |       | OraDatabaseTablespac... | Oracle          | testBedOracle11g | High Alert Limit exceeded, current value: 93.74 limit: 90.0         |
| 10/06/15 11:05:16 | 10/07/15 06:18:... | 580   | <input type="checkbox"/> |       | OrainstanceNumCurren... | Oracle          | testBedOracle11g | High Alert Limit exceeded, current value: 16.0 limit: 15.0          |
| 08/31/15 10:28:05 | 10/07/15 06:18:... | 5573  | <input type="checkbox"/> |       | OrainstanceMaxQueryT... | Oracle          | testBedOracle11g | High Alert Limit exceeded, current value: 19754.0275 limit: 15000.0 |

**Title Bar:**

Indicators and functionality might include the following:

← ↑ Open the previous and upper display.  
 CMDB and Table navigate to displays commonly accessed from this display.

19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Cls: 3,047 The number of items in the display.

Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

Open the online help page for this display.

**Note:** The “Up” Arrow (↑) opens the most recently viewed display under “All Management Areas”. For example, if the last viewed display under **All Management Areas** was **Area Table**, then clicking ↑ opens the “Area Table” display.

For each Service in a selected Group, the round indicator  shows the current maximum Alert Severity of all the CIs associated with each CI Type.

-  Red indicates that one or more alerts exceeded their ALARM LEVEL threshold in the table row.
-  Yellow indicates that one or more alerts exceeded their WARNING LEVEL threshold in the table row.
-  Green indicates that no alerts exceeded their WARNING or ALARM LEVEL threshold in the table row.

The cell background color indicates the current maximum Alert Impact of all the CIs associated with the Service and CI Type. The Alert Impact is calculated for each CI, which is the product of the CI Criticality times the current maximum Alert Severity. Background colors range from green to red, green being the lowest possible alert impact and red the highest possible value.

For example, in the following figure the first five Services in the list have an alert condition due to a BW Engine problem, and additionally the **INVENTORY MANAGER** Service has a TIBCO EMS Server problem. The **All CI Types** column shows the global highest level for all CI Types.

| Service Name      | All CI Types | User Experience | JVM | BW Server | BW Engine | TibcoEMS Server | TibcoEMS Topic | Tomcat |
|-------------------|--------------|-----------------|-----|-----------|-----------|-----------------|----------------|--------|
| ACCOUNTING        |              | 0               | 0   |           |           |                 |                |        |
| COMPLIANCE        |              | 0               |     |           |           | 0               | 0              |        |
| INVENTORY MANAGER |              | 0               | 0   |           |           |                 | 0              |        |
| ORDER PROCESSING  |              | 0               | 0   |           |           |                 | 0              |        |
| REPORTING         |              |                 | 0   |           |           | 0               | 0              |        |
| TUCON-EXCHANGE    |              | 0               | 0   | 0         | 0         |                 |                | 0      |

**Filter By:**

The following filtering options are typically included:

**Owner:** Choose an Owner to see metrics for Areas associated with that Owner.

**Area:** Choose an Area to see metrics for Groups associated with that Area and Owner.

**Group:** Choose a Group to see metrics for Services associated with that Group, Area and Owner.

**Service:** Choose a Service to see metrics for Environments associated with that Service, Group, Area and Owner.

**Env:** Choose an Environment to see metrics for Environments associated with that Service, Group, Area and Owner.

**Fields and Data**

This display includes:

|                             |   |
|-----------------------------|---|
| <b>Valid CI Types Only</b>  | Check to only show CI Type columns that contain data in the table, uncheck to include columns that are empty. Including empty table columns can be helpful when you are comparing Services (using the <b>Group</b> drop-down menu) because the table columns retain their order.  |
| <b>Service/Region Count</b> | The total number of Services currently listed in the table.   |
| <b>Service Name</b>         | The name of the Service.  |
| <b>All CI Types</b>         | The circular indicator  shows the current maximum Alert Severity of all the CIs associated with the CI Type, and the cell background color shows the current maximum Alert Impact of all the CIs--across all CI Types-- associated with the Service. |
| <b>Service</b>              | Shows the Service selected in the upper table.  |
| <b>CI Type</b>              | Shows the CI Type selected in the upper table.  |

**Alerts Table**

This table lists all open, unsuppressed alerts associated with the selection in the upper table. Each row in the table is a different active alert. Select one or more rows, right-click to open the **Alert** popup menu and choose an action to perform on the alert(s): **Details, Own, Suppress, Close, Annotate** or **Options**. Use the sort  button to order column data. The row color indicates the following:

-  Red indicates that one or more alerts exceeded their ALARM LEVEL threshold in the table row.
  -  Yellow indicates that one or more alerts exceeded their WARNING LEVEL threshold in the table row.
  -  Green indicates that no alerts exceeded their WARNING or ALARM LEVEL threshold in the table row.
  -  Gray indicates that the alert engine that is hosting the alert is not connected, not enabled or not initialized. When you select a gray row the **Own, Suppress, Unsuppress, Close, Annotate, Options** and **Details** buttons are disabled.
-  Opens the **Alerts Table** display in a new window.

|                 |   |
|-----------------|---|
| <b>Own</b>      | Click to assign an Owner for the selected alert(s). This button is only visible to users with Administrator privileges. This button is disabled when you select a gray row.                   |
| <b>Suppress</b> | Click to suppress the selected alert(s). This button is only visible to users with Administrator privileges. This button is disabled when you select a gray row.                              |
| <b>Close</b>    | Click to close the selected alert(s). This button is only visible to users with Administrator privileges. This button is disabled when you select a gray row.                                 |
| <b>Details</b>  | Select an alert, right-click and choose <b>Alert/Details</b> to open the <b>Alert Detail</b> window and view alert details. Or, double-click an alert to open the <b>Alert Detail</b> window. |
| <b>Annotate</b> | Select one or more alerts, right-click and choose <b>Alert/Annotate</b> to open the <b>Set Owner and Comments</b> dialog and enter comments or change alert owner.                            |
| <b>Options</b>  | Select an alert, right-click and choose <b>Alert/Options</b> to open the <b>Alert Options</b> dialog. This dialog is provided for customizing your own alert options.                         |

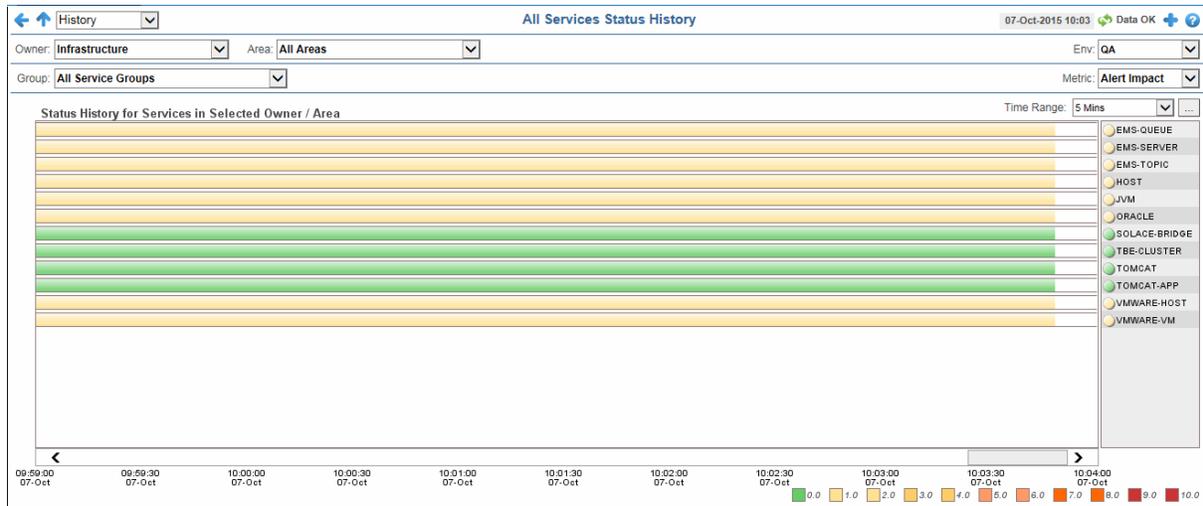
|                        |   |
|------------------------|---|
| <b>First Occ</b>       | The date and time the alert first occurred.   |
| <b>Last Occ</b>        | The date and time the alert last occurred.  |
| <b>Count</b>           | The number of times the alert was generated.  |
| <b>Sup</b>             | When checked, the alert has been suppressed by a user.                                  |
| <b>Owner</b>           | The named owner assigned by the administrator.  |
| <b>Alert Name</b>      | The name of the alert.  |
| <b>Primary Service</b> | The name of the Service with which the alert is associated.                             |
| <b>CI</b>              | The CI alert source.  |
| <b>Alert Text</b>      | Description of the alert.   |
| <b>AlertClass</b>      | An optional alert field which can be used when integrating with other alerting systems. |
| <b>CompID</b>          | An optional alert field which can be used when integrating with other alerting systems. |
| <b>TicketID</b>        | An optional alert field which can be used when integrating with other alerting systems. |
| <b>TicketGroup</b>     | An optional alert field which can be used when integrating with other alerting systems. |

## Services History Heatmap

View history heatmap of alert states, over time, for Services in one Area, filtered by Group and Environment.

The history heatmap displays Services from one or more Groups and Environments of a given Owner and Area. Each row in the heatmap represents a different Service. The row color shows the Alert Impact or Alert Severity of a Service across time.

Use the available drop-down menus or right-click to filter data shown in the display. Mouse-over each row to see the time of alert state changes for particular Service occurred. For example, you can see at what time an alert state changed from green to red. Use the checkboxes  to include or exclude labels in the heatmap. Drill-down and investigate by clicking a row in the heatmap to view details in the last display that was viewed under either the **Service Summary Views** or **Key Metric Views**. For example, if the last selected display was the “Service Summary” display under “Single Area Service Views” and you clicked on a row in the **Services History Heatmap**, the details would display in the **Service Summary** display. If the last selected display was the “Service KM Table” display under “Key Metrics Views”, then clicking a row in the **Services History Heatmap** displays the details in the **Service KM Table**.



### Title Bar:

Indicators and functionality might include the following:

Open the previous and upper display. **CMDB** and **Table** navigate to displays commonly accessed from this display.

**19-Feb-2014 16:50** The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

**Cls: 3,047** The number of items in the display.

**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

Open the online help page for this display.

**Note:** The “Up” Arrow () opens the most recently viewed display under “All Management Areas”. For example, if the last viewed display under **All Management Areas** was **Area Table**, then clicking opens the “Area Table” display.

**Filter By:**

The following filtering options are typically included:

**Owner:** Choose an Owner to see metrics for Areas associated with that Owner.

**Area:** Choose an Area to see metrics for Groups associated with that Area and Owner.

**Group:** Choose a Group to see metrics for Services associated with that Group, Area and Owner.

**Service:** Choose a Service to see metrics for Environments associated with that Service, Group, Area and Owner.

**Env:** Choose an Environment to see metrics for Environments associated with that Service, Group, Area and Owner.

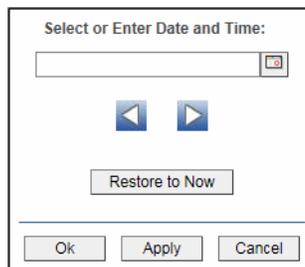
**Color Code:**

Row color indicates the following:

- Red indicates that one or more alerts exceeded their ALARM LEVEL threshold in the row.
- Yellow indicates that one or more alerts exceeded their WARNING LEVEL threshold in the row.
- Green indicates that no alerts exceeded their WARNING or ALARM LEVEL threshold in the row.

**Time Range**

Select a time range from the drop down menu varying from 2 Minutes to Last 7 Days, or display All Data. By default, the time range end point is the current time.



To change the time range for the graph, click Open Calendar , choose the date and time, then click **OK**. Or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the Time Range drop-down menu.

Click Restore to Now to reset the time range end point to the current time.

## Single Area Service Views

These displays present aggregated data of alert states for all Services for a specific Area. Data can be filtered by Area, Group, Environment, and alert Metric. Data is filtered by the \$rtvOwnerMask, \$rtvAreaMask and \$rtvGroupMask values for the logged in user. For details, see **Configure User and Role Management**.

Use these displays, for example, to isolate the Area and Environment in which a critical alert is occurring. If you see a critical alert, get information by comparing alert metrics (such as how many other items are potentially affected).

These displays drill-down to the **Service Summary Views - "Service By CI Type"** display. The **Single Area Service Views** displays present data in tabular and heatmap formats. Displays in this View are:

- **"Single Area: Group/Service Heatmap"** on page 118: Heatmap of alert states for Services by Area, with the option to filter by Area, Group, Environment and alert Metric, and the option to show Group and Service Names.
- **"Single Area: Region/Service Heatmap"** on page 120: Heatmap as described for the **Group / Service Heatmap** (above), with the option to filter by Region and no option to show Service Names.
- **"Single Area: Group / Service Table"** on page 122: Table view of **Group/Service Heatmap** data.
- **"Single Area: Services CI Type Summary"** on page 124: Table that shows the health state of Services per CI Type.
- **"Single Area: Services History Heatmap"** on page 127: Heatmap of alert states, over time, for Services in a selected Area, with the option to filter by Group, Environment and alert Metric.

## Single Area: Group/Service Heatmap

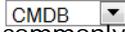
View heatmap of alert states for Services in one Area, filter by Group or Environment, and optionally show Service Names. Each rectangle in the heatmap represents a Service (for example, Applications, Demo Systems and so forth), which are grouped by Area. The rectangle size represents the number of CIs in the Service; a larger size is a larger value.

Use the available drop-down menus or right-click to filter data shown in the display. Use the check-boxes  to include or exclude labels in the heatmap. Move your mouse over a rectangle to see additional information. Drill-down and investigate by clicking a rectangle in the heatmap to view details in the last display that was viewed under either the **Service Summary Views** or **Key Metrics Views**. For example, if the last selected display was the **"Service Summary"** display under **"Single Area Service Views"** and you clicked on a rectangle in the **Group / Service Heatmap**, the details would display in the **Service Summary** display. If the last selected display was the **"Service KM Table"** display under **"Key Metrics Views"**, then clicking a rectangle in the **Group / Service Heatmap** displays the details in the **Service KM Table**.



**Title Bar:**

Indicators and functionality might include the following:

  Open the previous and upper display.  and  navigate to displays commonly accessed from this display.

 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 Cts: 3,047 The number of items in the display.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

**Note:** The “Up” Arrow () opens the most recently viewed display under “Multi Area Service Views”. For example, if the last viewed display under **Multi Area Service Views** was **Group/Region Heatmap**, then clicking  opens the “Group/Region Heatmap” display.

**Filter By:**

The following filtering options are typically included:

**Owner:** Choose an Owner to see metrics for Areas associated with that Owner.

**Area:** Choose an Area to see metrics for Groups associated with that Area and Owner.

**Group:** Choose a Group to see metrics for Services associated with that Group, Area and Owner.

**Service:** Choose a Service to see metrics for Environments associated with that Service, Group, Area and Owner.

**Env:** Choose an Environment to see metrics for Environments associated with that Service, Group, Area and Owner.

**Metric:**

Choose the type of metric to show in the heatmap. Each metric has its own gradient bar that maps relative values to colors:

**Alert Impact** The product of the maximum Alert Severity of alerts in the heatmap rectangle multiplied by the maximum Criticality of alerts in the heatmap rectangle. Values range from **0** - **10**, as indicated in the color gradient  bar, where **10** is the highest Alert Impact.

**Alert Severity** The maximum level of alerts in the heatmap rectangle. Values range from **0** - **2**, as indicated in the color gradient  bar, where **2** is the highest Alert Severity.

-  Red indicates that one or more metrics have reached their alarm threshold. Metrics that have exceeded their specified ALARM LEVEL threshold have an Alert Severity value of **2**.
-  Yellow indicates that one or more metrics have reached their alarm threshold. Metrics that have exceeded their specified WARNING LEVEL threshold have an Alert Severity value of **1**.
-  Green indicates that no metrics have reached their alert thresholds. Metrics that have not exceeded their specified thresholds have an Alert Severity value of **0**.

**Alert Count** The total number of critical and warning alerts in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average alert count.

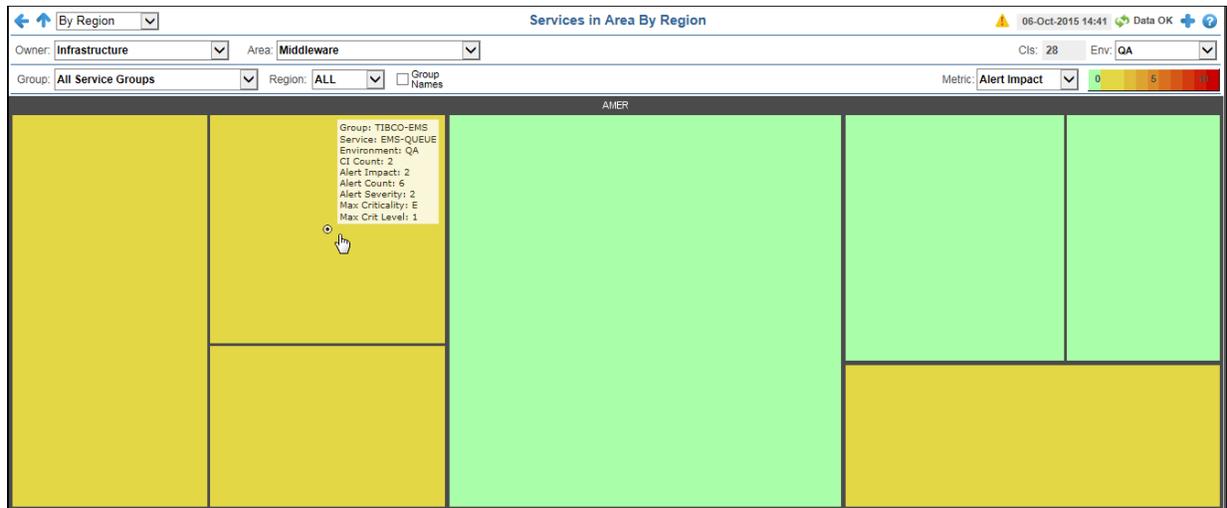
**Criticality** The maximum level of Criticality (rank of importance) in the heatmap rectangle. Values range from 1 to 5, as indicated in the color gradient  bar, where 5 is the highest Criticality.

Criticality is specified in the Service Data Model (CMDB) by your administrator. Criticality values are listed in the **Component Views - "CI / Service Table"** display, which range from **A** to **E**, where **A** is the highest Criticality (level **5** maps to a Criticality of **A** and level **1** maps to a Criticality of **E** with equally spaced intermediate values).

## Single Area: Region/Service Heatmap

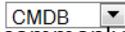
View heatmap of alert states for one Owner, one specific Area, one or all Service Groups, and one or all Regions. You can also optionally show Service Group Names. The heatmap organizes CIs by one or all Groups. Each rectangle in the heatmap represents a Group, which is grouped by Area. The rectangle size represents the number of CIs in the Service; a larger size is a larger value.

Use the available drop-down menus or right-click to filter data shown in the display. Use the check-boxes  to include or exclude labels in the heatmap. Move your mouse over a rectangle to see additional information. Drill-down and investigate by clicking a rectangle in the heatmap to view details in the last display that was viewed under either the **Service Summary Views** or **Key Metrics Views**. For example, if the last selected display was the **"Service Summary"** display under **"Single Area Service Views"** and you clicked on a rectangle in the **Group / Region Heatmap**, the details would display in the **Service Summary** display. If the last selected display was the **"Service KM Table"** display under **"Key Metrics Views"**, then clicking a rectangle in the **Group / Region Heatmap** displays the details in the **Service KM Table**.



**Title Bar:**

Indicators and functionality might include the following:

  Open the previous and upper display.  and  navigate to displays commonly accessed from this display.

 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 The number of items in the display.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

**Note:** The “Up” Arrow () opens the most recently viewed display under “Multi Area Service Views”. For example, if the last viewed display under Multi Area Service Views was Group/Region Heatmap, then clicking  opens the “Group/Region Heatmap” display.

**Filter By:**

The following filtering options are typically included:

**Owner:** Choose an Owner to see metrics for Areas associated with that Owner.

**Area:** Choose an Area to see metrics for Groups associated with that Area and Owner.

**Group:** Choose a Group to see metrics for Services associated with that Group, Area and Owner.

**Service:** Choose a Service to see metrics for Environments associated with that Service, Group, Area and Owner.

**Env:** Choose an Environment to see metrics for Environments associated with that Service, Group, Area and Owner.

**Metric:**

Choose the type of metric to show in the heatmap. Each metric has its own gradient bar that maps relative values to colors:

**Alert Impact** The product of the maximum Alert Severity of alerts in the heatmap rectangle multiplied by the maximum Criticality of alerts in the heatmap rectangle. Values range from **0** - **10**, as indicated in the color gradient  bar, where **10** is the highest Alert Impact.

**Alert Severity** The maximum level of alerts in the heatmap rectangle. Values range from **0** - **2**, as indicated in the color gradient  bar, where **2** is the highest Alert Severity.

-  Red indicates that one or more metrics have reached their alarm threshold. Metrics that have exceeded their specified ALARM LEVEL threshold have an Alert Severity value of **2**.
-  Yellow indicates that one or more metrics have reached their alarm threshold. Metrics that have exceeded their specified WARNING LEVEL threshold have an Alert Severity value of **1**.
-  Green indicates that no metrics have reached their alert thresholds. Metrics that have not exceeded their specified thresholds have an Alert Severity value of **0**.

**Alert Count**

The total number of critical and warning alerts in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average alert count.

**Criticality**

The maximum level of Criticality (rank of importance) in the heatmap rectangle. Values range from 1 to 5, as indicated in the color gradient  bar, where 5 is the highest Criticality.

Criticality is specified in the Service Data Model (CMDB) by your administrator. Criticality values are listed in the **Component Views** - "CI / Service Table" display, which range from **A** to **E**, where **A** is the highest Criticality (level **5** maps to a Criticality of A and level **1** maps to a Criticality of **E** with equally spaced intermediate values).

**Single Area: Group / Service Table**

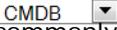
This table displays data shown in the **Group/Service** and **Region/Service** heatmaps. View Service metrics (Impact, Severity, Count and Criticality, and CI Count) for a specific Area, for one or all Owners, Groups, and Environments. The table lists Services by Owner and Area. Each row in the table is a different Service. The color of the circle in the **Alert Severity** column represents the most critical alert state for that Service.

Use the available drop-down menus or right-click to filter data shown in the display. Click Sort  to order column data. Drill-down and investigate by clicking a row in the table to view details in the last display that was viewed under either the **Service Summary Views** or **Key Metric Views**. For example, if the last selected display was the "Service Summary" display under "Single Area Service Views" and you clicked on a row in the table, the details would display in the **Service Summary** display. If the last selected display was the "Service KM Table" display under "Key Metrics Views", then clicking a row in the table displays the details in the **Service KM Table**.

| Service       | Region | Alert Severity  | Alert Count | Alert Impact | Service Criticality | CI Count | Environment | Group     |
|---------------|--------|---|-------------|--------------|---------------------|----------|-------------|-----------|
| SOLACE-BRIDGE | AMER   |  | 0           | 0            | E                   | 16       | QA          | SOLACE    |
| TBE-CLUSTER   | AMER   |  | 1           | 1            | E                   | 2        | QA          | TIBCO-BE  |
| EMS-QUEUE     | AMER   |  | 6           | 2            | E                   | 2        | QA          | TIBCO-EMS |
| EMS-SERVER    | AMER   |  | 2           | 2            | E                   | 1        | QA          | TIBCO-EMS |
| EMS-TOPIC     | AMER   |  | 8           | 2            | E                   | 4        | QA          | TIBCO-EMS |
| TOMCAT        | AMER   |  | 0           | 0            | E                   | 1        | QA          | TOMCAT    |
| TOMCAT-APP    | AMER   |  | 0           | 0            | E                   | 2        | QA          | TOMCAT    |

**Title Bar:**

Indicators and functionality might include the following:

  Open the previous and upper display.  and  navigate to displays commonly accessed from this display.

 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 Cts: 3,047 The number of items in the display.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

**Note:** The “Up” Arrow () opens the most recently viewed display under “Multi Area Service Views”. For example, if the last viewed display under **Multi Area Service Views** was **Group/Region Heatmap**, then clicking  opens the “Group/Region Heatmap” display.

**Row Color Code:**

Tables with colored rows indicate the following:

-  Red indicates that one or more alerts exceeded their ALARM LEVEL threshold in the table row.
-  Yellow indicates that one or more alerts exceeded their WARNING LEVEL threshold in the table row.
-  Green indicates that no alerts exceeded their WARNING or ALARM LEVEL threshold in the table row.

**Filter By:**

The following filtering options are typically included:

**Owner:** Choose an Owner to see metrics for Areas associated with that Owner.

**Area:** Choose an Area to see metrics for Groups associated with that Area and Owner.

**Group:** Choose a Group to see metrics for Services associated with that Group, Area and Owner.

**Service:** Choose a Service to see metrics for Environments associated with that Service, Group, Area and Owner.

**Env:** Choose an Environment to see metrics for Environments associated with that Service, Group, Area and Owner.

**Fields and Data**

This display includes:

|                                  |   |
|----------------------------------|---|
| <b>Service/<br/>Region Count</b> | The total number of Services listed in the table. This value is determined by the selections made from display drop-down menus. |
| <b>Area</b>                      | The name of the Area where the alert data originated.   |
| <b>Service</b>                   | The name of the Service where the alert data originated.  |
| <b>Region</b>                    | The name of the Region to which the Service applies.  |

- Severity** The maximum level of alerts in the row. Values range from **0** to **2**, where **2** is the greatest Severity:
  - One or more alerts exceeded their ALARM LEVEL threshold in the Service.
  - One or more alerts exceeded their WARNING LEVEL threshold in the Service.
  - No alert thresholds have been exceeded in the Service.
- Alert Count** The total number of critical and warning alerts for the Service.
- Alert Impact** The maximum of the products of maximum Alert Severity multiplied by the Criticality of all CIs for the Service. Values range from **0** - **10**, where **10** is the highest Alert Impact.
- Service Criticality** The Criticality (rank of importance) specified in the Service Data Model (CMDDB) by your administrator. Criticality values are listed in the **Component Views / CI Service Table** display, which range from A to E, where A is the highest Criticality.
- CI Count** The total number of configurable items associated with the Area.
- Environment** The name of the Environment to which the Service applies.
- Group** The name of the Environment to which the Service applies.
- CI Count** The name of the Group to which the Service applies.

### Single Area: Services CI Type Summary

This display lists the health state of Services by CI Type and allows you to manage alerts. In the upper table, each column is a CI Type and each row is a Service. Select a row in the table to view details in the lower table.

Use the available drop-down menus or right-click to filter data shown in the display. Click Sort to order column data.

By CI Type
Service Health By CI Type
06-Oct-2015 14:44 Data OK

Owner: Infrastructure Area: Middleware
CIs: 28 Env: QA

Group: All Service Groups
 Valid CI Types Only Service/Region Count: 7

| Service Name  | All CI Types                          | AMX Node | AMX Service | AMX ServiceNod | BW Server | BW Engine | BW Proc | EMS Server                         | EMS Topic                          | EMS Queue                          | Active Spaces | Tomcat                               | Tomcat App                           | ServiceGroup |
|---------------|---------------------------------------|----------|-------------|----------------|-----------|-----------|---------|------------------------------------|------------------------------------|------------------------------------|---------------|--------------------------------------|--------------------------------------|--------------|
| SOLACE-BRIDGE | <span style="color: green;">●</span>  | 0        | 0           | 0              | 0         | 0         | 0       | 0                                  | 0                                  | 0                                  | 0             | 0                                    | 0                                    | SOLACE       |
| TBE-CLUSTER   | <span style="color: yellow;">●</span> | 0        | 0           | 0              | 0         | 0         | 0       | 0                                  | 0                                  | 0                                  | 0             | 0                                    | 0                                    | TIBCO-BE     |
| EMS-QUEUE     | <span style="color: red;">●</span>    | 0        | 0           | 0              | 0         | 0         | 0       | 0                                  | 0                                  | <span style="color: red;">●</span> | 0             | 0                                    | 0                                    | TIBCO-EMS    |
| EMS-SERVER    | <span style="color: red;">●</span>    | 0        | 0           | 0              | 0         | 0         | 0       | <span style="color: red;">●</span> | 0                                  | <span style="color: red;">●</span> | 0             | 0                                    | 0                                    | TIBCO-EMS    |
| EMS-TOPIC     | <span style="color: red;">●</span>    | 0        | 0           | 0              | 0         | 0         | 0       | 0                                  | <span style="color: red;">●</span> | 0                                  | 0             | 0                                    | 0                                    | TIBCO-EMS    |
| TOMCAT        | <span style="color: green;">●</span>  | 0        | 0           | 0              | 0         | 0         | 0       | 0                                  | 0                                  | 0                                  | 0             | <span style="color: green;">●</span> | 0                                    | TOMCAT       |
| TOMCAT-APP    | <span style="color: green;">●</span>  | 0        | 0           | 0              | 0         | 0         | 0       | 0                                  | 0                                  | 0                                  | 0             | 0                                    | <span style="color: green;">●</span> | TOMCAT       |

Service: EMS-QUEUE CI Type: \*

| First Occ         | Last Occ           | Count | Sup                      | Owner | Alert Name            | Primary Service | CI                   | Alert Text   |
|-------------------|--------------------|-------|--------------------------|-------|-----------------------|-----------------|----------------------|--|
| 10/06/15 06:16:02 | 10/06/15 06:16:... | 1     | <input type="checkbox"/> |       | EmsQueueProviderId... | EMS             | tcp://192.168.200.13 | High Alert Limit exceeded, current value: 97.0 limit: 80.0 |
| 10/06/15 06:16:02 | 10/06/15 06:16:... | 1     | <input type="checkbox"/> |       | EmsQueueProviderId... | EMS             | tcp://192.168.200.13 | High Alert Limit exceeded, current value: 97.0 limit: 80.0 |
| 10/06/15 06:16:48 | 10/06/15 06:16:... | 1     | <input type="checkbox"/> |       | EmsQueuesProducerC... | EMS             | tcp://192.168.200.13 | Low Alert Limit exceeded, current value: 0.0 limit: 5.0    |
| 10/06/15 06:16:48 | 10/06/15 06:16:... | 1     | <input type="checkbox"/> |       | EmsQueuesProducerC... | EMS             | tcp://192.168.200.13 | Low Alert Limit exceeded, current value: 0.0 limit: 5.0    |
| 10/06/15 06:16:48 | 10/06/15 06:16:... | 1     | <input type="checkbox"/> |       | EmsQueuesConsumer...  | EMS             | tcp://192.168.200.13 | Low Alert Limit exceeded, current value: 0.0 limit: 5.0    |
| 10/06/15 06:16:48 | 10/06/15 06:16:... | 1     | <input type="checkbox"/> |       | EmsQueuesConsumer...  | EMS             | tcp://192.168.200.13 | Low Alert Limit exceeded, current value: 0.0 limit: 5.0    |

**Title Bar:**

Indicators and functionality might include the following:

← ↑ Open the previous and upper display.  
 CMDB and Table navigate to displays commonly accessed from this display.

19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Cls: 3,047 The number of items in the display.

Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

Open the online help page for this display.

**Note:** The “Up” Arrow (↑) opens the most recently viewed display under “Multi Area Service Views”. For example, if the last viewed display under **Multi Area Service Views** was **Group/Region Heatmap**, then clicking ↑ opens the “Group/Region Heatmap” display.

For each Service in a selected Group, the round indicator  shows the current maximum Alert Severity of all the CIs associated with each CI Type.

-  Red indicates that one or more alerts exceeded their ALARM LEVEL threshold in the table row.
-  Yellow indicates that one or more alerts exceeded their WARNING LEVEL threshold in the table row.
-  Green indicates that no alerts exceeded their WARNING or ALARM LEVEL threshold in the table row.

The cell background color indicates the current maximum Alert Impact of all the CIs associated with the Service and CI Type. The Alert Impact is calculated for each CI, which is the product of the CI Criticality times the current maximum Alert Severity. Background colors range from green to red, green being the lowest possible alert impact and red the highest possible value.

For example, in the following figure the first five Services in the list have an alert condition due to a BW Engine problem, and additionally the **INVENTORY MANAGER** Service has a TIBCO EMS Server problem. The **All CI Types** column shows the global highest level for all CI Types.

| Service Name      | All CI Types | User Experience | JVM | BW Server | BW Engine | TibcoEMS Server | TibcoEMS Topic | Tomcat |
|-------------------|--------------|-----------------|-----|-----------|-----------|-----------------|----------------|--------|
| ACCOUNTING        |              | 0               | 0   |           |           |                 |                |        |
| COMPLIANCE        |              | 0               |     |           |           | 0               | 0              |        |
| INVENTORY MANAGER |              | 0               | 0   |           |           |                 | 0              |        |
| ORDER PROCESSING  |              | 0               | 0   |           |           |                 | 0              |        |
| REPORTING         |              |                 | 0   |           |           | 0               | 0              |        |
| TUCON-EXCHANGE    |              | 0               | 0   | 0         | 0         |                 |                | 0      |

**Filter By:**

The following filtering options are typically included:

**Owner:** Choose an Owner to see metrics for Areas associated with that Owner.

**Area:** Choose an Area to see metrics for Groups associated with that Area and Owner.

**Group:** Choose a Group to see metrics for Services associated with that Group, Area and Owner.

**Service:** Choose a Service to see metrics for Environments associated with that Service, Group, Area and Owner.

**Env:** Choose an Environment to see metrics for Environments associated with that Service, Group, Area and Owner.

**Fields and Data**

This display includes:

|                             |   |
|-----------------------------|---|
| <b>Valid CI Types Only</b>  | Check to only show CI Type columns that contain data in the table, uncheck to include columns that are empty. Including empty table columns can be helpful when you are comparing Services (using the <b>Group</b> drop-down menu) because the table columns retain their order.  |
| <b>Service/Region Count</b> | The total number of Services currently listed in the table.   |
| <b>Service Name</b>         | The name of the Service.  |
| <b>All CI Types</b>         | The circular indicator  shows the current maximum Alert Severity of all the CIs associated with the CI Type, and the cell background color shows the current maximum Alert Impact of all the CIs--across all CI Types-- associated with the Service. |
| <b>Service</b>              | Shows the Service selected in the upper table.  |
| <b>CI Type</b>              | Shows the CI Type selected in the upper table.  |

**Alerts Table**

This table lists all open, unsuppressed alerts associated with the selection in the upper table. Each row in the table is a different active alert. Select one or more rows, right-click to open the **Alert** popup menu and choose an action to perform on the alert(s): **Details, Own, Suppress, Close, Annotate** or **Options**. Use the sort  button to order column data. The row color indicates the following:

-  Red indicates that one or more alerts exceeded their ALARM LEVEL threshold in the table row.
  -  Yellow indicates that one or more alerts exceeded their WARNING LEVEL threshold in the table row.
  -  Green indicates that no alerts exceeded their WARNING or ALARM LEVEL threshold in the table row.
  -  Gray indicates that the alert engine that is hosting the alert is not connected, not enabled or not initialized. When you select a gray row the **Own, Suppress, Unsuppress, Close, Annotate, Options** and **Details** buttons are disabled.
-  Opens the **Alerts Table** display in a new window.

|                 |   |
|-----------------|---|
| <b>Own</b>      | Click to assign an Owner for the selected alert(s). This button is only visible to users with Administrator privileges. This button is disabled when you select a gray row.                   |
| <b>Suppress</b> | Click to suppress the selected alert(s). This button is only visible to users with Administrator privileges. This button is disabled when you select a gray row.                              |
| <b>Close</b>    | Click to close the selected alert(s). This button is only visible to users with Administrator privileges. This button is disabled when you select a gray row.                                 |
| <b>Details</b>  | Select an alert, right-click and choose <b>Alert/Details</b> to open the <b>Alert Detail</b> window and view alert details. Or, double-click an alert to open the <b>Alert Detail</b> window. |
| <b>Annotate</b> | Select one or more alerts, right-click and choose <b>Alert/Annotate</b> to open the <b>Set Owner and Comments</b> dialog and enter comments or change alert owner.                            |
| <b>Options</b>  | Select an alert, right-click and choose <b>Alert/Options</b> to open the <b>Alert Options</b> dialog. This dialog is provided for customizing your own alert options.                         |

|                        |   |
|------------------------|---|
| <b>First Occ</b>       | The date and time the alert first occurred.   |
| <b>Last Occ</b>        | The date and time the alert last occurred.  |
| <b>Count</b>           | The number of times the alert was generated.  |
| <b>Sup</b>             | When checked, the alert has been suppressed by a user.                                  |
| <b>Owner</b>           | The named owner assigned by the administrator.  |
| <b>Alert Name</b>      | The name of the alert.  |
| <b>Primary Service</b> | The name of the Service with which the alert is associated.                             |
| <b>CI</b>              | The CI alert source.  |
| <b>Alert Text</b>      | Description of the alert.   |
| <b>AlertClass</b>      | An optional alert field which can be used when integrating with other alerting systems. |
| <b>CompID</b>          | An optional alert field which can be used when integrating with other alerting systems. |
| <b>TicketID</b>        | An optional alert field which can be used when integrating with other alerting systems. |
| <b>TicketGroup</b>     | An optional alert field which can be used when integrating with other alerting systems. |

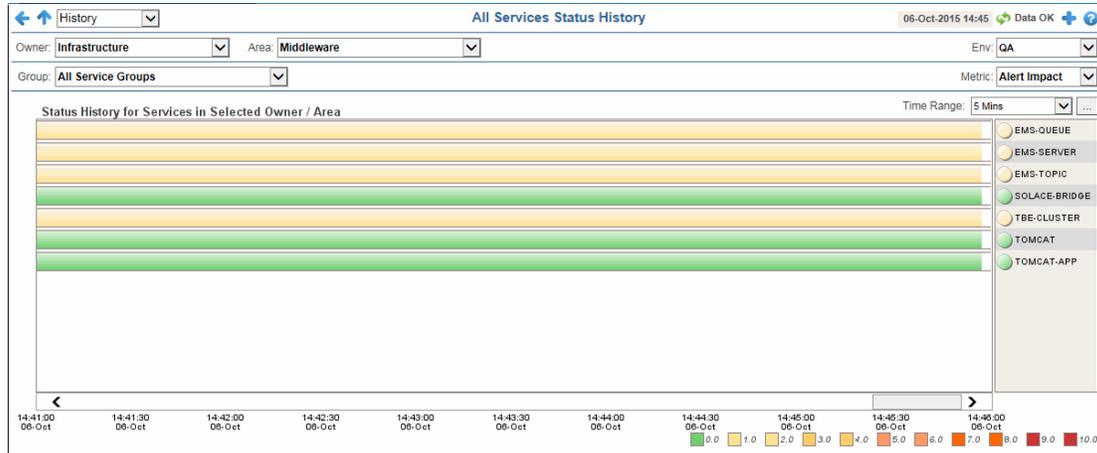
## Single Area: Services History Heatmap

View history heatmap of alert states, over time, for Services in one Area, filtered by Group and Environment.

The history heatmap displays Services from one or more Groups and Environments of a given Owner and Area. Each row in the heatmap represents a different Service. The row color shows the Alert Impact or Alert Severity of a Service across time.

Use the available drop-down menus or right-click to filter data shown in the display. Mouse-over each row to see the time of alert state changes for particular Service occurred. For example, you can see at what time an alert state changed from green to red. Use the checkboxes  to include or exclude labels in the heatmap. Drill-down and investigate by clicking a row in the heatmap to view details in the last display that was viewed under either the **Service Summary Views** or **Key Metric Views**.

For example, if the last selected display was the “[Service Summary](#)” display under “[Single Area Service Views](#)” and you clicked on a row in the **Services History Heatmap**, the details would display in the **Service Summary** display. If the last selected display was the “[Service KM Table](#)” display under “[Key Metrics Views](#)”, then clicking a row in the **Services History Heatmap** displays the details in the **Service KM Table**.



### Title Bar:

Indicators and functionality might include the following:

← ↑ Open the previous and upper display.  
 CMDB and Table navigate to displays commonly accessed from this display.

19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Cls: 3,047 The number of items in the display.

Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

⚠ Open the **Alert Views - RTView Alerts Table** display.

⊕ Open an instance of this display in a new window.

🔍 Open the online help page for this display.

**Note:** The “Up” Arrow (↑) opens the most recently viewed display under “[Multi Area Service Views](#)”. For example, if the last viewed display under **Multi Area Service Views** was **Group/Region Heatmap**, then clicking ↑ opens the “[Group/Region Heatmap](#)” display.

### Filter By:

The following filtering options are typically included:

**Owner:** Choose an Owner to see metrics for Areas associated with that Owner.

**Area:** Choose an Area to see metrics for Groups associated with that Area and Owner.

**Group:** Choose a Group to see metrics for Services associated with that Group, Area and Owner.

**Service:** Choose a Service to see metrics for Environments associated with that Service, Group, Area and Owner.

**Env:** Choose an Environment to see metrics for Environments associated with that Service, Group, Area and Owner.

**Color Code:**

Row color indicates the following:

- Red indicates that one or more alerts exceeded their ALARM LEVEL threshold in the row.
- Yellow indicates that one or more alerts exceeded their WARNING LEVEL threshold in the row.
- Green indicates that no alerts exceeded their WARNING or ALARM LEVEL threshold in the row.

**Time Range**

Select a time range from the drop down menu varying from 2 Minutes to Last 7 Days, or display All Data. By default, the time range end point is the current time.

To change the time range for the graph, click Open Calendar , choose the date and time, then click **OK**. Or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the Time Range drop-down menu.

Click Restore to Now to reset the time range end point to the current time.

## Service Summary Views

These displays present alert states at the component-level by Service in tabular and heatmap formats, while highlighting the most critical alert state. Data can be filtered by Owner, Area, Group, Service or Environment. Data is filtered by the \$rtvOwnerMask, \$rtvAreaMask, \$rtvGroupMask and \$rtvServiceMask values for the logged in user. For details, see **Configure User and Role Management**.

Use these displays to get alert details and detailed status information for a particular Service, such as a list of all the CI Types relevant to a Service and the quality of the performance metrics for each CI. Displays in this View are:

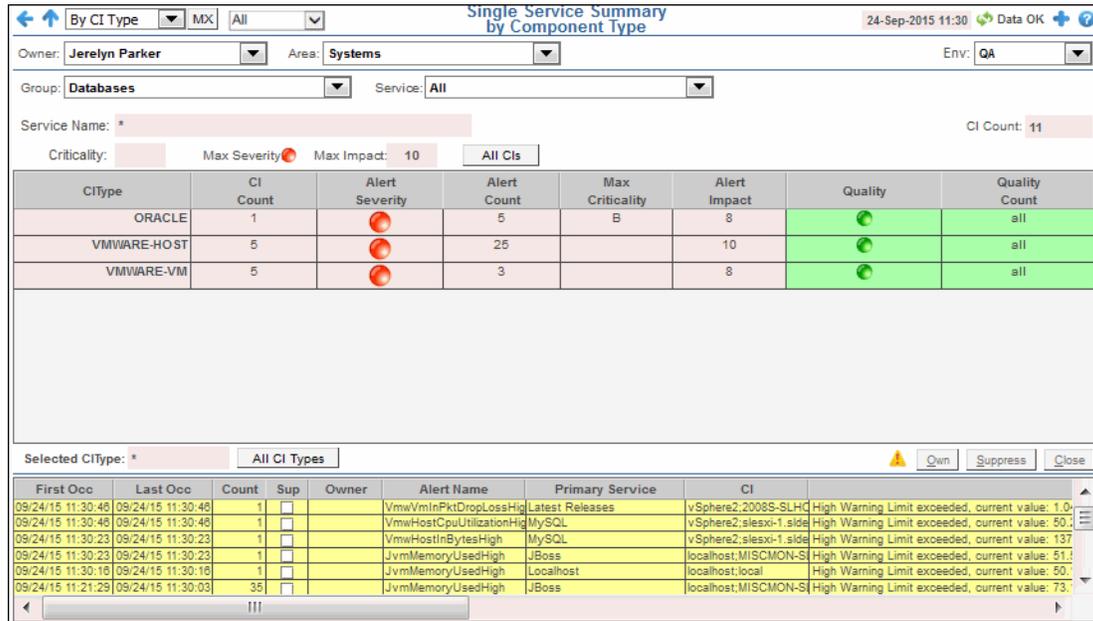
- **"Service By CI Type"**: Table of alert states for a Service organized CI Type, with general alert information.
- **"Service Summary"**: Table of CIs by Service, with detailed alert information.
- **"Service Health Heatmap" on page 137**: Heatmap of CIs by Service, with the option to filter by Owner, Area, Group, Environment and alert Metric, and show CI Names.

### Service By CI Type

View alert states for a Service organized CI Type and manage alerts. See the CI Count for a Service and obtain alert statistics for CI Types such as Alert Severity and Alert Count. Use this display to summarize alerts occurring for a Service and determine which component types are malfunctioning. View a list of all active alerts associated with the CI Type.

The upper table lists all CI Types for the selected Service with alert details such as the highest Alert Severity. Each row is a CI Type. The color of each row represents the maximum Alert Impact for the row. Select a row that has an active alert (the Alert Severity is red or yellow) to view the active alerts in the lower table. Double-click a row to view a detailed list of CIs associated with the CI Type in the **Service Summary** display. In the lower table, each row is a different alert for a CI that is associated with the CI Type selected from the upper table.

Use the available drop-down menus or right-click to filter data shown in the display. Click Sort  to order column data.



| CType       | CI Count | Alert Severity  | Alert Count | Max Criticality | Alert Impact | Quality   | Quality Count |
|-------------|----------|---|-------------|-----------------|--------------|---|---------------|
| ORACLE      | 1        |  | 5           | B               | 8            |  | all           |
| VMWARE-HOST | 5        |  | 25          |                 | 10           |  | all           |
| VMWARE-VM   | 5        |  | 3           |                 | 8            |  | all           |

| First Occ         | Last Occ          | Count | Sup                      | Owner | Alert Name                | Primary Service | CI                      |
|-------------------|-------------------|-------|--------------------------|-------|---------------------------|-----------------|-------------------------|
| 09/24/15 11:30:48 | 09/24/15 11:30:48 | 1     | <input type="checkbox"/> |       | VmwVmInPktDropLossHigh    | Latest Releases | vSphere2.2008S-SLHC     |
| 09/24/15 11:30:48 | 09/24/15 11:30:48 | 1     | <input type="checkbox"/> |       | VmwHostCpuUtilizationHigh | MySQL           | vSphere2.slesxi-1.slide |
| 09/24/15 11:30:23 | 09/24/15 11:30:23 | 1     | <input type="checkbox"/> |       | VmwHostInBytesHigh        | MySQL           | vSphere2.slesxi-1.slide |
| 09/24/15 11:30:23 | 09/24/15 11:30:23 | 1     | <input type="checkbox"/> |       | JvmMemoryUsedHigh         | JBoss           | localhost.MISCMON-S     |
| 09/24/15 11:30:16 | 09/24/15 11:30:16 | 1     | <input type="checkbox"/> |       | JvmMemoryUsedHigh         | Localhost       | localhost.local         |
| 09/24/15 11:21:29 | 09/24/15 11:30:03 | 35    | <input type="checkbox"/> |       | JvmMemoryUsedHigh         | JBoss           | localhost.MISCMON-S     |

### Title Bar:

Indicators and functionality might include the following:

  Open the previous and upper display.  and  navigate to displays commonly accessed from this display.

 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 CIs: 3,047 The number of items in the display.

 Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

**Note:** The "Up" Arrow () opens the most recently viewed display under "Multi Area Service Views". For example, if the last viewed display under **Multi Area Service Views** was **Services CI Type Summary**, then clicking  opens the "Services CI Type Summary" display.

**Filter By:**

The following filtering options are typically included:

**Owner:** Choose an Owner to see metrics for Areas associated with that Owner.

**Area:** Choose an Area to see metrics for Groups associated with that Area and Owner.

**Group:** Choose a Group to see metrics for Services associated with that Group, Area and Owner.

**Service:** Choose a Service to see metrics for Environments associated with that Service, Group, Area and Owner.

**Env:** Choose an Environment to see metrics for Environments associated with that Service, Group, Area and Owner.

**Fields and Data**

This display includes:

|                     |   |
|---------------------|---|
| <b>Service Name</b> | The name of the selected Service.   |
| <b>CI Count</b>     | The total number of configurable items associated with the selected Service.  |
| <b>PROD</b>         | The number of CI instances associated with the Service in production environments.  |
| <b>DEV</b>          | The number of CI instances associated with the Service in development environments.   |
| <b>DR</b>           | The number of CI instances associated with the Service in the DR environment.   |
| <b>UAT</b>          | The number of CI instances associated with the Service in the UAT environment.  |
| <b>Criticality</b>  | The Criticality (rank of importance) specified in the Service Data Model (CMDB) by your administrator. Criticality values are listed in the Component Views / CI Service Table display, which range from <b>A</b> to <b>E</b> , where <b>A</b> is the highest Criticality. This value is used to determine the value for Alert Impact.  |
| <b>Max Severity</b> | The highest Alert Severity value of any CI associated with the selected Service. Values range from <b>0</b> to <b>2</b> , where <b>2</b> is the greatest Severity: <ul style="list-style-type: none"> <li><span style="color: red;">●</span> One or more alerts exceeded their ALARM LEVEL threshold in the Service.</li> <li><span style="color: yellow;">●</span> One or more alerts exceeded their WARNING LEVEL threshold in the Service.</li> <li><span style="color: green;">●</span> No alert thresholds have been exceeded in the Service.</li> </ul> |
| <b>Max Impact</b>   | The highest Alert Impact value of any CI associated with the selected Service.  |
| <b>All CIs</b>      | Opens the <b>Service Summary</b> display.   |

**(CI Type Table)**

This table lists all CI Types for the selected Service. Each row in the table is a CI Type. Click a row to view details in the lower table about alerts associated with the CI Type. Double-click a row to drill-down to Service Summary display describing alert details relevant to this CI Type.

|                         |  |
|-------------------------|--|
| <b>CIType</b>           | The type of CI.  |
| <b>CI Count</b>         | The total number of configurable items associated with the CI Type.  |
| <b>Alert Severity</b>   | The highest Alert Severity value of any CI associated with the selected Service. Values range from <b>0</b> to <b>2</b> , where <b>2</b> is the greatest Severity: <ul style="list-style-type: none"> <li> One or more alerts exceeded their ALARM LEVEL threshold.</li> <li> One or more alerts exceeded their WARNING LEVEL threshold.</li> <li> No alert thresholds have been exceeded.</li> </ul> |
| <b>Alert Count</b>      | The total number of active alerts for the CIs associated with the CI Type.   |
| <b>Quality</b>          | Shows whether performance metrics are being received from the CIs associated with the CI Type. <ul style="list-style-type: none"> <li> One or more performance metrics are not being received from the CIs associated with the CI Type.</li> <li> All performance metrics are being received from the CIs associated with the CI Type.</li> </ul>  |
| <b>Quality Count</b>    | Shows the number of CIs for that CI Type that have a known state. It displays all when that number is the total count of CI's. <ul style="list-style-type: none"> <li> One or more performance metrics are not being received from the CIs associated with the CI Type.</li> <li> All performance metrics are being received from the CIs associated with the CI Type.</li> </ul>  |
| <b>Selected CI Type</b> | Shows the CI Type selected in the upper table.   |
| <b>All CI Types</b>     | Shows all active alerts for all CIs associated with the CI Type selected.  |

### Alerts Table

This table lists all open, unsuppressed alerts associated with the selection in the upper table. Each row in the table is a different active alert. Select one or more rows, right-click to open the **Alert** popup menu and choose an action to perform on the alert(s): **Details**, **Own**, **Suppress**, **Close**, **Annotate** or **Options**. Use the sort  button to order column data. The row color indicates the following:

-  Red indicates that one or more alerts exceeded their ALARM LEVEL threshold in the table row.
-  Yellow indicates that one or more alerts exceeded their WARNING LEVEL threshold in the table row.
-  Green indicates that no alerts exceeded their WARNING or ALARM LEVEL threshold in the table row.
-  Gray indicates that the alert engine that is hosting the alert is not connected, not enabled or not initialized. When you select a gray row the **Own**, **Suppress**, **Unsuppress**, **Close**, **Annotate**, **Options** and **Details** buttons are disabled.

 Opens the **Alerts Table** display in a new window.

- Own** Click to assign an Owner for the selected alert(s). This button is only visible to users with Administrator privileges. This button is disabled when you select a gray row.
- Suppress** Click to suppress the selected alert(s). This button is only visible to users with Administrator privileges. This button is disabled when you select a gray row.
- Close** Click to close the selected alert(s). This button is only visible to users with Administrator privileges. This button is disabled when you select a gray row.
- Details** Select an alert, right-click and choose **Alert/Details** to open the **Alert Detail** window and view alert details. Or, double-click an alert to open the **Alert Detail** window.
- Annotate** Select one or more alerts, right-click and choose **Alert/Annotate** to open the **Set Owner and Comments** dialog and enter comments or change alert owner.

|                        |   |
|------------------------|---|
| <b>Options</b>         | Select an alert, right-click and choose <b>Alert/Options</b> to open the <b>Alert Options</b> dialog. This dialog is provided for customizing your own alert options. |
| <b>First Occ</b>       | The date and time the alert first occurred.   |
| <b>Last Occ</b>        | The date and time the alert last occurred.  |
| <b>Count</b>           | The number of times the alert was generated.  |
| <b>Sup</b>             | When checked, the alert has been suppressed by a user.  |
| <b>Owner</b>           | The named owner assigned by the administrator.  |
| <b>Alert Name</b>      | The name of the alert.  |
| <b>Primary Service</b> | The name of the Service with which the alert is associated.   |
| <b>CI</b>              | The CI alert source.  |
| <b>Alert Text</b>      | Description of the alert.   |
| <b>AlertClass</b>      | An optional alert field which can be used when integrating with other alerting systems.   |
| <b>CompID</b>          | An optional alert field which can be used when integrating with other alerting systems.   |
| <b>TicketID</b>        | An optional alert field which can be used when integrating with other alerting systems.   |
| <b>TicketGroup</b>     | An optional alert field which can be used when integrating with other alerting systems.   |

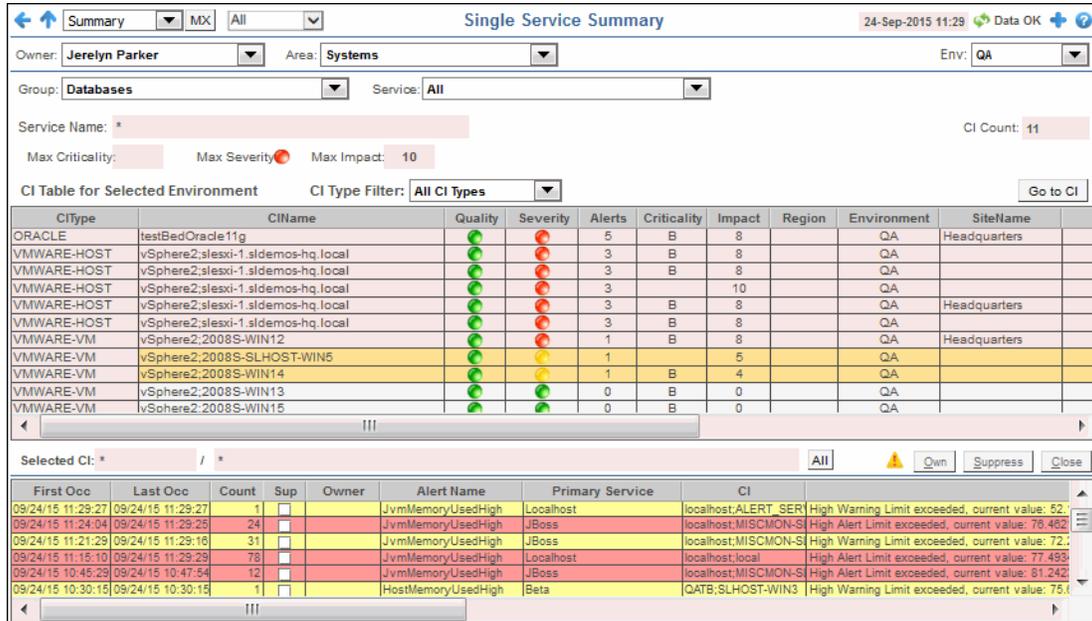
## Service Summary

View alert states at the component-level per Service, manage alerts, obtain component details such as the number of active alerts for the component, which operating system the component uses and the Data Server associated with the component.

Use this display to monitor a Service in a specific Group or Environment anywhere in your organization, and determine whether a component is malfunctioning.

The table lists all components for a selected Service. Each row in the table is a different CI (configurable item or component). Each CI can have multiple alerts. Click a row to view details in the lower table about any alerts associated with the CI.

Use the available drop-down menus or right-click to filter data shown in the display. Click Sort  to order column data. Double-click a row to drill-down to a summary page describing information relevant to this CI. This action can also be performed by selecting (a single click) on a row and selecting the **Go to CI** button.

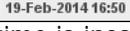


The screenshot shows the 'Single Service Summary' interface. At the top, there are navigation and filter controls including 'Summary', 'MX', 'All', and 'Data OK'. Below this, the user 'Jeryln Parker' is identified, along with 'Area: Systems' and 'Env: QA'. The 'Group' is set to 'Databases' and 'Service' to 'All'. A search bar for 'Service Name' is present, with a 'CI Count: 11' indicator. Below the search bar, there are fields for 'Max Criticality', 'Max Severity', and 'Max Impact: 10'. A 'CI Table for Selected Environment' is displayed with a 'CI Type Filter' set to 'All CI Types' and a 'Go to CI' button. The table has columns for CIType, CIName, Quality, Severity, Alerts, Criticality, Impact, Region, Environment, and SiteName. The rows are color-coded: green for good status, yellow for warning, and red for high severity. Below the table, there are buttons for 'Own', 'Suppress', and 'Close'. At the bottom, a 'Selected CI' section shows a list of alerts with columns for 'First Occ', 'Last Occ', 'Count', 'Sup', 'Owner', 'Alert Name', 'Primary Service', and 'CI'.

### Title Bar:

Indicators and functionality might include the following:

  Open the previous and upper display.  and  navigate to displays commonly accessed from this display.

 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 CIs: 3,047 The number of items in the display.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

**Note:** The "Up" Arrow () opens the most recently viewed display under "Multi Area Service Views". For example, if the last viewed display under **Multi Area Service Views** was **Services CI Type Summary**, then clicking  opens the "Services CI Type Summary" display.

### Row Color Code:

Tables with colored rows indicate the following:

-  Red indicates that one or more alerts exceeded their ALARM LEVEL threshold in the table row.
-  Yellow indicates that one or more alerts exceeded their WARNING LEVEL threshold in the table row.
-  Green indicates that no alerts exceeded their WARNING or ALARM LEVEL threshold in the table row.

**Filter By:**

Use the available drop-down menus to filter data shown in the table. The display might include these filtering options:

**Owner:** Choose an Owner to see metrics in the heatmap for Areas associated with that Owner.

**Area:** Choose an Area to see metrics in the heatmap for Groups associated with that Area and Owner.

**Group:** Choose a Group to see metrics in the heatmap for Services associated with that Group, Area and Owner.

**Service:** Choose a Service to see metrics in the heatmap for Environments associated with that Service, Group, Area and Owner.

**Env:** Choose an Environment to see metrics in the heatmap for Environments associated with that Service, Group, Area and Owner.

**Fields and Data**

This display includes:

|                     |  |
|---------------------|--|
| <b>Service Name</b> | The name of the selected Service.  |
| <b>Criticality</b>  | The Criticality (rank of importance) specified in the Service Data Model (CMDB) by your administrator. Criticality values are listed in the Component Views / CI Service Table display, which range from <b>A</b> to <b>E</b> , where <b>A</b> is the highest Criticality. This value is used to determine the value for Alert Impact. |
| <b>CI Count</b>     | The total number of configurable items associated with the selected Service.   |
| <b>PROD</b>         | The number of CI instances associated with the Service in production environments.   |
| <b>DEV</b>          | The number of CI instances associated with the Service in development environments.  |
| <b>DR</b>           | The number of CI instances associated with the Service in the DR environment.  |
| <b>UAT</b>          | The number of CI instances associated with the Service in the UAT environment.   |

**CI Table for Selected Environment**

This table lists all CIs for the selected Environment. Each row in the table is a CI. Each CI can have multiple alerts. Click a row to view details about any alerts associated with the CI in the lower table. Double-click a row to drill-down to a summary page describing information relevant to this CI. This action can also be performed by selecting (a single click) on a row and selecting the **Go to CI** button.

|                       |   |
|-----------------------|---|
| <b>CI Type Filter</b> | Select a CI Type to display in the table or select All CI Types.  |
| <b>Go to CI</b>       | Drill-down to a summary page describing information relevant to this CI.  |
| <b>CIType</b>         | The type of CI.   |
| <b>Quality</b>        | Shows whether performance metrics are being received from the CI:<br> Performance metrics are not being received from the CI.<br> Performance metrics are being received from the CI.   |
| <b>Severity</b>       | Shows the most critical alert state for the selected CI:<br> One or more alerts exceeded their ALARM LEVEL threshold.<br> One or more alerts exceeded their WARNING LEVEL threshold.<br> No alert thresholds have been exceeded. |
| <b>Alerts</b>         | The number of currently active alerts for the selected CI.  |
| <b>Region</b>         | The name of the Region for the CI.  |
| <b>SiteName</b>       | The name of the Site for the CI.  |
| <b>OSType</b>         | The operating system currently running on the CI.   |

|                    |   |
|--------------------|---|
| <b>City</b>        | The name of the City for the CI.  |
| <b>Country</b>     | The name of the Country for the CI.                                       |
| <b>Data Server</b> | The name of the Data Server with which the CI is associated.              |
| <b>Selected CI</b> | Shows the CI Type selected in the upper table.                            |
| <b>All</b>         | Shows all active alerts for all CIs associated with the CI Type selected. |

### Alerts Table

This table lists all open, unsuppressed alerts associated with the selection in the upper table. Each row in the table is a different active alert. Select one or more rows, right-click to open the **Alert** popup menu and choose an action to perform on the alert(s): **Details**, **Own**, **Suppress**, **Close**, **Annotate** or **Options**. Use the sort  button to order column data. The row color indicates the following:

-  Red indicates that one or more alerts exceeded their ALARM LEVEL threshold in the table row.
-  Yellow indicates that one or more alerts exceeded their WARNING LEVEL threshold in the table row.
-  Green indicates that no alerts exceeded their WARNING or ALARM LEVEL threshold in the table row.
-  Gray indicates that the alert engine that is hosting the alert is not connected, not enabled or not initialized. When you select a gray row the **Own**, **Suppress**, **Unsuppress**, **Close**, **Annotate**, **Options** and **Details** buttons are disabled.

 Opens the **Alerts Table** display in a new window.

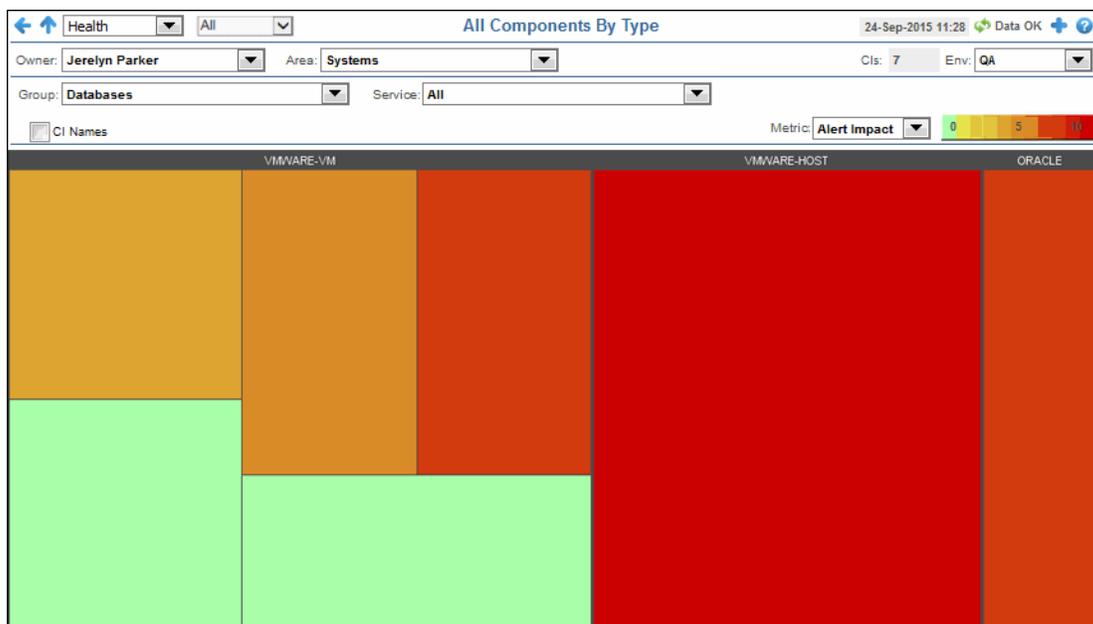
- Own** Click to assign an Owner for the selected alert(s). This button is only visible to users with Administrator privileges. This button is disabled when you select a gray row.
- Suppress** Click to suppress the selected alert(s). This button is only visible to users with Administrator privileges. This button is disabled when you select a gray row.
- Close** Click to close the selected alert(s). This button is only visible to users with Administrator privileges. This button is disabled when you select a gray row.
- Details** Select an alert, right-click and choose **Alert/Details** to open the **Alert Detail** window and view alert details. Or, double-click an alert to open the **Alert Detail** window.
- Annotate** Select one or more alerts, right-click and choose **Alert/Annotate** to open the **Set Owner and Comments** dialog and enter comments or change alert owner.
- Options** Select an alert, right-click and choose **Alert/Options** to open the **Alert Options** dialog. This dialog is provided for customizing your own alert options.

|                        |   |
|------------------------|---|
| <b>First Occ</b>       | The date and time the alert first occurred.   |
| <b>Last Occ</b>        | The date and time the alert last occurred.  |
| <b>Count</b>           | The number of times the alert was generated.  |
| <b>Sup</b>             | When checked, the alert has been suppressed by a user.                                  |
| <b>Owner</b>           | The named owner assigned by the administrator.  |
| <b>Alert Name</b>      | The name of the alert.  |
| <b>Primary Service</b> | The name of the Service with which the alert is associated.                             |
| <b>CI</b>              | The CI alert source.  |
| <b>Alert Text</b>      | Description of the alert.   |
| <b>AlertClass</b>      | An optional alert field which can be used when integrating with other alerting systems. |
| <b>CompID</b>          | An optional alert field which can be used when integrating with other alerting systems. |
| <b>TicketID</b>        | An optional alert field which can be used when integrating with other alerting systems. |
| <b>TicketGroup</b>     | An optional alert field which can be used when integrating with other alerting systems. |

## Service Health Heatmap

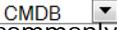
View heatmap of alert states for CIs associated with a Service. The heatmap organizes CIs by the Service selected. Each rectangle in the heatmap represents a CI (for example, **localhost-14**). Each Metric (selected from the drop-down menu) has a color gradient bar that maps relative values to colors.

Use the available drop-down menus or right-click to filter data shown in the display. Use the check-boxes  to include or exclude labels in the heatmap. Move your mouse over a rectangle to see additional information. By default, this display shows Alert Impact.



**Title Bar:**

Indicators and functionality might include the following:

  Open the previous and upper display.  and  navigate to displays commonly accessed from this display.

 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 CIs: 3,047 The number of items in the display.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

**Note:** The “Up” Arrow () opens the most recently viewed display under “Multi Area Service Views”. For example, if the last viewed display under **Multi Area Service Views** was **Services CI Type Summary**, then clicking  opens the “Services CI Type Summary” display.

**Filter By:**

The following filtering options are typically included:

**Owner:** Choose an Owner to see metrics for Areas associated with that Owner.

**Area:** Choose an Area to see metrics for Groups associated with that Area and Owner.

**Group:** Choose a Group to see metrics for Services associated with that Group, Area and Owner.

**Service:** Choose a Service to see metrics for Environments associated with that Service, Group, Area and Owner.

**Env:** Choose an Environment to see metrics for Environments associated with that Service, Group, Area and Owner.

**Metric:**

Choose the type of metric to show in the heatmap. Each metric has its own gradient bar that maps relative values to colors:

**Alert Impact** The product of the maximum Alert Severity of alerts in the heatmap rectangle multiplied by the maximum Criticality of alerts in the heatmap rectangle. Values range from **0** - **10**, as indicated in the color gradient  bar, where **10** is the highest Alert Impact.

**Alert Severity** The maximum level of alerts in the heatmap rectangle. Values range from **0** - **2**, as indicated in the color gradient  bar, where **2** is the highest Alert Severity.

 Red indicates that one or more metrics have reached their alarm threshold. Metrics that have exceeded their specified ALARM LEVEL threshold have an Alert Severity value of **2**.

 Yellow indicates that one or more metrics have reached their alarm threshold. Metrics that have exceeded their specified WARNING LEVEL threshold have an Alert Severity value of **1**.

 Green indicates that no metrics have reached their alert thresholds. Metrics that have not exceeded their specified thresholds have an Alert Severity value of **0**.

|                    |   |
|--------------------|---|
| <b>Alert Count</b> | The total number of critical and warning alerts in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average alert count.  |
| <b>Criticality</b> | The maximum level of Criticality (rank of importance) in the heatmap rectangle. Values range from 1 to 5, as indicated in the color gradient  bar, where 5 is the highest Criticality.<br>Criticality is specified in the Service Data Model (CMDB) by your administrator. Criticality values are listed in the <b>Component Views</b> - " <b>CI / Service Table</b> " display, which range from <b>A</b> to <b>E</b> , where <b>A</b> is the highest Criticality (level <b>5</b> maps to a Criticality of <b>A</b> and level <b>1</b> maps to a Criticality of <b>E</b> with equally spaced intermediate values). |

## Key Metrics Views

The Key Metrics (KM) feature is an entirely new way of looking at and interpreting application health and performance data.

In contrast to the traditional Alert Impact view showing your ACTIVE alerts and their impact on the overall application or service, the Key Metrics view shows how close a metric is approaching its threshold over a period of time – both before and after the alert threshold is reached.

This allows you to both proactively anticipate performance problems BEFORE the alert threshold is crossed as well analyze the circumstances that led up to error conditions AFTER you got an alert. Armed with this knowledge, you can avert disasters before they happen and resolve problems faster after they happen.

RTView does this by correlating the most valuable key metrics over multiple components within a service and displaying them in context with both real-time and historical data. This is valuable because health problems in one component may be caused by performance problems in another and only by viewing each of these metrics in context with one another over a period of time are you able to visually link the relationship between troubled components.

It is important to note that your Alert Impact heatmaps may look very different from your Key Metrics heatmaps given that KM will indicate potential threats BEFORE they show up as alerts.

Data is filtered by the \$rtvOwnerMask, \$rtvAreaMask, \$rtvGroupMask and \$rtvServiceMask values for the logged in user. For details, see **Configure User and Role Management**.

### Dependencies

The KM package is dependent on the Metric Explorer package. Both must be included in your project in order for KM to work. If you are upgrading from a version previous to 1.5.0 and have not added Metric Explorer to your project, see the *RTView Enterprise Monitor® User's Guide* **Upgrade Notes** section for information about including it.

Displays in this View are:

- ["Service KM Heatmap" on page 140](#): Heatmap of Key Metrics current data for one or more Services in your CMDB hierarchy.
- ["Service KM Table" on page 143](#): Table of Key Metrics current data for one or more Services.
- ["Service KM History" on page 147](#): History heatmap of Key Metrics historical data for one or more Services.
- ["Service KM History \(Alt\)" on page 151](#): History heatmap of Key Metrics historical data for one or more Services.

This section also includes:

- [“Available KM Metrics and Alerts” on page 156](#): List and descriptions of available key metrics.

## Service KM Heatmap

View Key Metrics current data for one or more Services in your CMDB hierarchy in a heatmap. The **Service KM Heatmap** provides one view of all your Services and whether they are approaching an alert condition.

The most important overview of your Services is the Alert Impact View. The Alert Impact View lets you know what is a problem NOW. The **Service KM Heatmap** gives you a proactive view of which Services might be approaching a serious problem so that you can take action before they become critical. First look at the Alert Impact View to address current issues, then move to the **Service KM Heatmap** for proactive analysis.

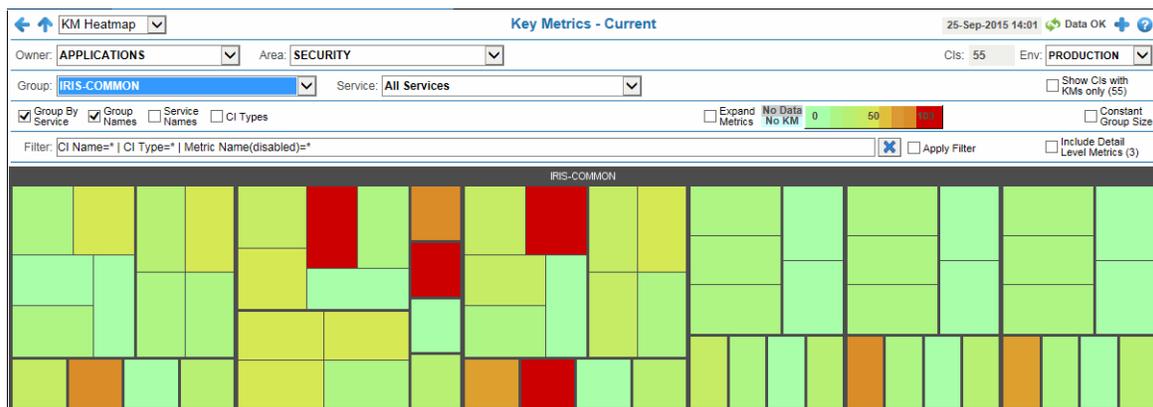
The colors in the display are determined by the **Threshold %** and **Quality** values. As shown in the color gradient bar , a rectangle is green when the value is close to **0** changing to yellow, orange and red as the value gets closer to **100**. Values at or over **100** are shown as red.

-  Red indicates the value is at or over **100**.
-  Yellow indicates the value is between **0** and **100**.
-  Green indicates the value is close to **0**.
-  Teal indicates no KMs are defined for the CI Type.
-  Grey indicates KMs are defined for the CI Type but no data was returned when the metric was queried.

Select **Group By Service** to include the **Group** and **Service** labels in the display. Select **Expand Metrics** to include the **Metric Name**, **Metric Value** and **Threshold** labels in the display.

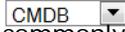
For details about the Key Metrics feature, see [“Key Metrics Views” on page 139](#).

Use the available drop-down menus or right-click to filter data shown in the display. Drill-down and investigate by double-clicking a rectangle in the display to view details in the corresponding display.



**Title Bar:**

Indicators and functionality might include the following:

  Open the previous and upper display.  and  navigate to displays commonly accessed from this display.

 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 The number of items in the display.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

**Note:** The “Up” Arrow () opens the most recently viewed display under “Multi Area Service Views”. For example, if the last viewed display under **Multi Area Service Views** was **Services CI Type Summary**, then clicking  opens the “Services CI Type Summary” display.

**Filter By:**

The following filtering options are typically included:

**Owner:** Choose an Owner to see metrics for Areas associated with that Owner.

**Area:** Choose an Area to see metrics for Groups associated with that Area and Owner.

**Group:** Choose a Group to see metrics for Services associated with that Group, Area and Owner.

**Service:** Choose a Service to see metrics for Environments associated with that Service, Group, Area and Owner.

**Env:** Choose an Environment to see metrics for Environments associated with that Service, Group, Area and Owner.

You can also filter KMs by **CI Name**, **CI Type** and **Metric Name**. To modify the **CI Name**, **CI Type** or **Metric Name** filter, right-click on an item in the display and select **CI Name**, **CI Type** or **Metric Name** from **Add To Filter** or **Remove From Filter**, then click **Apply Filter** . The **Filter:** field shows filter parameters and is highlighted in blue after it is applied. Click Clear  to clear the filter.

**Note:** The **Metric Name** filter is only editable or applied when the **Expand Metrics** checkbox is selected.

**Fields and Data**

This display includes:

**Show CIs with KMs only (x)** When selected, hides any CIs that do not have KMs defined. The number following the label (x) is the number of CIs with KMs defined.

**Group By Service** When selected, includes the **Service Group** and **Service Name** in the KM data. CIs that are included in multiple Services will appear multiple times, once for each Service they are associated with.

**Group Names** When selected, includes the **Group Name** in the display. Only available if **Group By Service** is selected.

**Service Names** When selected, includes both the **Group Name** and **Service Name** in the display. Only available if **Group By Service** is selected.

- CI Types** When selected, includes the CI Type in the display. If **Group By Service** is selected, this is shown in addition to the **Group Name** and **Service Name**.
- Expand Metrics** When selected, shows one element (for example, a table row, status history row or heatmap cell) per KM per CI. When not selected, shows one element per CI with the aggregated value of all KMs for that CI. KMs are aggregated by taking the maximum **Threshold %** and the minimum **Quality** value for the CI.
-  The **No Data No KM** indicates the **Quality** value for the data. If no KMs are defined for the CI Type, the **Quality** is set to **0** and the color is shown as teal. If KMs are defined for the CI Type, but no data was returned when the metric was queried, the **Quality** is set to **-1** and the color is shown as gray. If data was received for the metric, the **Quality** is set to **1** and the color is set based on the Threshold % value as described above. If the Expand Metrics checkbox is selected, this is the Quality of a single KM. If the Expand Metrics checkbox is not selected, this is the lowest Quality for all of the KMs on the CI.
-  The gradient bar is the legend for the display colors, which are determined by the **Threshold %** and **Quality** values. A row is green when the value is close to **0** changing to yellow, orange and red as the value gets closer to **100**. Values at or over **100** are shown as red.
-  Red indicates the value is at or over **100**.
  -  Yellow indicates the value is between **0** and **100**.
  -  Green indicates the value is close to **0**.
  -  Teal indicates no KMs are defined for the CI Type.
  -  Grey indicates KMs are defined for the CI Type but no data was returned when the metric was queried.
- Constant Group Size** When selected, Groups are equally sized in the display. When not selected, Groups are sized according to the number of elements in the Group (a Group containing the most elements is rendered with the largest rectangle).
- Filter:** Shows the current filter parameters and is highlighted in blue when the filter is applied. By default, all data is shown:  
**CI Name=\* | CI Type=\* | Metric Name(disabled)=\***  
 To modify the filter of KMs displayed, right-click on an item in the table and select **CI Name**, **CI Type** or **Metric Name** from **Add To Filter** or **Remove From Filter**, then click **Apply Filter** . Click **Clear**  to clear the filter.
-  Clears the filter parameters.
  -  Applies the filter parameters.
- Include Detail Level Metrics (##)** When selected, includes **Detail Level** KMs in the display. When not selected, only includes high level KMs. The number following the label (**x**) is the number of detail level metrics available for the currently displayed KMs.
- Mouseover**  
See the following details via mouseover:
- Group** The Group name. For displays showing current KM data, this column is only included if the **Group By Service** checkbox is selected. The table shows one row per Group that a CI is associated with.
- Service** The Service name. For displays showing current KM data, this column is only included if the **Group By Service** checkbox is selected. The table shows one row Service that a CI is associated with.
- CI Type** The CI Type.
- CI Name** The CI Name.

|                     |  |
|---------------------|--|
| <b>Metric Name</b>  | The name of the metric. This is only included if the <b>Expand Metrics</b> checkbox is selected. It is the user-friendly metric name, which corresponds to a numeric column in one of the caches associated with the CI Type. To see which cache column provides data for this metric, navigate to <b>Architecture - "RTView KM Defs"</b> . In the table, look in the <b>CITYPE</b> and <b>SELECTOR</b> columns to find the row for your metric. The <b>CACHENAME</b> column lists the name of the cache containing the metric and the <b>METRICNAME</b> column contains the name of the cache column.   |
| <b>Metric Value</b> | The value of the metric. This is only included if the <b>Expand Metrics</b> checkbox is selected.  |
| <b>Threshold</b>    | The <b>Alarm Level</b> value for the alert associated with the metric. This column is only included if the <b>Expand Metrics</b> checkbox is selected. To see which alert is associated with this metric, navigate to <b>Architecture - "RTView KM Defs"</b> . In the table, look in the <b>CITYPE</b> and <b>SELECTOR</b> columns to find the row for your metric. The <b>AlertName</b> column lists the name of the alert associated with the metric. NOTE: When looking up the alert threshold for a KM, RTView Enterprise Monitor first looks to see if there is an alert override on the alert where the <b>AlertIndex</b> exactly matches the CIName (ignoring the <b>~</b> and <b>;</b> delimiters). If an exact match is found, the override <b>Alarm Level</b> is used. If no exact match is found, the <b>Default Alarm Level</b> for the alert is used. Note that some alert overrides only contain a partial index and are not used for KM thresholds.   |
| <b>Threshold %</b>  | The percent of the <b>Metric Value</b> against the <b>Threshold</b> . If the <b>Expand Metrics</b> checkbox is selected, this is the <b>Threshold %</b> of a single KM. If the <b>Expand Metrics</b> checkbox is not selected, this is the highest <b>Threshold %</b> for all of the KMs on the CI. Depending on the KM, different scales are applied. By default, no scale is applied, but values are limited to <b>0-10000</b> . For memory metrics, an exponential scale is applied to the <b>Threshold %</b> so that lower values are diminished. For metrics where the alert is a low alert (an alert that executes when the value goes below the threshold), an inverse scale is applied. The colors in the KM displays are based on this value going from green when the value is close to <b>0</b> changing to yellow to orange to red as the value gets closer to <b>100</b> . Values at or over <b>100</b> are shown as red  . To see which <b>CalcMode</b> is used for this metric, navigate to <b>Architecture - "RTView KM Defs"</b> . In the table, look in the <b>CITYPE</b> and <b>SELECTOR</b> columns to find the row for your metric. The <b>CalcMode</b> column lists the type of scale that is applied to the metric. If blank, no scale is applied. |
| <b>Quality</b>      | Indicates the quality of the data. If the <b>Expand Metrics</b> checkbox is selected, the value is for a single KM on the CI. If the <b>Expand Metrics</b> checkbox is not selected, the value is for all the KMs on the CI, and shows the lowest <b>Quality</b> of those KMs. Possible values are:<br><b>0</b> = No KMs are defined for the CI Type (the color is shown as teal).<br><b>-1</b> = KMs are defined for the CI Type, but no data was returned when the metric was queried (the color is shown as gray).<br><b>1</b> = Data was received for the metric (the color is set based on the <b>Threshold %</b> value).   |
| <b>Time</b>         | The time stamp of the data.  |

## Service KM Table

View Key Metrics current data for one or more Services in your CMDB hierarchy in a table.

The **Service KM Table** shows the same information as the **"Service KM Heatmap"**. Use this display if, for example, you prefer to sort by **Service** or **Threshold %** to identify the Service for which you want to perform proactive health analysis.

The colors of the table rows are determined by the **Threshold %** and **Quality** values. As shown in the color gradient bar , a row is green when the value is close to **0** changing to yellow, orange and red as the value gets closer to **100**. Values at or over **100** are shown as red.

- Red indicates the value is at or over **100**.
- Yellow indicates the value is between **0** and **100**.
- Green indicates the value is close to **0**.
- Teal indicates no KMs are defined for the CI Type.
- Grey indicates KMs are defined for the CI Type but no data was returned when the metric was queried.

Select **Group By Service** to include the **Group** and **Service** columns in the table. Select **Expand Metrics** to include the **Metric Name**, **Metric Value** and **Threshold** columns in the table.

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**Note:** The **CI**s label shows the number of CIs in the table. However, if the CI is associated with multiple Services it is only counted once.

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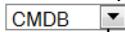
For details about the Key Metrics feature, see [“Key Metrics Views” on page 139](#).

Use the available drop-down menus or right-click to filter data shown in the display. Click Sort to order column data. Drill-down and investigate by double-clicking a row in the table to view details in the corresponding display.

| Group       | Service      | CI Type     | CI Name                          | Threshold % | Quality | Time                 |
|-------------|--------------|-------------|----------------------------------|-------------|---------|----------------------|
| IRIS-COMMON | SCAN-CHECK-1 | VMWARE-HOST | vSphereW/esxi-1 west             | 42.0        | 1       | 25-Sep-2015 14:12:31 |
| IRIS-COMMON | SCAN-CHECK-1 | VMWARE-VM   | vSphereW/MIRIS1051               | 68.8        | 1       | 25-Sep-2015 14:12:31 |
| IRIS-COMMON | SCAN-CHECK-1 | EMS-QUEUE   | tcp://MIRIS1001:7222:SCAN-QUEUE  | 22.2        | 1       | 25-Sep-2015 14:12:31 |
| IRIS-COMMON | SCAN-CHECK-1 | EMS-QUEUE   | tcp://MIRIS1002:7222:SCAN-QUEUE  | 44.4        | 1       | 25-Sep-2015 14:12:31 |
| IRIS-COMMON | SCAN-CHECK-1 | EMS-QUEUE   | tcp://MIRIS1003:7222:SCAN-QUEUE  | 0.0         | 1       | 25-Sep-2015 14:12:31 |
| IRIS-COMMON | SCAN-CHECK-1 | EMS-QUEUE   | tcp://MIRIS1004:7222:SCAN-QUEUE  | 0.0         | 1       | 25-Sep-2015 14:12:31 |
| IRIS-COMMON | SCAN-CHECK-1 | BW-ENGINE   | VMIRIS1051.BW-SCAN-CHECK-SFO     | 23.6        | 1       | 25-Sep-2015 14:12:31 |
| IRIS-COMMON | SCAN-CHECK-1 | BW-ENGINE   | VMIRIS1051.BW-SCAN-CHECK-LAX     | 47.2        | 1       | 25-Sep-2015 14:12:31 |
| IRIS-COMMON | SCAN-CHECK-1 | BW-ENGINE   | VMIRIS1051.BW-SCAN-CHECK-SEA     | 18.7        | 1       | 25-Sep-2015 14:12:31 |
| IRIS-COMMON | SCAN-CHECK-1 | BW-ENGINE   | VMIRIS1051.BW-SCAN-CHECK-PDX     | 18.7        | 1       | 25-Sep-2015 14:12:31 |
| IRIS-COMMON | SCAN-CHECK-1 | EMS-SERVER  | tcp://MIRIS1051:7222             | 0.0         | 1       | 25-Sep-2015 14:12:31 |
| IRIS-COMMON | SCAN-CHECK-1 | EMS-QUEUE   | tcp://MIRIS1051:7222:CHECK-QUEUE | 0.0         | 1       | 25-Sep-2015 14:12:31 |
| IRIS-COMMON | SCAN-CHECK-1 | ORACLE      | SCAN-DB                          | 28.6        | 1       | 25-Sep-2015 14:12:31 |
| IRIS-COMMON | SCAN-CHECK-2 | VMWARE-HOST | vSphereE/esxi-1 east             | 68.1        | 1       | 25-Sep-2015 14:12:31 |
| IRIS-COMMON | SCAN-CHECK-2 | VMWARE-VM   | vSphereE/MIRIS1001               | 125.0       | 1       | 25-Sep-2015 14:12:31 |

**Title Bar:**

Indicators and functionality might include the following:

  Open the previous and upper display.  and  navigate to displays commonly accessed from this display.

 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 CIs: 3,047 The number of items in the display.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

**Note:** The “Up” Arrow () opens the most recently viewed display under “Multi Area Service Views”. For example, if the last viewed display under **Multi Area Service Views** was **Services CI Type Summary**, then clicking  opens the “Services CI Type Summary” display.

**Filter By:**

The following filtering options are typically included:

**Owner:** Choose an Owner to see metrics for Areas associated with that Owner.

**Area:** Choose an Area to see metrics for Groups associated with that Area and Owner.

**Group:** Choose a Group to see metrics for Services associated with that Group, Area and Owner.

**Service:** Choose a Service to see metrics for Environments associated with that Service, Group, Area and Owner.

**Env:** Choose an Environment to see metrics for Environments associated with that Service, Group, Area and Owner.

You can also filter KMs by **CI Name**, **CI Type** and **Metric Name**. To modify the **CI Name**, **CI Type** or **Metric Name** filter, right-click on an item in the display and select **CI Name**, **CI Type** or **Metric Name** from **Add To Filter** or **Remove From Filter**, then click **Apply Filter** .

The **Filter:** field shows filter parameters and is highlighted in blue after it is applied. Click Clear  to clear the filter.

**Note:** The **Metric Name** filter is only editable or applied when the **Expand Metrics** checkbox is selected.

**Fields and Data**

This display includes:

**Show CIs with KMs only (x)**

When selected, hides any CIs that do not have KMs defined. The number following the label (x) is the number of CIs with KMs defined.

**Group By Service**

When selected, includes the **Service Group** and **Service Name** in the KM data. CIs that are included in multiple Services will appear multiple times, once for each Service they are associated with.

**Expand Metrics**

When selected, shows one element (for example, a table row, status history row or heatmap cell) per KM per CI. When not selected, shows one element per CI with the aggregated value of all KMs for that CI. KMs are aggregated by taking the maximum **Threshold %** and the minimum **Quality** value for the CI.



The **No Data No KM** indicates the **Quality** value for the data. If no KMs are defined for the CI Type, the **Quality** is set to **0** and the color is shown as teal. If KMs are defined for the CI Type, but no data was returned when the metric was queried, the **Quality** is set to **-1** and the color is shown as gray. If data was received for the metric, the **Quality** is set to **1** and the color is set based on the Threshold % value as described above. If the Expand Metrics checkbox is selected, this is the Quality of a single KM. If the Expand Metrics checkbox is not selected, this is the lowest Quality for all of the KMs on the CI.



The gradient bar is the legend for the table row colors, which are determined by the **Threshold %** and **Quality** values. A row is green when the value is close to **0** changing to yellow, orange and red as the value gets closer to **100**. Values at or over **100** are shown as red.

-  Red indicates the value is at or over **100**.
-  Yellow indicates the value is between **0** and **100**.
-  Green indicates the value is close to **0**.
-  Teal indicates no KMs are defined for the CI Type.
-  Grey indicates KMs are defined for the CI Type but no data was returned when the metric was queried.

**Filter:** Shows the current filter parameters and is highlighted in blue when the filter is applied.

By default, all data is shown:

**CI Name=\* | CI Type=\* | Metric Name(disabled)=\***

To modify the filter of KMs displayed, right-click on an item in the table and select **CI Name**, **CI Type** or **Metric Name** from **Add To Filter** or **Remove From Filter**, then click **Apply Filter** . Click **Clear**  to clear the filter.



Clears the filter parameters.



Applies the filter parameters.

**Include Detail Level Metrics (##)**

When selected, includes **Detail Level** KMs in the display. When not selected, only includes high level KMs. The number following the label (**x**) is the number of detail level metrics available for the currently displayed KMs.

**Group**

The Group name. For displays showing current KM data, this column is only included if the **Group By Service** checkbox is selected. The table shows one row per Group that a CI is associated with.

**Service**

The Service name. For displays showing current KM data, this column is only included if the **Group By Service** checkbox is selected. The table shows one row Service that a CI is associated with.

**CI Type**

The CI Type.

**CI Name**

The CI Name.

**Metric Name**

The name of the metric. This column is only included if the **Expand Metrics** checkbox is selected. It is the user-friendly metric name, which corresponds to a numeric column in one of the caches associated with the CI Type. To see which cache column provides data for this metric, navigate to **Architecture - "RTView KM Defs"**. In the table, look in the **CITYPE** and **SELECTOR** columns to find the row for your metric. The **CACHENAME** column lists the name of the cache containing the metric and the **METRICNAME** column contains the name of the cache column.

**Metric Value**

The value of the metric. This column is only included if the **Expand Metrics** checkbox is selected.

|                    |  |
|--------------------|--|
| <b>Threshold</b>   | The <b>Alarm Level</b> value for the alert associated with the metric. This column is only included if the <b>Expand Metrics</b> checkbox is selected. To see which alert is associated with this metric, navigate to <b>Architecture - "RTView KM Defs"</b> . In the table, look in the <b>CITYPE</b> and <b>SELECTOR</b> columns to find the row for your metric. The <b>AlertName</b> column lists the name of the alert associated with the metric. NOTE: When looking up the alert threshold for a KM, RTView Enterprise Monitor first looks to see if there is an alert override on the alert where the <b>AlertIndex</b> exactly matches the CName (ignoring the ~ and ; delimiters). If an exact match is found, the override <b>Alarm Level</b> is used. If no exact match is found, the <b>Default Alarm Level</b> for the alert is used. Note that some alert overrides only contain a partial index and are not used for KM thresholds.  |
| <b>Threshold %</b> | The percent of the <b>Metric Value</b> against the <b>Threshold</b> . If the <b>Expand Metrics</b> checkbox is selected, this is the <b>Threshold %</b> of a single KM. If the <b>Expand Metrics</b> checkbox is not selected, this is the highest <b>Threshold %</b> for all of the KMs on the CI. Depending on the KM, different scales are applied. By default, no scale is applied, but values are limited to <b>0-10000</b> . For memory metrics, an exponential scale is applied to the <b>Threshold %</b> so that lower values are diminished. For metrics where the alert is a low alert (an alert that executes when the value goes below the threshold), an inverse scale is applied. The colors in the KM displays are based on this value going from green when the value is close to <b>0</b> changing to yellow to orange to red as the value gets closer to <b>100</b> . Values at or over <b>100</b> are shown as red  . To see which <b>CalcMode</b> is used for this metric, navigate to <b>Architecture - "RTView KM Defs"</b> . In the table, look in the <b>CITYPE</b> and <b>SELECTOR</b> columns to find the row for your metric. The <b>CalcMode</b> column lists the type of scale that is applied to the metric. If blank, no scale is applied. |
| <b>Quality</b>     | Indicates the quality of the data. If the <b>Expand Metrics</b> checkbox is selected, the value is for a single KM on the CI. If the <b>Expand Metrics</b> checkbox is not selected, the value is for all the KMs on the CI, and shows the lowest <b>Quality</b> of those KMs. Possible values are:<br><b>0</b> = No KMs are defined for the CI Type (the color is shown as teal).<br><b>-1</b> = KMs are defined for the CI Type, but no data was returned when the metric was queried (the color is shown as gray).<br><b>1</b> = Data was received for the metric (the color is set based on the <b>Threshold %</b> value).   |
| <b>Time</b>        | The time stamp of the data.  |

## Service KM History

View history heatmap of Key Metric data, over time, for a selected Group and Service.

This is the most important view for analyzing the correlation between a variety of Key Metrics over time that are related to a Service. You would navigate to this view if:

- you have identified a Service in the Alert Impact View that is having degradation right now. You can select the Service and navigate to the **Service KM History** display to determine if there are various factors causing the degradation.
- you have looked at the "[Service KM Heatmap](#)" or the "[Service KM Table](#)" and identified a Service that is about to become degraded. You can navigate to the **Service KM History** display to proactively analyze the Service before issues arise.

Each row in the history heatmap represents a different CI, unless the **Expand Metrics** checkbox is selected, in which case it represents a metric on a CI. The row color shows the **Threshold %** and **Quality** values.

The **Threshold %** value is rounded up to the closest **10** unless the **Quality** is less than **1**, in which case it shows the **Quality**. As shown in the color gradient bar , the color is green when the value is close to **0** changing to yellow, orange and red as the value gets closer to **100**. Values at or over **100** are shown as red.

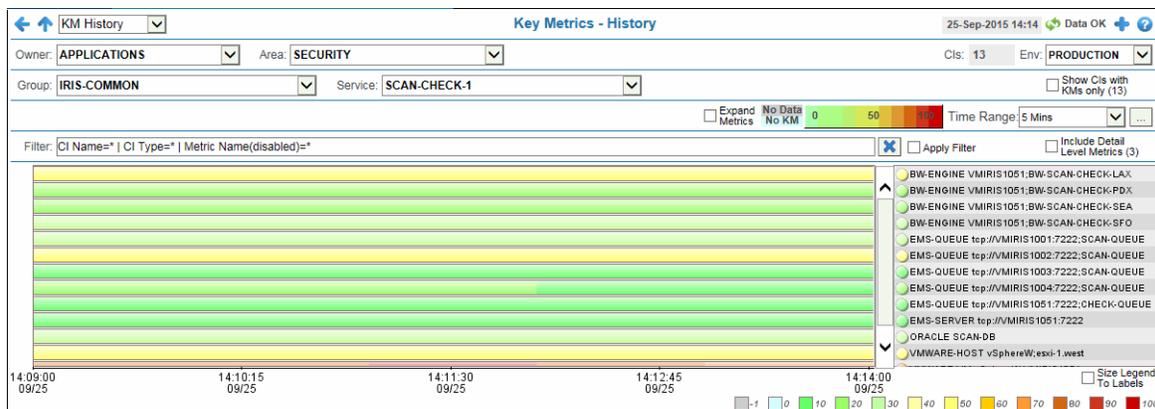
-  Red indicates the value is at or over **100**.
-  Yellow indicates the value is between **0** and **100**.
-  Green indicates the value is close to **0**.
-  Teal indicates no KMs are defined for the CI Type.
-  Grey indicates KMs are defined for the CI Type but no data was returned when the metric was queried.

CIs associated with multiple Services are shown once for the first **Group** and **Service** they were associated with, and labeled **+ x more**, where **x** is the number of additional **Groups** and **Services** the CI is associated with.

Select **Expand Metrics** to show each Key Metric in its own row and include the **Metric Name**, **Metric Value** and **Threshold** labels in the mouseover popup window.

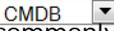
For details about the Key Metrics feature, see “[Key Metrics Views](#)” on page 139.

Use the available drop-down menus or right-click to filter data shown in the display. Drill-down and investigate by double-clicking a row to view details in the corresponding display.



### Title Bar:

Indicators and functionality might include the following:

-   Open the previous and upper display.
-  and  navigate to displays commonly accessed from this display.
-  19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
-  Cls: 3,047 The number of items in the display.

-  **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
-  Open the **Alert Views - RTView Alerts Table** display.
-  Open an instance of this display in a new window.
-  Open the online help page for this display.

**Note:** The “Up” Arrow () opens the most recently viewed display under “[Multi Area Service Views](#)”. For example, if the last viewed display under **Multi Area Service Views** was **Services CI Type Summary**, then clicking  opens the “[Services CI Type Summary](#)” display.

**Filter By:**

The following filtering options are typically included:

**Owner:** Choose an Owner to see metrics for Areas associated with that Owner.

**Area:** Choose an Area to see metrics for Groups associated with that Area and Owner.

**Group:** Choose a Group to see metrics for Services associated with that Group, Area and Owner.

**Service:** Choose a Service to see metrics for Environments associated with that Service, Group, Area and Owner.

**Env:** Choose an Environment to see metrics for Environments associated with that Service, Group, Area and Owner.

You can also filter KMs by CI Name, CI Type and Metric Name. To modify the **CI Name**, **CI Type** or **Metric Name** filter, right-click on an item and select **CI Name**, **CI Type** or **Metric Name** from **Add To Filter** or **Remove From Filter**, then click **Apply Filter** . The **Filter:** field shows filter parameters and is highlighted in blue after it is applied. Click **Clear**  to clear the filter.

---

**Note:** The **Metric Name** filter is only editable or applied when the **Expand Metrics** checkbox is selected.

---

**Fields and Data**

This display includes:

**Show CIs with KMs only (x)**

When selected, hides any CIs that do not have KMs defined. The number following the label (**x**) is the number of CIs with KMs defined.

**Expand Metrics**

When selected, shows one element (for example, a table row, status history row or heatmap cell) per KM per CI. When not selected, shows one element per CI with the aggregated value of all KMs for that CI. KMs are aggregated by taking the maximum **Threshold %** and the minimum **Quality** value for the CI.



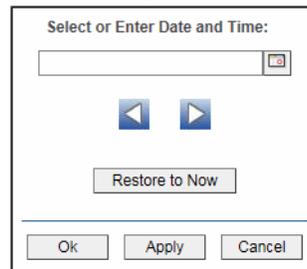
The **No Data No KM** is the legend for the display colors if the **Quality** value for the data is less than **1**. If no KMs are defined for the **CI Type**, the **Quality** is set to **0** and the color is shown as teal. If KMs are defined for the CI Type, but no data was returned when the metric was queried, the **Quality** is set to **-1** and the color is shown as gray. If data was received for the metric, the **Quality** is set to **1** and the color is set based on the **Threshold %** value as described above. If the **Expand Metrics** checkbox is selected, this is the **Quality** of a single KM. If the **Expand Metrics** checkbox is not selected, this is the lowest **Quality** for all of the KMs on the CI.



The gradient bar is the legend for the display colors, which are determined by the **Threshold %** and **Quality** values. A row is green when the value is close to **0** changing to yellow, orange and red as the value gets closer to **100**. Values at or over **100** are shown as red.

-  Red indicates the value is at or over **100**.
-  Yellow indicates the value is between **0** and **100**.
-  Green indicates the value is close to **0**.
-  Teal indicates no KMs are defined for the CI Type.
-  Grey indicates KMs are defined for the CI Type but no data was returned when the metric was queried.

**Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click Restore to Now to reset the time range end point to the current time.

**Note:** To limit the memory used by the KM history displays, the available time ranges are limited by the number of CIs in the selected **Group** and **Service**. This limit can be modified using the **\$rtvKmHistoryRowLimit** substitution. The **\$rtvKmHistoryRowLimit** substitution sets the maximum number of rows that can be queried by a history display and this number is used to determine the available time ranges. The default value is **35000**. To change the limit (and the maximum amount of memory used by KM history display), set the following property to a different value: **sl.rtvview.sub=\$rtvKmHistoryRowLimit:35000**.

**Filter:** Shows the current filter parameters and is highlighted in blue when the filter is applied. By default, all data is shown:

**CI Name=\* | CI Type=\* | Metric Name(disabled)=\***

To modify the filter of KMs displayed, right-click on an item in the table and select **CI Name**, **CI Type** or **Metric Name** from **Add To Filter** or **Remove From Filter**, then click **Apply Filter** . Click **Clear**  to clear the filter.

 Clears the filter parameters.

 Applies the filter parameters.

**Include Detail Level Metrics (##)** When selected, includes **Detail Level** KMs in the display. When not selected, only includes high level KMs. The number following the label (**x**) is the number of detail level metrics available for the currently displayed KMs.

#### Mouseover

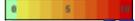
See the following details via mouseover:

**Group** The **Group** name. For CIs that are associated with multiple Groups, the name of the first **Group** the CI was associated with is shown and labeled **+ x more**, where **x** is the number of additional **Groups** the CI is associated with.

**Service** The **Service** name. For CIs that are associated with multiple Services, the name of the first **Service** the CI was associated with is shown and labeled **+ x more**, where **x** is the number of additional **Services** the CI is associated with.

**CI Type** The CI Type.

**CI Name** The CI Name.

|                              |  |
|------------------------------|--|
| <b>Metric Name</b>           | The name of the metric. This is only included if the <b>Expand Metrics</b> checkbox is selected. It is the user-friendly metric name, which corresponds to a numeric column in one of the caches associated with the <b>CI Type</b> . To see which cache column provides data for this metric, navigate to <b>Architecture - "RTView KM Defs"</b> . In the table, look in the <b>CITYPE</b> and <b>SELECTOR</b> columns to find the row for your metric. The <b>CACHENAME</b> column lists the name of the cache containing the metric and the <b>METRICNAME</b> column contains the name of the cache column.   |
| <b>Metric Value</b>          | The value of the metric. This is only included if the <b>Expand Metrics</b> checkbox is selected.  |
| <b>Threshold</b>             | The <b>Alarm Level</b> value for the alert associated with the metric. This column is only included if the <b>Expand Metrics</b> checkbox is selected. To see which alert is associated with this metric, navigate to <b>Architecture - "RTView KM Defs"</b> . In the table, look in the <b>CITYPE</b> and <b>SELECTOR</b> columns to find the row for your metric. The <b>AlertName</b> column lists the name of the alert associated with the metric. NOTE: When looking up the alert threshold for a KM, RTView Enterprise Monitor first looks to see if there is an alert override on the alert where the <b>AlertIndex</b> exactly matches the CIName (ignoring the ~ and ; delimiters). If an exact match is found, the override <b>Alarm Level</b> is used. If no exact match is found, the <b>Default Alarm Level</b> for the alert is used. Note that some alert overrides only contain a partial index and are not used for KM thresholds.   |
| <b>Threshold %</b>           | The percent of the <b>Metric Value</b> against the <b>Threshold</b> . If the <b>Expand Metrics</b> checkbox is selected, this is the <b>Threshold %</b> of a single KM. If the <b>Expand Metrics</b> checkbox is not selected, this is the highest <b>Threshold %</b> for all of the KMs on the CI. Depending on the KM, different scales are applied. By default, no scale is applied, but values are limited to <b>0-10000</b> . For memory metrics, an exponential scale is applied to the <b>Threshold %</b> so that lower values are diminished. For metrics where the alert is a low alert (an alert that executes when the value goes below the threshold), an inverse scale is applied. The colors in the KM displays are based on this value going from green when the value is close to <b>0</b> changing to yellow to orange to red as the value gets closer to <b>100</b> . Values at or over <b>100</b> are shown as red  . To see which <b>CalcMode</b> is used for this metric, navigate to <b>Architecture - "RTView KM Defs"</b> . In the table, look in the <b>CITYPE</b> and <b>SELECTOR</b> columns to find the row for your metric. The <b>CalcMode</b> column lists the type of scale that is applied to the metric. If blank, no scale is applied. |
| <b>Quality</b>               | Indicates the quality of the data. If the <b>Expand Metrics</b> checkbox is selected, the value is for a single KM on the CI. If the <b>Expand Metrics</b> checkbox is not selected, the value is for all the KMs on the CI, and shows the lowest <b>Quality</b> of those KMs. Possible values are:<br><b>0</b> = No KMs are defined for the CI Type (the color is shown as teal).<br><b>-1</b> = KMs are defined for the CI Type, but no data was returned when the metric was queried (the color is shown as gray).<br><b>1</b> = Data was received for the metric (the color is set based on the <b>Threshold %</b> value).   |
| <b>Time</b>                  | The time stamp of the data.  |
| <b>Size Legend To Labels</b> | When selected, the width of the legend is set to the widest label. When not selected, the width of the legend is set to 20% of the available space and labels that are too wide are clipped.   |

## Service KM History (Alt)

View history heatmap of Key Metric data, over time, for a selected Group and Service. This display shows the same data as the **"Service KM History"** display but contains fewer labels. Each row in the history heatmap represents a different CI, unless the **Expand Metrics** checkbox is selected, in which case it represents a metric on a CI. The row color shows the **Threshold %** and **Quality** values.

As shown in the color gradient bar , the color is green when the value is close to **0** changing to yellow, orange and red as the value gets closer to **100**. Values at or over **100** are shown as red.

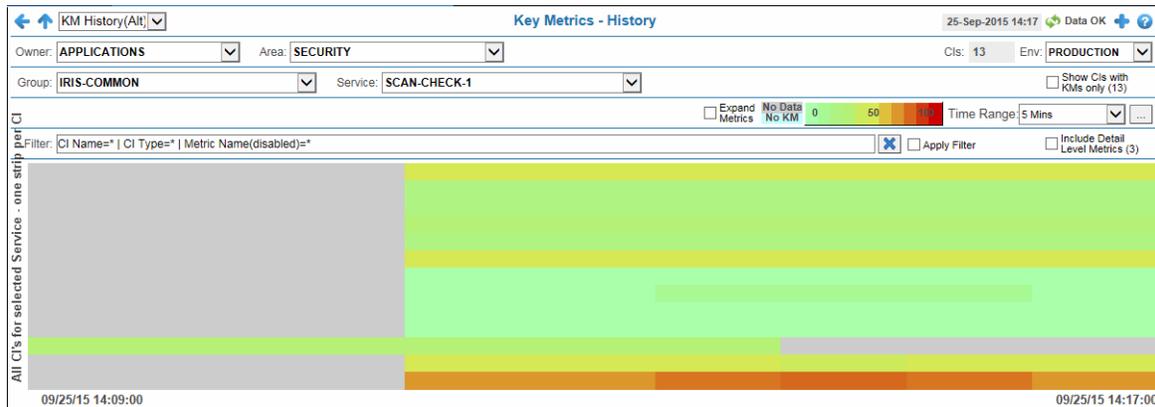
-  Red indicates the value is at or over **100**.
-  Yellow indicates the value is between **0** and **100**.
-  Green indicates the value is close to **0**.
-  Teal indicates no KMs are defined for the CI Type.
-  Grey indicates KMs are defined for the CI Type but no data was returned when the metric was queried.

CIs associated with multiple Services are shown once for the first **Group** and **Service** they were associated with, and labeled **+ x more**, where **x** is the number of additional **Groups** and **Services** the CI is associated with.

Select **Expand Metrics** to show each Key Metric in its own row and include the **Metric Name**, **Metric Value** and **Threshold** labels in the mouseover popup window.

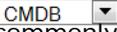
For details about the Key Metrics feature, see “[Key Metrics Views](#)” on page 139.

Use the available drop-down menus or right-click to filter data shown in the display. Drill-down and investigate by double-clicking a row to view details in the corresponding display.



### Title Bar:

Indicators and functionality might include the following:

-   Open the previous and upper display.
-  and  navigate to displays commonly accessed from this display.
-  The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
-  The number of items in the display.

-  **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
-  Open the **Alert Views - RTView Alerts Table** display.
-  Open an instance of this display in a new window.
-  Open the online help page for this display.

**Note:** The “Up” Arrow () opens the most recently viewed display under “[Multi Area Service Views](#)”. For example, if the last viewed display under **Multi Area Service Views** was **Services CI Type Summary**, then clicking  opens the “[Services CI Type Summary](#)” display.

**Filter By:**

The following filtering options are typically included:

**Owner:** Choose an Owner to see metrics for Areas associated with that Owner.

**Area:** Choose an Area to see metrics for Groups associated with that Area and Owner.

**Group:** Choose a Group to see metrics for Services associated with that Group, Area and Owner.

**Service:** Choose a Service to see metrics for Environments associated with that Service, Group, Area and Owner.

**Env:** Choose an Environment to see metrics for Environments associated with that Service, Group, Area and Owner.

You can also filter KMs by CI Name, CI Type and Metric Name. To modify the **CI Name**, **CI Type** or **Metric Name** filter, right-click on an item and select **CI Name**, **CI Type** or **Metric Name** from **Add To Filter** or **Remove From Filter**, then click **Apply Filter** . The **Filter:** field shows filter parameters and is highlighted in blue after it is applied. Click **Clear**  to clear the filter.

---

**Note:** The **Metric Name** filter is only editable or applied when the **Expand Metrics** checkbox is selected.

---

**Fields and Data**

This display includes:

**Show CIs with KMs only (x)**

When selected, hides any CIs that do not have KMs defined. The number following the label (**x**) is the number of CIs with KMs defined.

**Expand Metrics**

When selected, shows one element (for example, a table row, status history row or heatmap cell) per KM per CI. When not selected, shows one element per CI with the aggregated value of all KMs for that CI. KMs are aggregated by taking the maximum **Threshold %** and the minimum **Quality** value for the CI.



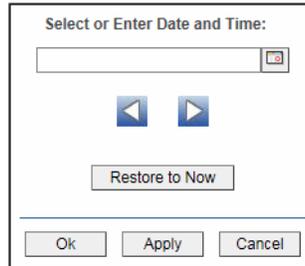
The **No Data No KM** is the legend for the display colors if the **Quality** value for the data is less than **1**. If no KMs are defined for the **CI Type**, the **Quality** is set to **0** and the color is shown as teal. If KMs are defined for the CI Type, but no data was returned when the metric was queried, the **Quality** is set to **-1** and the color is shown as gray. If data was received for the metric, the **Quality** is set to **1** and the color is set based on the **Threshold %** value as described above. If the **Expand Metrics** checkbox is selected, this is the **Quality** of a single KM. If the **Expand Metrics** checkbox is not selected, this is the lowest **Quality** for all of the KMs on the CI.



The gradient bar is the legend for the display colors, which are determined by the **Threshold %** and **Quality** values. A row is green when the value is close to **0** changing to yellow, orange and red as the value gets closer to **100**. Values at or over **100** are shown as red.

-  Red indicates the value is at or over **100**.
-  Yellow indicates the value is between **0** and **100**.
-  Green indicates the value is close to **0**.
-  Teal indicates no KMs are defined for the CI Type.
-  Grey indicates KMs are defined for the CI Type but no data was returned when the metric was queried.

**Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click Restore to Now to reset the time range end point to the current time.

**Note:** To limit the memory used by the KM history displays, the available time ranges are limited by the number of CIs in the selected **Group** and **Service**. This limit can be modified using the **\$rtvKmHistoryRowLimit** substitution. The **\$rtvKmHistoryRowLimit** substitution sets the maximum number of rows that can be queried by a history display and this number is used to determine the available time ranges. The default value is **35000**. To change the limit (and the maximum amount of memory used by KM history display), set the following property to a different value: **sl.rtvview.sub=\$rtvKmHistoryRowLimit:35000**.

**Filter:** Shows the current filter parameters and is highlighted in blue when the filter is applied. By default, all data is shown:

**CI Name=\* | CI Type=\* | Metric Name(disabled)=\***

To modify the filter of KMs displayed, right-click on an item in the table and select **CI Name**, **CI Type** or **Metric Name** from **Add To Filter** or **Remove From Filter**, then click **Apply Filter** . Click **Clear**  to clear the filter.

 Clears the filter parameters.

 Applies the filter parameters.

**Include Detail Level Metrics (##)** When selected, includes **Detail Level** KMs in the display. When not selected, only includes high level KMs. The number following the label (**x**) is the number of detail level metrics available for the currently displayed KMs.

#### Mouseover

See the following details via mouseover:

**Group** The **Group** name. For CIs that are associated with multiple Groups, the name of the first **Group** the CI was associated with is shown and labeled **+ x more**, where **x** is the number of additional **Groups** the CI is associated with.

**Service** The **Service** name. For CIs that are associated with multiple Services, the name of the first **Service** the CI was associated with is shown and labeled **+ x more**, where **x** is the number of additional **Services** the CI is associated with.

**CI Type** The CI Type.

**CI Name** The CI Name.

|                     |  |
|---------------------|--|
| <b>Metric Name</b>  | The name of the metric. This is only included if the <b>Expand Metrics</b> checkbox is selected. It is the user-friendly metric name, which corresponds to a numeric column in one of the caches associated with the <b>CI Type</b> . To see which cache column provides data for this metric, navigate to <b>Architecture - "RTView KM Defs"</b> . In the table, look in the <b>CITYPE</b> and <b>SELECTOR</b> columns to find the row for your metric. The <b>CACHENAME</b> column lists the name of the cache containing the metric and the <b>METRICNAME</b> column contains the name of the cache column.   |
| <b>Metric Value</b> | The value of the metric. This is only included if the <b>Expand Metrics</b> checkbox is selected.  |
| <b>Threshold</b>    | The <b>Alarm Level</b> value for the alert associated with the metric. This column is only included if the <b>Expand Metrics</b> checkbox is selected. To see which alert is associated with this metric, navigate to <b>Architecture - "RTView KM Defs"</b> . In the table, look in the <b>CITYPE</b> and <b>SELECTOR</b> columns to find the row for your metric. The <b>AlertName</b> column lists the name of the alert associated with the metric. NOTE: When looking up the alert threshold for a KM, RTView Enterprise Monitor first looks to see if there is an alert override on the alert where the <b>AlertIndex</b> exactly matches the CIName (ignoring the <b>~</b> and <b>;</b> delimiters). If an exact match is found, the override <b>Alarm Level</b> is used. If no exact match is found, the <b>Default Alarm Level</b> for the alert is used. Note that some alert overrides only contain a partial index and are not used for KM thresholds.   |
| <b>Threshold %</b>  | The percent of the <b>Metric Value</b> against the <b>Threshold</b> . If the <b>Expand Metrics</b> checkbox is selected, this is the <b>Threshold %</b> of a single KM. If the <b>Expand Metrics</b> checkbox is not selected, this is the highest <b>Threshold %</b> for all of the KMs on the CI. Depending on the KM, different scales are applied. By default, no scale is applied, but values are limited to <b>0-10000</b> . For memory metrics, an exponential scale is applied to the <b>Threshold %</b> so that lower values are diminished. For metrics where the alert is a low alert (an alert that executes when the value goes below the threshold), an inverse scale is applied. The colors in the KM displays are based on this value going from green when the value is close to <b>0</b> changing to yellow to orange to red as the value gets closer to <b>100</b> . Values at or over <b>100</b> are shown as red  . To see which <b>CalcMode</b> is used for this metric, navigate to <b>Architecture - "RTView KM Defs"</b> . In the table, look in the <b>CITYPE</b> and <b>SELECTOR</b> columns to find the row for your metric. The <b>CalcMode</b> column lists the type of scale that is applied to the metric. If blank, no scale is applied. |
| <b>Quality</b>      | Indicates the quality of the data. If the <b>Expand Metrics</b> checkbox is selected, the value is for a single KM on the CI. If the <b>Expand Metrics</b> checkbox is not selected, the value is for all the KMs on the CI, and shows the lowest <b>Quality</b> of those KMs. Possible values are:<br><b>0</b> = No KMs are defined for the CI Type (the color is shown as teal).<br><b>-1</b> = KMs are defined for the CI Type, but no data was returned when the metric was queried (the color is shown as gray).<br><b>1</b> = Data was received for the metric (the color is set based on the <b>Threshold %</b> value).   |
| <b>Time</b>         | The time stamp of the data.  |

## Available KM Metrics and Alerts

This section lists available Key Metrics and their associated alerts.

- "Amazon AWS"
- "Custom Solution Package"
- "Host Agent"
- "IBM DB2"
- "IBM MQ"
- "IBM WebSphere"
- "JBoss"
- "Oracle Coherence"
- "Oracle Database"
- "Oracle WebLogic"
- "RTVMGR"
- "RTVRULES"
- "Solace"
- "TIBCO ActiveMatrix"
- "TIBCO ActiveSpaces"
- "TIBCO BusinessEvents"
- "TIBCO BusinessWorks (Version 5) Monitor"
- "TIBCO BusinessWorks (Version 6) Monitor"
- "TIBCO EMS"
- "UX"
- "VMWare vSphere"

### Amazon AWS

The following KMs are available with the Solution Package for Amazon AWS. The level of the Key Metric is **0** except where noted. Level **0** KMs are always shown in displays. Level **1** KMs are displayed if the **Include Detail Level Metrics** checkbox is selected.)

| CI Type    | Cache               | Selector           | Metric / Alert                             |
|------------|---------------------|--------------------|--|
| <b>ACW</b> | AwsEc2InstanceStats | Instance CPU Usage | <b>CPUUtilization / AcwInstanceCpuHigh</b> |

### Custom Solution Package

The following KMs are available with the Custom Solution Package which comes with RTView EM. The level of the Key Metric is **0** except where noted. Level **0** KMs are always shown in displays. Level **1** KMs are displayed if the **Include Detail Level Metrics** checkbox is selected.)

| CI Type       | Cache          | Selector      | Metric / Alert               |
|---------------|----------------|---------------|------------------------------|
| <b>CUSTOM</b> | CustomBirdData | Bird Too High | <b>Y / CustomBirdTooHigh</b> |

### Host Agent

The following KMs are available with the Solution Package for RTView Host Agent. The level of the Key Metric is **0** except where noted. Level **0** KMs are always shown in displays. Level **1** KMs are displayed if the **Include Detail Level Metrics** checkbox is selected.)

| CI Type     | Cache     | Selector          | Metric / Alert                             |
|-------------|-----------|-------------------|--|
| <b>HOST</b> | HostStats | % CPU Utilization | <b>usedPerCentCpu / HostCpuPercentHigh</b> |
| <b>HOST</b> | HostStats | % Memory Used     | <b>MemUsedPerCent / HostMemoryUsedHigh</b> |

**IBM DB2**

The following KMs are available with the Solution Package for IBM DB2. The level of the Key Metric is **0** except where noted. Level **0** KMs are always shown in displays. Level **1** KMs are displayed if the **Include Detail Level Metrics** checkbox is selected.)

| CI Type    | Cache           | Selector      | Metric / Alert                                    |
|------------|-----------------|---------------|---|
| <b>DB2</b> | Db2ResponseTime | Response Time | <b>ResponseTimeMilliSec / Db2ResponseTimeHigh</b> |

**IBM MQ**

The following KMs are available with the Solution Package for IBM WebSphere MQ. The level of the Key Metric is **0** except where noted. Level **0** KMs are always shown in displays. Level **1** KMs are displayed if the **Include Detail Level Metrics** checkbox is selected.)

| CI Type          | Cache     | Selector    | Metric / Alert                                      |
|------------------|-----------|-------------|---|
| <b>MQ-BROKER</b> | MqBrokers | Queue Depth | <b>Current queue depth / MqBrokerQueueDepthHigh</b> |
| <b>MQ-QUEUE</b>  | MqQueues  | Queue Depth | <b>Current queue depth / MqQueueDepthHigh</b>       |

**IBM WebSphere**

The following KMs are available with the Solution Package for IBM WebSphere. The level of the Key Metric is **0** except where noted. Level **0** KMs are always shown in displays. Level **1** KMs are displayed if the **Include Detail Level Metrics** checkbox is selected.)

| CI Type        | Cache                  | Selector           | Metric / Alert  |
|----------------|------------------------|--------------------|---|
| <b>WAS</b>     | WasServerStats         | Live Session Count | <b>LiveCount / WasLiveSessionCountHigh</b>            |
| <b>WAS</b>     | WasServerStats         | WAS CPU %          | <b>ProcessCpuUsage / WasJvmCpuHigh</b>                |
| <b>WAS</b>     | WasServerStats         | Memory Used %      | <b>usedMemoryPercent / WasMemoryUsedPercentHigh</b>   |
| <b>WAS-APP</b> | WasServletTotal sByApp | Response Time      | <b>responseTime / WasServletResponseTimeHigh</b>      |
| <b>WAS-APP</b> | WasServletTotal sByApp | Requests / sec     | <b>DeltatotalRequests / WasServletRequestRateHigh</b> |

**JBoss**

The following KMs are available with the Solution Package for JBoss. The level of the Key Metric is **0** except where noted. Level **0** KMs are always shown in displays. Level **1** KMs are displayed if the **Include Detail Level Metrics** checkbox is selected.)

| CI Type          | Cache            | Selector        | Metric / Alert                                     |
|------------------|------------------|-----------------|--|
| <b>JBOSS-APP</b> | JbossDeployments | Active Sessions | <b>activeSessions / JbossAppActiveSessionsHigh</b> |

|                     |                       |                 |  |
|---------------------|-----------------------|-----------------|--|
| <b>JBOSS-SERVER</b> | JbossServerStats      | % Process CPU   | <b>ProcessCpuLoadPercent / JbossServerProcessCpuLoadHigh</b>   |
| <b>JBOSS-SERVER</b> | JbossDeploymentTotals | Active Sessions | activeSessions / JbossServerActiveSessionsHigh<br>The level of this Key Metric is <b>1</b> . (Level <b>0</b> KMs are always displayed. Level <b>1</b> KMs are displayed if the <b>Include Detail Level Metrics</b> checkbox is checked.) |

## Oracle Coherence

The following KMs are available with the Solution Package for Oracle Coherence. The level of the Key Metric is **0** except where noted. Level **0** KMs are always shown in displays. Level **1** KMs are displayed if the **Include Detail Level Metrics** checkbox is selected.) For alert definitions, see *RTView® Oracle® Coherence Monitor User's Guide*.

| CI Type         | Cache         | Selector          | Metric / Alert   |
|-----------------|---------------|-------------------|--|
| <b>OC-CACHE</b> | OcCacheTotals | Rate Cache Misses | <b>RateCacheMisses / OcCacheRateCacheMissesHigh</b><br>This metric is the rate of cache misses against a given tier of a given cache for a given service in a given (Coherence) cluster. The tier can be front, where appropriate, or back. Caches and services are named, and (Coherence) clusters are represented by their named monitoring connection.  |
| <b>OC-CACHE</b> | OcCacheTotals | Rate Store Reads  | <b>RateStoreReads / OcCacheRateStoreReadsHigh</b><br>The level of this Key Metric is <b>1</b> . (Level <b>0</b> KMs are always displayed. Level <b>1</b> KMs are displayed if the <b>Include Detail Level Metrics</b> checkbox is checked.)<br>This metric is the rate of store reads (load operations) against a given tier of a given cache for a given service in a given (Coherence) cluster. The tier can be front, where appropriate, or back. Caches and services are named, and (Coherence) clusters are represented by their named monitoring connection.               |
| <b>OC-CACHE</b> | OcCacheTotals | Rate Store Writes | <b>RateStoreWrites / OcCacheRateStoreWritesHigh</b><br>The level of this Key Metric is <b>1</b> . (Level <b>0</b> KMs are always displayed. Level <b>1</b> KMs are displayed if the <b>Include Detail Level Metrics</b> checkbox is checked.)<br>This metric is the rate of store writes (store and erase operations) against a given tier of a given cache for a given service in a given (coherence) cluster. The tier can be front, where appropriate, or back. Caches and services are named, and (coherence) clusters are represented by their named monitoring connection. |
| <b>OC-CACHE</b> | OcCacheTotals | Queue Size        | <b>QueueSizePos / OcCacheQueueSizeHigh</b><br>This metric is the cache send queue size for a given tier of a given cache for a given service in a given (coherence) cluster. The tier can be front, where appropriate, or back. Caches and services are named, and (coherence) clusters are represented by their named monitoring connection.  |
| <b>OC-CACHE</b> | OcCacheTotals | Rate Cache Puts   | <b>RateTotalPuts / OcCacheRateTotalPutsHigh</b><br>This metric is the rate of cache puts against a given tier of a given cache for a given service in a given (coherence) cluster. The tier can be front, where appropriate, or back. Caches and services are named, and (coherence) clusters are represented by their named monitoring connection.  |

|                         |               |                   |  |
|-------------------------|---------------|-------------------|--|
| <b>OC-CACHE</b>         | OcCacheTotals | Rate Cache Gets   | <b>RateTotalGets / OcCacheRateTotalGetsHigh</b><br>This metric is the rate of cache gets against a given tier of a given cache for a given service in a given (coherence) cluster. The tier can be front, where appropriate, or back. Caches and services are named, and (coherence) clusters are represented by their named monitoring connection.  |
| <b>OC-CACHE</b>         | OcCacheTotals | Rate Store Reads  | <b>RateStoreReads / OcCacheRateStoreReadsHigh</b><br>The level of this Key Metric is <b>1</b> . (Level <b>0</b> KMs are always displayed. Level <b>1</b> KMs are displayed if the <b>Include Detail Level Metrics</b> checkbox is checked.)  |
| <b>OC-CACHE</b>         | OcCacheTotals | Rate Store Writes | <b>RateStoreWrites / OcCacheRateStoreWritesHigh</b><br>The level of this Key Metric is <b>1</b> . (Level <b>0</b> KMs are always displayed. Level <b>1</b> KMs are displayed if the <b>Include Detail Level Metrics</b> checkbox is checked.)  |
| <b>OC-CLUSTER</b>       | OcPacketStats | Packet Loss       | <b>SentFailureRate / OcBadCommunicationCluster</b><br>This metric is the (network/packet) sent failure rate averaged across all of the nodes of a cluster.   |
| <b>OC-CLUSTER NODES</b> | OcNodeTotals  | CPU Used %        | <b>AvgCpuPercent / OcClusterNodesCPUHigh</b><br>This metric is the average CPU usage of all the nodes of a given storage class in a cluster. The storage class is represented by the <b>StorageEnabled</b> index column, which can be <b>true</b> or <b>false</b> . Thus metrics for storage enabled nodes in a cluster are aggregated into a cache row where <b>StorageEnabled = true</b> , and non storage enabled nodes in a cluster are aggregated into a cache row where <b>StorageEnabled = false</b> . This metric is shown as a trace in the <b>Cluster - Memory/Network Health</b> display. The metric is labeled Avg. CPU% and is displayed (for storage enabled nodes) in the Storage Nodes trend grouping and (for non storage enabled nodes) in the Process Nodes trend grouping. |
| <b>OC-CLUSTER NODES</b> | OcNodeTotals  | Packet Rx Loss    | <b>RcvdFailureRate100 / OcClusterNodesRcvdFailureRateHigh</b><br>This metric is the (network/packet) received failure rate averaged across all of the nodes of a given storage class in a cluster. The storage class is the <b>StorageEnabled</b> index column, which can be <b>true</b> or <b>false</b> . Metrics for storage enabled nodes in a cluster are aggregated into a cache row where <b>StorageEnabled = true</b> , and non storage enabled nodes in a cluster are aggregated into a cache row where <b>StorageEnabled = false</b> .  |
| <b>OC-CLUSTER NODES</b> | OcNodeTotals  | Memory Used %     | <b>MemoryUsedPct100 / OcClusterNodesMemHigh</b><br>This metric is the memory used percentage averaged across all of the nodes of a given storage class in a cluster. The storage class is the <b>StorageEnabled</b> index column, which can be <b>true</b> or <b>false</b> . Metrics for storage enabled nodes in a cluster are aggregated into a cache row where <b>StorageEnabled = true</b> , and non storage enabled nodes in a cluster are aggregated into a cache row where <b>StorageEnabled = false</b> .  |
| <b>OC-CLUSTER NODES</b> | OcNodeTotals  | Packet Tx Loss    | <b>SentFailureRate100 / OcClusterNodesSentFailureRateHigh</b><br>This metric is the (network/packet) sent failure rate averaged across all of the nodes of a given storage class in a cluster. The storage class is the <b>StorageEnabled</b> index column, which can be <b>true</b> or <b>false</b> . Metrics for storage enabled nodes in a cluster are aggregated into a cache row where <b>StorageEnabled = true</b> , and non storage enabled nodes in a cluster are aggregated into a cache row where <b>StorageEnabled = false</b> .  |

## Oracle Database

The following KMs are available with the Solution Package for Oracle Database. The level of the Key Metric is **0** except where noted. Level **0** KMs are always shown in displays. Level **1** KMs are displayed if the **Include Detail Level Metrics** checkbox is selected.)

| CI Type       | Cache                   | Selector      | Metric / Alert  |
|---------------|-------------------------|---------------|---|
| <b>ORACLE</b> | OraDatabaseAvailability | Response Time | <b>ResponseTimeMilliSec / OraDatabaseResponseTimeHigh</b> |

## Oracle WebLogic

The following KMs are available with the Solution Package for Oracle WebLogic. The level of the Key Metric is **0** except where noted. Level **0** KMs are always shown in displays. Level **1** KMs are displayed if the **Include Detail Level Metrics** checkbox is selected.

| CI Type               | Cache                   | Selector           | Metric / Alert   |
|-----------------------|-------------------------|--------------------|--|
| <b>WLS</b>            | WlsJvmStats             | JVM CPU %          | <b>JvmProcessorLoad / WlsServerCpuHigh</b>   |
| <b>WLS</b>            | WlsJvmStats             | JVM Memory %       | <b>MemoryUsedPercent / WlsServerMemoryUsageHigh</b>  |
| <b>WLS</b>            | WlsThreadPoolRuntime    | Hogging Threads    | <b>HoggingThreadCount / WlsHoggingThreadsHigh</b>  |
| <b>WLS</b>            | WlsServerRuntime        | Open Sockets       | <b>OpenSocketsCurrentCount / WlsOpenSocketsHigh</b><br>The level of this Key Metric is <b>1</b> . (Level <b>0</b> KMs are always displayed. Level <b>1</b> KMs are displayed if the <b>Include Detail Level Metrics</b> checkbox is checked.)  |
| <b>WLS</b>            | WlsThreadPoolRuntime    | Thread Total Count | <b>ExecuteThreadTotalCount / WlsThreadsTotalHigh</b><br>The level of this Key Metric is <b>1</b> . (Level <b>0</b> KMs are always displayed. Level <b>1</b> KMs are displayed if the <b>Include Detail Level Metrics</b> checkbox is checked.) |
| <b>WLS-APP</b>        | WlsSessionStats         | Open Sessions      | <b>OpenSessionsCurrentCount / WlsAppOpenSessionsHigh</b>   |
| <b>WLS-JMS-DEST</b>   | WlsJmsDestinationTotals | Messages Pending   | <b>MessagesPendingCount / WlsJmsDestinationMessagesPendingHigh</b>   |
| <b>WLS-JMS-SERVER</b> | WlsJmsServerRuntime     | Messages Pending   | <b>MessagesPendingCount / WlsJmsMessagesPendingHigh</b>  |

## RTVMGR

The following KMs are available with the RTVMGR Solution Package which comes with RTView EM. The level of the Key Metric is **0** except where noted. Level **0** KMs are always shown in displays. Level **1** KMs are displayed if the **Include Detail Level Metrics** checkbox is selected.

| CI Type    | Cache              | Selector | Metric / Alert                               |
|------------|--------------------|----------|--|
| <b>JVM</b> | JvmOperatingSystem | Cpu %    | <b>CpuPercent / JvmCpuPercentHigh</b>        |
| <b>JVM</b> | JvmMemory          | Memory % | <b>MemoryUsedPercent / JvmMemoryUsedHigh</b> |

|                   |                       |                 |   |
|-------------------|-----------------------|-----------------|---|
| <b>JVM</b>        | JvmThreading          | Thread Count    | <b>ThreadCount / JvmThreadCountHigh</b><br>The level of this Key Metric is <b>1</b> . (Level <b>0</b> KMs are always displayed. Level <b>1</b> KMs are displayed if the <b>Include Detail Level Metrics</b> checkbox is checked.) |
| <b>TOMCAT</b>     | TomcatWebModuleTotals | Active Sessions | <b>activeSessions / TomcatActiveSessionsHigh</b>  |
| <b>TOMCAT</b>     | TomcatWebModuleTotals | Accesses / sec  | <b>RateaccessCount / TomcatAccessRateHigh</b>   |
| <b>TOMCAT-APP</b> | TomcatWebModuleStats  | Active Sessions | <b>activeSessions / TomcatAppActiveSessionsHigh</b>   |
| <b>TOMCAT-APP</b> | TomcatWebModuleStats  | Accesses / sec  | <b>RateaccessCount / TomcatAppAccessRateHigh</b>  |

### RTVRULES

The following KMs are available with the RTVRULES Solution Package which comes with RTView EM. The level of the Key Metric is **0** except where noted. Level **0** KMs are always shown in displays. Level **1** KMs are displayed if the **Include Detail Level Metrics** checkbox is selected.

| CI Type           | Cache                    | Selector     | Metric / Alert                                   |
|-------------------|--------------------------|--------------|--|
| <b>EM-SERVICE</b> | RtvCmdServiceStats_local | Alert Impact | <b>AlertImpact / RtvEmServiceAlertImpactHigh</b> |

### Solace

The following KMs are available with the Solution Package for Solace. The level of the Key Metric is **0** except where noted. Level **0** KMs are always shown in displays. Level **1** KMs are displayed if the **Include Detail Level Metrics** checkbox is selected.

| CI Type                 | Cache         | Selector       | Metric / Alert  |
|-------------------------|---------------|----------------|---|
| <b>SOLACE-MSGROUTER</b> | SolAppliances | # Msgs Spooled | <b>num-messages-spooled / SolMsgRouterPendingMsgsHigh</b> |
| <b>SOLACE-VPN</b>       | SolVpns       | Connections    | <b>connections / SolVpnConnectionCountHigh</b>            |

### TIBCO ActiveMatrix

The following KMs are available with the Solution Package for TIBCO ActiveMatrix. The level of the Key Metric is **0** except where noted. Level **0** KMs are always shown in displays. Level **1** KMs are displayed if the **Include Detail Level Metrics** checkbox is selected.

| CI Type            | Cache            | Selector              | Metric / Alert   |
|--------------------|------------------|-----------------------|--|
| <b>AMX-SERVICE</b> | AmxServiceTotals | Service Hits/Min      | <b>Hits Per Minute / AmxServiceHitRateHigh</b>         |
| <b>AMX-SERVICE</b> | AmxServiceTotals | Service Response Time | <b>Avg. Response Time / AmxServiceResponseTimeHigh</b> |

|                         |             |                    |  |
|-------------------------|-------------|--------------------|--|
| <b>AMX-SERVICE NODE</b> | AmxServices | Node Hits/Min      | <b>Hits Per Minute / AmxServiceNodeHitRateHigh</b>         |
| <b>AMX-SERVICE NODE</b> | AmxServices | Node Response Time | <b>Avg. Response Time / AmxServiceNodeResponseTimeHigh</b> |

### TIBCO ActiveSpaces

The following KMs are available with the Solution Package for TIBCO ActiveSpaces. The level of the Key Metric is **0** except where noted. Level **0** KMs are always shown in displays. Level **1** KMs are displayed if the **Include Detail Level Metrics** checkbox is selected.

| CI Type                   | Cache              | Selector             | Metric / Alert                                      |
|---------------------------|--------------------|----------------------|---|
| <b>TAS-MEMBER BYSPACE</b> | TasSeeders         | Space Util by Seeder | <b>spaceUtilPerSeeder / TasMemberSeederCapacity</b> |
| <b>TAS-SPACE</b>          | TasSpaceStatistics | Gets/sec             | <b>RateGets / TasSpaceGetRateHigh</b>               |
| <b>TAS-SPACE</b>          | TasSpaceStatistics | Puts/sec             | <b>RatePuts / TasSpacePutRateHigh</b>               |

### TIBCO BusinessEvents

The following KMs are available with the Solution Package for TIBCO BusinessEvents. The level of the Key Metric is **0** except where noted. Level **0** KMs are always shown in displays. Level **1** KMs are displayed if the **Include Detail Level Metrics** checkbox is selected.

| CI Type            | Cache             | Selector               | Metric / Alert   |
|--------------------|-------------------|------------------------|--|
| <b>TBE-CLUSTER</b> | TbeClusterSummary | Received Events Rate   | <b>Received Events Rate / TbeClusterEventsRecvdRateHigh</b>          |
| <b>TBE-CLUSTER</b> | TbeClusterSummary | Rules Fired Rate       | <b>totalRateTotalNumberRulesFired / TbeClusterRuleFiringRateHigh</b> |
| <b>TBE-CLUSTER</b> | TbeClusterSummary | Concept Cache Ops Rate | <b>totalConceptOperationRate / TbeClusterConceptOpRateHigh</b>       |
| <b>TBE-CLUSTER</b> | TbeClusterSummary | Backing Store Ops Rate | <b>totalBkngStoreOpsPerSec / TbeClusterBkngStoreOpRateHigh</b>       |

### TIBCO BusinessWorks (Version 5) Monitor

The following KMs are available with the Solution Package for TIBCO BusinessWorks version 5. The level of the Key Metric is **0** except where noted. Level **0** KMs are always shown in displays. Level **1** KMs are displayed if the **Include Detail Level Metrics** checkbox is selected.

| CI Type          | Cache     | Selector   | Metric / Alert                     |
|------------------|-----------|------------|------------------------------------|
| <b>BW-ENGINE</b> | BwEngines | CPU Used % | <b>CPU % / BwEngineCpuUsedHigh</b> |

|                   |             |                         |   |
|-------------------|-------------|-------------------------|---|
| <b>BW-ENGINE</b>  | BwEngines   | Memory Used %           | <b>PercentUsed / BwEngineMemUsedHigh</b>                        |
| <b>BW-PROCESS</b> | BwProcesses | AverageElapsed          | <b>Process Avg Elapsed Time / BwProcessAvgElapsedTimeHigh</b>   |
| <b>BW-PROCESS</b> | BwProcesses | RateCreated / sec       | <b>Processes Created/sec / BwProcessCreatedRateHigh</b>         |
| <b>BW-PROCESS</b> | BwProcesses | TotalCpuPercent         | <b>Process Total CPU Percent / BwProcessTotalCpuPercentHigh</b> |
| <b>BW-PROCESS</b> | BwProcesses | Process Exec Time / sec | <b>RateTotalExecution / BwProcessExecutionTimeHigh</b>          |
| <b>BW-SERVER</b>  | BwServers   | CPU Used %              | <b>CPU Usage % / BwServerCpuUsedHigh</b>                        |

### TIBCO BusinessWorks (Version 6) Monitor

The following KMs are available with the Solution Package for TIBCO BusinessWorks version 6. The level of the Key Metric is **0** except where noted. Level **0** KMs are always shown in displays. Level **1** KMs are displayed if the **Include Detail Level Metrics** checkbox is selected.

| <b>CI Type</b>     | <b>Cache</b>          | <b>Selector</b>         | <b>Metric / Alert</b>                                       |
|--------------------|-----------------------|-------------------------|---|
| <b>BW6-APPNODE</b> | Bw6AppNodes           | CPU Used %              | <b>Used CPU Percentage / Bw6AppNodeCpuUsedHigh</b>          |
| <b>BW6-APPNODE</b> | Bw6AppNodes           | Mem Used %              | <b>Used Memory Percentage / Bw6AppNodeMemUsedHigh</b>       |
| <b>BW6-APP</b>     | Bw6ProcessTotalsByApp | App Created / sec       | <b>RateCreated / Bw6AppProcessCreatedRateHigh</b>           |
| <b>BW6-APP</b>     | Bw6ProcessTotalsByApp | App Exec Time / sec     | <b>RateTotal Execution / Bw6AppProcessExecutionTimeHigh</b> |
| <b>BW6-PROCESS</b> | Bw6Processes          | Process Created / sec   | <b>RateCreated / Bw6ProcessCreatedRateHigh</b>              |
| <b>BW6-PROCESS</b> | Bw6Processes          | Process Exec Time / sec | <b>RateTotal Execution / Bw6ProcessExecutionTimeHigh</b>    |

### TIBCO EMS

The following KMs are available with the Solution Package for TIBCO EMS. The level of the Key Metric is **0** except where noted. Level **0** KMs are always shown in displays. Level **1** KMs are displayed if the **Include Detail Level Metrics** checkbox is selected.

| <b>CI Type</b>   | <b>Cache</b> | <b>Selector</b> | <b>Metric / Alert</b>                                 |
|------------------|--------------|-----------------|---|
| <b>EMS-QUEUE</b> | EmsQueues    | Pending Msgs    | <b>pendingMessageCount / EmsQueuesPendingMsgsHigh</b> |
| <b>EMS-QUEUE</b> | EmsQueues    | In Msgs / sec   | <b>inboundMessageRate / EmsQueuesInMsgRateHigh</b>    |

|                   |               |                |   |
|-------------------|---------------|----------------|---|
| <b>EMS-QUEUE</b>  | EmsQueues     | Out Msgs / sec | <b>outboundMessageRate / EmsQueuesOutMsgRateHigh</b>  |
| <b>EMS-QUEUE</b>  | EmsQueues     | Consumers      | <b>consumerCount / EmsQueuesConsumerCountHigh</b><br>The level of this Key Metric is <b>1</b> . (Level <b>0</b> KMs are always displayed. Level <b>1</b> KMs are displayed if the <b>Include Detail Level Metrics</b> checkbox is checked.)     |
| <b>EMS-SERVER</b> | EmsServerInfo | Pending Msgs   | <b>pendingMessageCount / EmsServerPendingMsgsHigh</b>   |
| <b>EMS-SERVER</b> | EmsServerInfo | In Msgs / sec  | <b>inboundMessageRate / EmsServerInMsgRateHigh</b>  |
| <b>EMS-SERVER</b> | EmsServerInfo | Out Msgs / sec | <b>outboundMessageRate / EmsServerOutMsgRateHigh</b>  |
| <b>EMS-SERVER</b> | EmsServerInfo | Msg Mem %      | <b>messageMemoryPct / EmsServerMemUsedHigh</b><br>The level of this Key Metric is <b>1</b> . (Level <b>0</b> KMs are always displayed. Level <b>1</b> KMs are displayed if the <b>Include Detail Level Metrics</b> checkbox is checked.)        |
| <b>EMS-SERVER</b> | EmsServerInfo | Connections    | <b>connectionCount / EmsServerConnectionCountHigh</b><br>The level of this Key Metric is <b>1</b> . (Level <b>0</b> KMs are always displayed. Level <b>1</b> KMs are displayed if the <b>Include Detail Level Metrics</b> checkbox is checked.) |
| <b>EMS-SERVER</b> | EmsServerInfo | Async DB Size  | <b>asyncDBSize / EmsServerAsyncDBSizeHigh</b><br>The level of this Key Metric is <b>1</b> . (Level <b>0</b> KMs are always displayed. Level <b>1</b> KMs are displayed if the <b>Include Detail Level Metrics</b> checkbox is checked.)         |
| <b>EMS-SERVER</b> | EmsServerInfo | Sync DB Size   | <b>syncDBSize / EmsServerSyncDBSizeHigh</b><br>The level of this Key Metric is <b>1</b> . (Level <b>0</b> KMs are always displayed. Level <b>1</b> KMs are displayed if the <b>Include Detail Level Metrics</b> checkbox is checked.)           |
| <b>EMS-TOPIC</b>  | EmsTopics     | Pending Msgs   | <b>pendingMessageCount / EmsTopicsPendingMsgsHigh</b>   |
| <b>EMS-TOPIC</b>  | EmsTopics     | In Msgs / sec  | <b>inboundMessageRate / EmsTopicsInMsgRateHigh</b>  |
| <b>EMS-TOPIC</b>  | EmsTopics     | Out Msgs / sec | <b>outboundMessageRate / EmsTopicsOutMsgRateHigh</b>  |
| <b>EMS-TOPIC</b>  | EmsTopics     | Consumers      | <b>consumerCount / EmsTopicsConsumerCountHigh</b><br>The level of this Key Metric is <b>1</b> . (Level <b>0</b> KMs are always displayed. Level <b>1</b> KMs are displayed if the <b>Include Detail Level Metrics</b> checkbox is checked.)     |
| <b>EMS-TOPIC</b>  | EmsTopics     | Subscribers    | <b>subscriberCount / EmsTopicsSubscriberCountHigh</b><br>The level of this Key Metric is <b>1</b> . (Level <b>0</b> KMs are always displayed. Level <b>1</b> KMs are displayed if the <b>Include Detail Level Metrics</b> checkbox is checked.) |

## UX

The following KMs are available with the Solution Package for UX. The level of the Key Metric is **0** except where noted. Level **0** KMs are always shown in displays. Level **1** KMs are displayed if the **Include Detail Level Metrics** checkbox is selected.

| CI Type | Cache     | Selector      | Metric / Alert                            |
|---------|-----------|---------------|---|
| UX-URL  | UXURLData | Response Time | <b>MostRecentTime / UXURLResponseSlow</b> |

## VMWare vSphere

The following KMs are available with the Solution Package for VMWare vSphere. The level of the Key Metric is **0** except where noted. Level **0** KMs are always shown in displays. Level **1** KMs are displayed if the **Include Detail Level Metrics** checkbox is selected.

| CI Type            | Cache              | Selector     | Metric / Alert                                       |
|--------------------|--------------------|--------------|--|
| <b>VMWARE-HOST</b> | VmwHostSystems     | CPU Usage    | <b>cpu.usage.average / VmwHostCpuUtilizationHigh</b> |
| <b>VMWARE-HOST</b> | VmwHostSystems     | Memory Usage | <b>mem.usage.average / VmwHostMemoryUsageHigh</b>    |
| <b>VMWARE-VM</b>   | VmwVirtualMachines | CPU Usage    | <b>cpu.usage.average / VmwVmCpuUtilizationHigh</b>   |
| <b>VMWARE-VM</b>   | VmwVirtualMachines | Memory Usage | <b>mem.usage.average / VmwVmMemoryUsageHigh</b>      |

## Component Views

These displays present the lowest level view of CMDB contents--the component level. In these displays, alert states for components are shown by Service and Area in tabular and heatmap formats, while highlighting the most critical alert state for each component. Data can be filtered by Areas, Services, Groups, Regions and Environment. Data is filtered by the \$rtvOwnerMask, \$rtvAreaMask, \$rtvGroupMask and \$rtvServiceMask values for the logged in user. For details, see **Configure User and Role Management**.

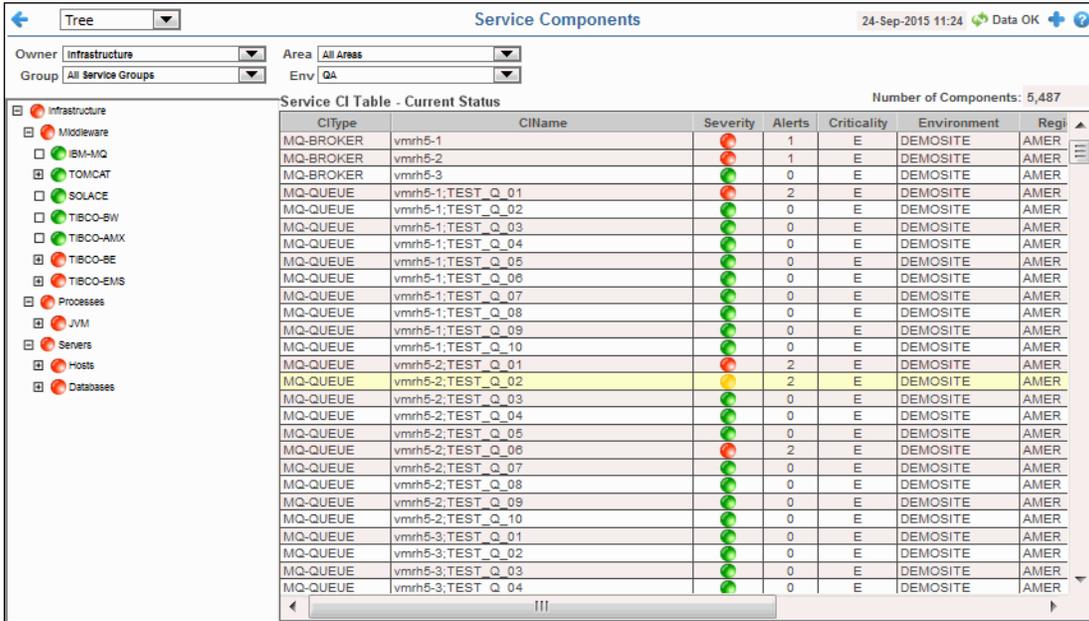
Use these displays to determine whether a component is malfunctioning. Displays in this View are:

- [“CI / Service Tree View” on page 166](#): Table of CMDB contents for all component-level details by Service for all Owners, Areas, Groups, Regions and Environments (without the option to filter).
- [“CI / Service Table” on page 167](#): Table of CMDB contents for all component-level details by Service for all Owners, Areas, Groups, Regions and Environments (without the option to filter).
- [“CI / Type Heatmap” on page 169](#): Heatmap of CMDB contents organized by CType, with the option to filter by Owner, Area, Group, Environment and alert Metric, and show CI Names.
- [“CI / Type Table” on page 171](#): Table of CMDB contents for all component-level details for all Areas, Services, Groups, Regions and Environments, with the option to filter by Owner and one or all Areas, Groups and Environments.

## CI / Service Tree View

View the contents of the CMDB hierarchically ordered in a navigation tree. Each row in the table is a different CI (for example, **localhost;RTVMGR\_DATASERVER**).

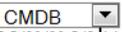
Make a selection from the **Owner** drop-down menu, then use the navigation tree to filter data in the **Service CI Table**. The navigation tree, which provides a visual of the CMDB hierarchy, provides further filtering to the **Area**, **Group**, and **Environment** drop-down menus. Click Sort  to order column data.

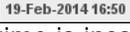


The screenshot displays the 'Service Components' interface. On the left is a navigation tree with categories like Infrastructure, Middleware, IBM-IQ, TOMCAT, SOLACE, TIBCO-BW, TIBCO-AMX, TIBCO-BE, TIBCO-EMS, Processes, JVM, Servers, Hosts, and Databases. On the right is a table titled 'Service CI Table - Current Status' with 5,487 components. The table columns are CIType, CIName, Severity, Alerts, Criticality, Environment, and Regi. The table shows various MQ-BROKER and MQ-QUEUE entries with different alert levels (red, yellow, green) and environments (DEMOSITE, AMER).

### Title Bar:

Indicators and functionality might include the following:

  Open the previous and upper display.  and  navigate to displays commonly accessed from this display.

 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 CIs: 3,047 The number of items in the display.

 Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

### Row Color Code:

Tables with colored rows indicate the following:

-  Red indicates that one or more alerts exceeded their ALARM LEVEL threshold in the table row.
-  Yellow indicates that one or more alerts exceeded their WARNING LEVEL threshold in the table row.
-  Green indicates that no alerts exceeded their WARNING or ALARM LEVEL threshold in the table row.

**Filter By:**

The following filtering options are typically included:

**Owner:** Choose an Owner to see metrics for Areas associated with that Owner.

**Area:** Choose an Area to see metrics for Groups associated with that Area and Owner.

**Group:** Choose a Group to see metrics for Services associated with that Group, Area and Owner.

**Service:** Choose a Service to see metrics for Environments associated with that Service, Group, Area and Owner.

**Env:** Choose an Environment to see metrics for Environments associated with that Service, Group, Area and Owner.

**Fields and Data**

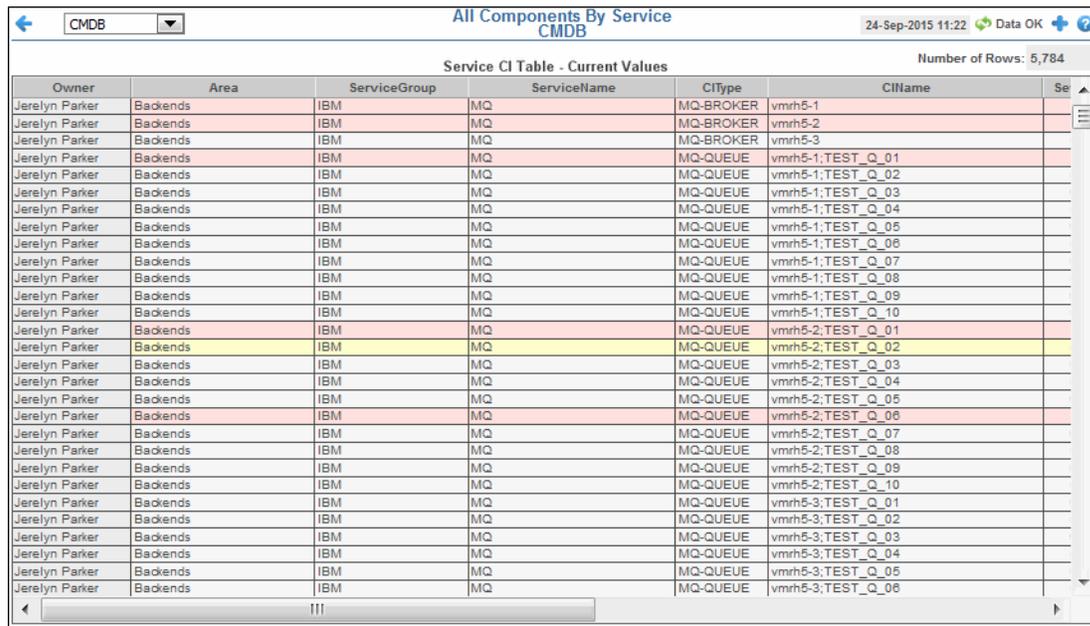
This display includes:

|                             |   |
|-----------------------------|---|
| <b>Number of Components</b> | The total number of CIs currently in the table.   |
| <b>CIType</b>               | The type of CI.   |
| <b>CIName</b>               | The name or address of the CI.  |
| <b>Severity</b>             | The maximum level of alerts for the CI. Values range from 0 to 2, where 2 is the greatest Alert Severity: <ul style="list-style-type: none"> <li><span style="color: red;">●</span> One or more alerts exceeded their ALARM LEVEL threshold.</li> <li><span style="color: yellow;">●</span> One or more alerts exceeded their WARNING LEVEL threshold.</li> <li><span style="color: green;">●</span> No alert thresholds have been exceeded.</li> </ul> |
| <b>Criticality</b>          | The Criticality (rank of importance) specified in the Service Data Model (CMDB) by your administrator. Criticality values are listed in the Component Views / CI Service Table display, which range from A to E, where A is the highest Criticality. This value is used to determine the value for Alert Impact.  |
| <b>Environment</b>          | The Environment for the CI.   |
| <b>Region</b>               | The name of the Region for the CI.  |
| <b>City</b>                 | The name of the City for the CI.  |
| <b>Country</b>              | The name of the Country for the CI.   |
| <b>SiteName</b>             | The name of the Site for the CI.  |
| <b>OSType</b>               | The operating system currently running on the CI.   |
| <b>City</b>                 | The name of the City for the CI.  |
| <b>Country</b>              | The name of the Country for the CI.   |

**CI / Service Table**

View the contents of the CMDB, without filtering, in a tabular format. Each row in the table is a different CI (for example, **localhost;RTVMGR\_DATASERVER**).

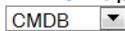
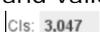
Use the available drop-down menus or right-click to filter data shown in the display. Click Sort  to order column data.



| Owner          | Area    | ServiceGroup | ServiceName | CIType    | CIName            | Se |
|----------------|---------|--------------|-------------|-----------|-------------------|----|
| Jerelyn Parker | Bakends | IBM          | MQ          | MQ-BROKER | vmrh5-1           |    |
| Jerelyn Parker | Bakends | IBM          | MQ          | MQ-BROKER | vmrh5-2           |    |
| Jerelyn Parker | Bakends | IBM          | MQ          | MQ-BROKER | vmrh5-3           |    |
| Jerelyn Parker | Bakends | IBM          | MQ          | MQ-QUEUE  | vmrh5-1;TEST_Q_01 |    |
| Jerelyn Parker | Bakends | IBM          | MQ          | MQ-QUEUE  | vmrh5-1;TEST_Q_02 |    |
| Jerelyn Parker | Bakends | IBM          | MQ          | MQ-QUEUE  | vmrh5-1;TEST_Q_03 |    |
| Jerelyn Parker | Bakends | IBM          | MQ          | MQ-QUEUE  | vmrh5-1;TEST_Q_04 |    |
| Jerelyn Parker | Bakends | IBM          | MQ          | MQ-QUEUE  | vmrh5-1;TEST_Q_05 |    |
| Jerelyn Parker | Bakends | IBM          | MQ          | MQ-QUEUE  | vmrh5-1;TEST_Q_06 |    |
| Jerelyn Parker | Bakends | IBM          | MQ          | MQ-QUEUE  | vmrh5-1;TEST_Q_07 |    |
| Jerelyn Parker | Bakends | IBM          | MQ          | MQ-QUEUE  | vmrh5-1;TEST_Q_08 |    |
| Jerelyn Parker | Bakends | IBM          | MQ          | MQ-QUEUE  | vmrh5-1;TEST_Q_09 |    |
| Jerelyn Parker | Bakends | IBM          | MQ          | MQ-QUEUE  | vmrh5-1;TEST_Q_10 |    |
| Jerelyn Parker | Bakends | IBM          | MQ          | MQ-QUEUE  | vmrh5-2;TEST_Q_01 |    |
| Jerelyn Parker | Bakends | IBM          | MQ          | MQ-QUEUE  | vmrh5-2;TEST_Q_02 |    |
| Jerelyn Parker | Bakends | IBM          | MQ          | MQ-QUEUE  | vmrh5-2;TEST_Q_03 |    |
| Jerelyn Parker | Bakends | IBM          | MQ          | MQ-QUEUE  | vmrh5-2;TEST_Q_04 |    |
| Jerelyn Parker | Bakends | IBM          | MQ          | MQ-QUEUE  | vmrh5-2;TEST_Q_05 |    |
| Jerelyn Parker | Bakends | IBM          | MQ          | MQ-QUEUE  | vmrh5-2;TEST_Q_06 |    |
| Jerelyn Parker | Bakends | IBM          | MQ          | MQ-QUEUE  | vmrh5-2;TEST_Q_07 |    |
| Jerelyn Parker | Bakends | IBM          | MQ          | MQ-QUEUE  | vmrh5-2;TEST_Q_08 |    |
| Jerelyn Parker | Bakends | IBM          | MQ          | MQ-QUEUE  | vmrh5-2;TEST_Q_09 |    |
| Jerelyn Parker | Bakends | IBM          | MQ          | MQ-QUEUE  | vmrh5-2;TEST_Q_10 |    |
| Jerelyn Parker | Bakends | IBM          | MQ          | MQ-QUEUE  | vmrh5-3;TEST_Q_01 |    |
| Jerelyn Parker | Bakends | IBM          | MQ          | MQ-QUEUE  | vmrh5-3;TEST_Q_02 |    |
| Jerelyn Parker | Bakends | IBM          | MQ          | MQ-QUEUE  | vmrh5-3;TEST_Q_03 |    |
| Jerelyn Parker | Bakends | IBM          | MQ          | MQ-QUEUE  | vmrh5-3;TEST_Q_04 |    |
| Jerelyn Parker | Bakends | IBM          | MQ          | MQ-QUEUE  | vmrh5-3;TEST_Q_05 |    |
| Jerelyn Parker | Bakends | IBM          | MQ          | MQ-QUEUE  | vmrh5-3;TEST_Q_06 |    |

### Title Bar:

Indicators and functionality might include the following:

-  Open the previous and upper display.  and  navigate to displays commonly accessed from this display.
-  The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
-  The number of items in the display.

 The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

### Row Color Code:

Tables with colored rows indicate the following:

-  Red indicates that one or more alerts exceeded their ALARM LEVEL threshold in the table row.
-  Yellow indicates that one or more alerts exceeded their WARNING LEVEL threshold in the table row.
-  Green indicates that no alerts exceeded their WARNING or ALARM LEVEL threshold in the table row.

**Filter By:**

The following filtering options are typically included:

**Owner:** Choose an Owner to see metrics for Areas associated with that Owner.

**Area:** Choose an Area to see metrics for Groups associated with that Area and Owner.

**Group:** Choose a Group to see metrics for Services associated with that Group, Area and Owner.

**Service:** Choose a Service to see metrics for Environments associated with that Service, Group, Area and Owner.

**Env:** Choose an Environment to see metrics for Environments associated with that Service, Group, Area and Owner.

**Fields and Data**

This display includes:

**Number of Rows** The current total number of rows in the table.

**Service CI Table**

|                     |  |
|---------------------|--|
| <b>Owner</b>        | The Owner the CI is associated with.   |
| <b>Area</b>         | The Area the CI is associated with.  |
| <b>ServiceGroup</b> | The Group the CI is associated with.   |
| <b>ServiceName</b>  | The Service the CI is associated with.   |
| <b>CIType</b>       | The type of CI.  |
| <b>CIName</b>       | The name or address of the CI.   |
| <b>Severity</b>     | The maximum level of alerts for the CI. Values range from <b>0</b> to <b>2</b> , where <b>2</b> is the greatest Alert Severity:<br> One or more alerts exceeded their ALARM LEVEL threshold.<br> One or more alerts exceeded their WARNING LEVEL threshold.<br> No alert thresholds have been exceeded. |
| <b>Criticality</b>  | The Criticality (rank of importance) specified in the Service Data Model (CMDB) by your administrator. Criticality values are listed in the <b>Component Views - CI Service Table</b> display, which range from <b>A</b> to <b>E</b> , where <b>A</b> is the highest Criticality. This value is used to determine the value for Alert Impact.  |
| <b>Environment</b>  | The Environment for the CI.  |
| <b>City</b>         | The name of the City for the CI.   |
| <b>Country</b>      | The name of the Country for the CI.  |
| <b>Region</b>       | The name of the Region for the CI.   |
| <b>SiteName</b>     | The name of the Site for the CI.   |

**CI / Type Heatmap**

View heatmap of alert states for CIs in all or one Area, Group or Environment. The heatmap organizes CIs by CI Type, and uses color to show the most critical alert state for each. Each rectangle in the heatmap represents a CI (for example, **localhost;RTVMGR\_DATASERVER**).

Use the available drop-down menus or right-click to filter data shown in the display. Use the check-boxes  to include or exclude labels in the heatmap. Move your mouse over a rectangle to see additional information. Double-click (or right-click and select **Drill Down**) a rectangle in the heatmap to view details relevant to the CI Type. By default, this display shows all Areas, Groups, and Environments and alert Impact.



#### Title Bar:

Indicators and functionality might include the following:

- Open the previous and upper display.
- and navigate to displays commonly accessed from this display.
- The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
- The number of items in the display.

**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

#### Filter By:

The following filtering options are typically included:

- Owner:** Choose an Owner to see metrics for Areas associated with that Owner.
- Area:** Choose an Area to see metrics for Groups associated with that Area and Owner.
- Group:** Choose a Group to see metrics for Services associated with that Group, Area and Owner.
- Service:** Choose a Service to see metrics for Environments associated with that Service, Group, Area and Owner.
- Env:** Choose an Environment to see metrics for Environments associated with that Service, Group, Area and Owner.

**Metric:**

Choose the type of metric to show in the heatmap. Each metric has its own gradient bar that maps relative values to colors:

|                       |   |
|-----------------------|---|
| <b>Alert Impact</b>   | The product of the maximum Alert Severity of alerts in the heatmap rectangle multiplied by the maximum Criticality of alerts in the heatmap rectangle. Values range from <b>0</b> - <b>10</b> , as indicated in the color gradient  bar, where <b>10</b> is the highest Alert Impact.   |
| <b>Alert Severity</b> | The maximum level of alerts in the heatmap rectangle. Values range from <b>0</b> - <b>2</b> , as indicated in the color gradient  bar, where <b>2</b> is the highest Alert Severity. <ul style="list-style-type: none"> <li> Red indicates that one or more metrics have reached their alarm threshold. Metrics that have exceeded their specified ALARM LEVEL threshold have an Alert Severity value of <b>2</b>.</li> <li> Yellow indicates that one or more metrics have reached their alarm threshold. Metrics that have exceeded their specified WARNING LEVEL threshold have an Alert Severity value of <b>1</b>.</li> <li> Green indicates that no metrics have reached their alert thresholds. Metrics that have not exceeded their specified thresholds have an Alert Severity value of <b>0</b>.</li> </ul> |
| <b>Alert Count</b>    | The total number of critical and warning alerts in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average alert count.  |
| <b>Criticality</b>    | The maximum level of Criticality (rank of importance) in the heatmap rectangle. Values range from 1 to 5, as indicated in the color gradient  bar, where 5 is the highest Criticality. <p>Criticality is specified in the Service Data Model (CMDB) by your administrator. Criticality values are listed in the <b>Component Views</b> - "<b>CI / Service Table</b>" display, which range from <b>A</b> to <b>E</b>, where <b>A</b> is the highest Criticality (level <b>5</b> maps to a Criticality of <b>A</b> and level <b>1</b> maps to a Criticality of <b>E</b> with equally spaced intermediate values).</p>  |

**CI / Type Table**

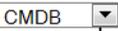
View tabular list of all CIs by CType, as well as their alert metrics (Impact, Severity and Count, for one or all Areas, Groups or Environments). Each row in the table is a different CI (for example, **localhost;RTVMGR\_DATASERVER**). The row color represents the most critical alert state for the CI.

Use the available drop-down menus or right-click to filter data shown in the display. Click Sort  to order column data.

| All Components By Type |  |          |            |             |  |
|------------------------|--|----------|------------|-------------|--|
| CType                  | CName  | Severity | AlertCount | AlertImpact |  |
| EMS-QUEUE              | top://192.168.200.132:7222;queue.sample          |          | 3          | 2           |  |
| EMS-QUEUE              | top://192.168.200.132:7222;sample                |          | 3          | 2           |  |
| EMS-SERVER             | top://192.168.200.132:7222                       |          | 2          | 2           |  |
| EMS-TOPIC              | top://192.168.200.132:7222;sample                |          | 2          | 2           |  |
| EMS-TOPIC              | top://192.168.200.132:7222;topic.sample          |          | 2          | 2           |  |
| EMS-TOPIC              | top://192.168.200.132:7222;topic.sample_exported |          | 2          | 2           |  |
| EMS-TOPIC              | top://192.168.200.132:7222;topic.sample_imported |          | 2          | 2           |  |
| HOST                   | QATB;SLHOST-WIN3                                 |          | 2          | 2           |  |
| HOST                   | QATB;SLHOST-WIN4                                 |          | 1          | 1           |  |
| JVM                    | localhost;ALERTHISTORIAN                         |          | 1          | 1           |  |
| JVM                    | localhost;ALERT_SERVER                           |          | 3          | 2           |  |
| JVM                    | localhost;AMXMON-HISTORIAN                       |          | 1          | 2           |  |
| JVM                    | localhost;AMXMON-SLHOST-WIN3                     |          | 2          | 1           |  |
| JVM                    | localhost;AMXMON-SLHOST-WIN4                     |          | 2          | 1           |  |
| JVM                    | localhost;BWMON-HISTORIAN                        |          | 1          | 2           |  |
| JVM                    | localhost;BWMONITOR-WIN-8                        |          | 1          | 2           |  |
| JVM                    | localhost;CONFIG_SERVER                          |          | 2          | 1           |  |
| JVM                    | localhost;DISPLAYSERVER                          |          | 2          | 1           |  |
| JVM                    | localhost;DISPLAYSERVER_DARKSTYLES               |          | 2          | 1           |  |
| JVM                    | localhost;EMSMON-HISTORIAN                       |          | 1          | 2           |  |
| JVM                    | localhost;EMSMON-SLHOST-WIN3                     |          | 2          | 2           |  |
| JVM                    | localhost;EMSMON-SLHOST-WIN4                     |          | 2          | 1           |  |
| JVM                    | localhost;EMSMONITOR-WIN-8                       |          | 2          | 2           |  |
| JVM                    | localhost;MISCMON-HISTORIAN                      |          | 1          | 2           |  |

### Title Bar:

Indicators and functionality might include the following:

  Open the previous and upper display.  
 and  navigate to displays commonly accessed from this display.

 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 The number of items in the display.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

### Row Color Code:

Tables with colored rows indicate the following:

-  Red indicates that one or more alerts exceeded their ALARM LEVEL threshold in the table row.
-  Yellow indicates that one or more alerts exceeded their WARNING LEVEL threshold in the table row.
-  Green indicates that no alerts exceeded their WARNING or ALARM LEVEL threshold in the table row.

**Filter By:**

The following filtering options are typically included:

**Owner:** Choose an Owner to see metrics for Areas associated with that Owner.

**Area:** Choose an Area to see metrics for Groups associated with that Area and Owner.

**Group:** Choose a Group to see metrics for Services associated with that Group, Area and Owner.

**Service:** Choose a Service to see metrics for Environments associated with that Service, Group, Area and Owner.

**Env:** Choose an Environment to see metrics for Environments associated with that Service, Group, Area and Owner.

**Fields and Data**

This display includes:

**CI Count** The total number of CIs listed in the table. This value is determined by the selections made from display drop-down menus. The totals number for each Environment are also shown.

**CI Table**

This table lists all CIs for the selected Group. Each row in the table is a CI. Each CI can have multiple alerts. Click a CI to view alerts for the CI in the lower table.

**CIType** The type of CI.

**CIName** The name or address of the CI.

**Severity** The maximum level of alerts for the CI. Values range from 0 to 2, where 2 is the greatest Alert Severity:

-  One or more alerts exceeded their ALARM LEVEL threshold.
-  One or more alerts exceeded their WARNING LEVEL threshold.
-  No alert thresholds have been exceeded.

**Alert Count** The total number of critical and warning alerts for the CI.

**Alert Impact** The product of the maximum Alert Severity multiplied by the maximum Criticality of alerts. Values range from **0** - **10**, where **10** is the highest Alert Impact.

## Metric Explorer

The Metric Explorer (MX) is a tool for creating and viewing custom dashboards, referred to as *MX Views*. An MX View contains a trend graph with up to five traces which you can configure to show numeric metrics from any EM Solution Package. While EM provides out-of-the-box Views of metric data, there might not be a single display that shows all the metrics that are critical to a single application. MX allows end-users to create Views containing the metrics that are important to them. The MX Views your end-users create are accessed from the MX **View** drop-down menu (rather than the navigation tree as RTView Enterprise Monitor Views are). Data is filtered by the \$rtvOwnerMask, \$rtvAreaMask, \$rtvGroupMask and \$rtvServiceMask values for the logged in user. For details, see **Configure User and Role Management**.

Displays in this View are:

- [“Metric Explorer” on page 174:](#)

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**Note:** The Metric Explorer was added in RTView Enterprise Monitor version 1.5.0. For instructions about adding the Metric Explorer to applications created with versions older than 1.5.0, see the RTView Enterprise Monitor Upgrade Notes.

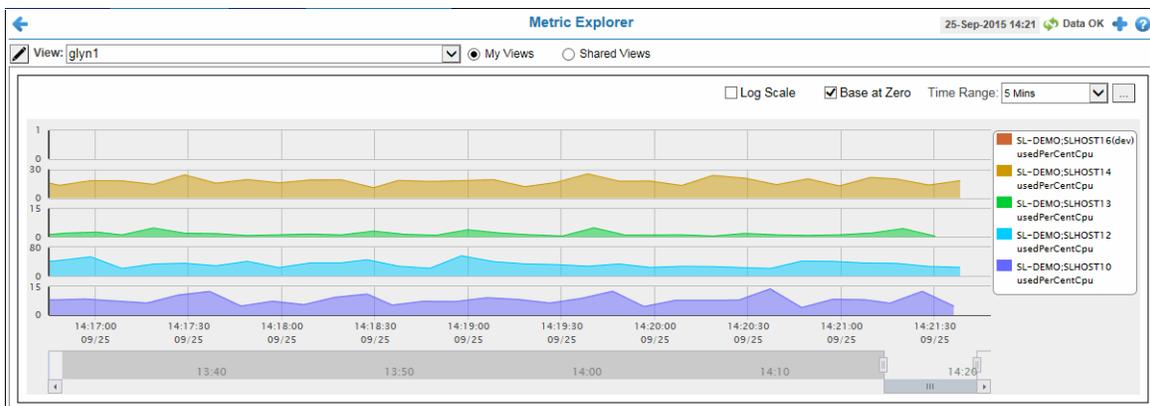
---

## Metric Explorer

View your previously created MX Views. Select an MX View from the **View** drop-down menu. The contents of the **View** drop-down menu depend on whether you choose **My Views** or **Shared Views**. Choose **My Views** to see public and private MX Views owned by you. Choose **Shared Views** to see public MX Views owned by you and other users. A public MX View is an MX View where the creator chose the **Share View with Others** option. The creator of the MX View is the owner.

Each MX View has options to apply **Log Scale**, **Base at Zero** and **Time Range** to your graphs.

To create or edit an MX View click Edit  to open the edit pane. For details, see [“Creating MX Views” on page 175](#).



### Title Bar:

Indicators and functionality might include the following:

-   Open the previous and upper display. **CMDB** and **Table** navigate to displays commonly accessed from this display.
- 19-Feb-2014 16:50** The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
- Cls: 3,047** The number of items in the display.

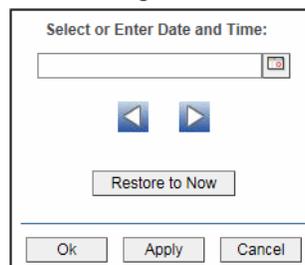
-  **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
-  Open the **Alert Views - RTView Alerts Table** display.
-  Open an instance of this display in a new window.
-  Open the online help page for this display.

### Fields and Data

Options include:

-  Open the edit pane.

- View** Select an MX View from the **View** drop-down menu.
- My Views** Choose **My Views** to see public and private MX Views owned by you in the **View** drop-down menu.
- Shared View** Choose **Shared Views** to see public MX Views owned by you and other users. A public MX View is an MX View where the creator chose the **Share View with Others** option. The creator of the MX View is the owner.
- Log Scale** Select to enable a logarithmic scale. Use Log Scale to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. Log Scale makes data on both scales visible by applying logarithmic values rather than actual values to the data.
- Base at Zero** Use zero as the Y axis minimum for all graph traces.
- Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



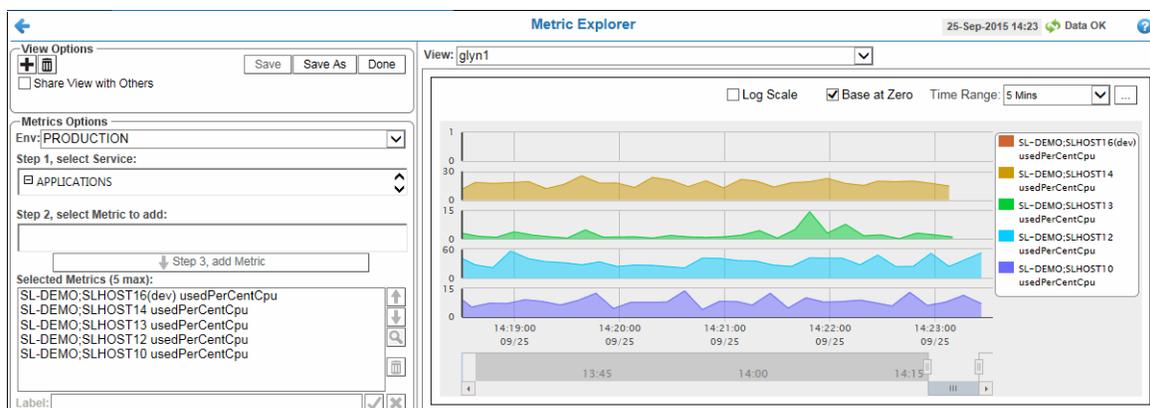
By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click Restore to Now to reset the time range end point to the current time.

## Creating MX Views

Click Edit  to open the edit pane. If an MX View is already selected, click New  to start a new MX View.



Select the Service containing the metric you want to see from the **Metrics Options/Service Tree**. The **Service Tree** is filtered by the environment in the **Env** menu. If necessary select the environment containing your Service. When you select a Service, all available metrics for that Service are listed in the **Metric Tree**. Because the metric will be displayed in a trend graph, only numeric metrics with history are listed in the **Metric Tree**. Select the metric you want to see from the **Metrics Options/Metric Tree** and click **Add Metric**. The metric is added to the **Selected Metrics** list and the MX View preview (in the right panel). Add up to five metrics to your MX View.

To change the order in which the metrics are displayed in the graph use the Up  and Down  arrows. To remove a metric, select it in the **Selected Metrics** and click Trash . To add a label to your metric, select it in the **Selected Metrics** list and enter your label text in the **Label** field. Click Apply  to apply the label, or Cancel  to cancel the label.

Click **Save** and enter a descriptive MX View name. Click **Share View with Others** to make your MX View public, otherwise, the MX View is only available to you. Click Confirm  to write the MX View to the database. Click Cancel  to return to edit mode. Click **Done** to return to the **Metric Explorer** page. The MX View you created is added to the **View** drop-down menu.

To create a new MX View with the Service already selected, select a Service from a **Service Summary Views** display and click MX  (or the table context menu). This opens the MX edit pane with the Service already selected in the MX edit pane **Service Tree**. If you selected a CI Type or CI, these are also already selected in the MX edit pane **Metric Tree**. This spares you from having to search for the Service, CI Type or CI in the **Service** and **Metrics Trees**. The displays from which you can use this feature are:

- **Service Summary Views** - [“Service By CI Type” on page 129](#)
- **Service Summary Views** - [“Service Summary” on page 133](#)

## Editing MX Views

In the Metric Explorer, select the MX View you want to edit and click Edit . The edit pane opens with the selected MX View in edit mode. To delete the MX View click Trash . To save your MX View under a new name, click **Save As**. Add, remove, reorder or label metrics as described in the [“Creating MX Views”](#) section (above). Select a metric in the **Selected Metrics** list and click on **Search** to update the selection in the **Service Tree** and **Metric Tree** to the values used when that metric was added to the MX View. This is useful when you want to see which Service contains a metric so you can add more metrics from the same Service.

When you are finished editing your metric, you can click **Cancel** to cancel your changes or **Save** to save your changes. To edit another MX View, select it from the **View** drop-down menu. Click **Done** to return to the Metric Explorer page.

---

**Note:** When you edit an MX View you do not own a copy of the MX View is automatically created and you are prompted to enter a name for the MX View when you save it.

---

## View Options

|   |  |
|---|--|
|  | Create a new MX View.  |
|  | Delete the selected MX View.   |
| <b>Save</b>   | Save the selected MX View. If this is an existing MX View, the save is done immediately. If this is a new MX View, the <b>Name</b> field becomes available and you must enter a name and click <b>Confirm Save</b> to save your MX View. |

|                                     |  |
|-------------------------------------|--|
| <b>Save As</b>                      | Save the selected MX View under a new name. The <b>Name</b> field becomes available and you must enter a name and click <b>Confirm Save</b> to save your MX View.  |
| <b>Done</b>                         | Close the edit pane. This option is available when you do not have unsaved changes.  |
| <b>Cancel</b>                       | Cancel your edits.   |
| <b>Name</b>                         | Enter a name for your MX View. This field is available when saving a new MX View or after you click <b>Save As</b> .   |
| <input checked="" type="checkbox"/> | Confirm that you want to save your MX View after you enter a name. This option is available when saving a new MX View or after you click <b>Save As</b> .  |
| <input type="checkbox"/>            | Cancel the save. This is available when saving a new MX View or after you click <b>Save As</b> .   |
| <b>Share View</b>                   | Select to make your MX View public. Public MX Views are available to all users in the <b>View</b> drop-down menu when the <b>Shared Views</b> option is selected. Deselect to make this MX View only available to you. |

### Metric Options

|   |   |
|---|---|
| <b>Env</b>  | Select an Environment to filter the items in the Service Tree.  |
| <b>Service Tree</b>   | The CMDB service model (Owner, Area, Group, Service). Select a Service to populate the Metric Tree with metrics for that Service. The Services in the Service Tree are filtered by the following login substitutions: <b>\$rtvOwnerMask</b> , <b>\$rtvAreaMask</b> , <b>\$rtvGroupMask</b> and <b>\$rtvServiceMask</b> . For details, see the <b>Configure Role Management</b> section. |
| <b>Metric Tree</b>  | The available metrics for the selected service. The tree hierarchy is CI Type, CI name, Metric (cache: metric). The tree only contains numeric metrics with history.  |
| <b>Add Metric</b>   | Add the selected metric to the MX View. When a metric is added to the MX View, it appears in the graph.   |
| <b>Selected Metrics</b>   | The list of metrics for this MX View.   |
|  | Move the metric up in the list of selected metrics.   |
|  | Move the metric down in the list of selected metrics.   |
|  | Set the selection in the Service and Metric trees to the values used when you added the selected metric to the MX View. NOTE: If your CMDB has changed such that the Service you used to add this metric no longer exists, the search button will fail  |
|  | Delete the selected metric from the MX View.  |
| <b>Label</b>  | Enter a label to use for the selected metric. This label is not applied until you click on the confirm label button. This label is used in the graph legend.  |
| <input checked="" type="checkbox"/>   | Confirm the label you entered for the selected metric.  |
| <input type="checkbox"/>  | Discard the label you entered for the selected metric (revert back to the previously applied value).  |

## Limitations

- The Search  button fails without an error if the Service that was selected when you initially added the metric is no longer in your CMDB. To fix this, delete the metric and add it again from a Service that is currently in your CMDB. NOTE: The missing Service only makes the Search button fail. It does not cause any problems with viewing the metric.
- When you try to add a metric to an MX View that already contains that metric, it will not be added again. In the Viewer, an error message will come up saying that the metric is already in the MX View. In the Thin Client, no error is shown.
- MX Views are limited to five metrics. After a view contains five metrics, the **Add Metric** button is disabled.
- There is no indicator that shows if the MX database or Central Configuration Server are off-line in the MX configuration display. Any changes you save when either the MX database or Central Configuration Server are off line will be lost.
- When you save an MX View, RTView writes to both the View Table and the Metrics Table to the database even if only one or the other changed.
- When you save an MX View, the MX Configuration UI temporarily reverts back to the previous version of the MX View for one update, then updates with the latest changes.
- By default, MX attaches to the history\_combo table for the metric history. If the cache is not configured with a history\_combo table, the Metric Explorer will instead make a one-time attachment to the history table. In this case, toggling the **Log Scale** check-box will cause all points plotted after the initial history query to be lost. On the next update of current data a straight line will be drawn from the last history point to the new current data point.

## JVM Process Views

These displays present performance data for monitored Java Virtual Machine (JVM) Processes. Use these displays to examine the performance and resource use of JVMs in summary and detail. Any JVM that is enabled for monitoring can be included in these displays. The displays include summary overviews and detail pages with historical trends.

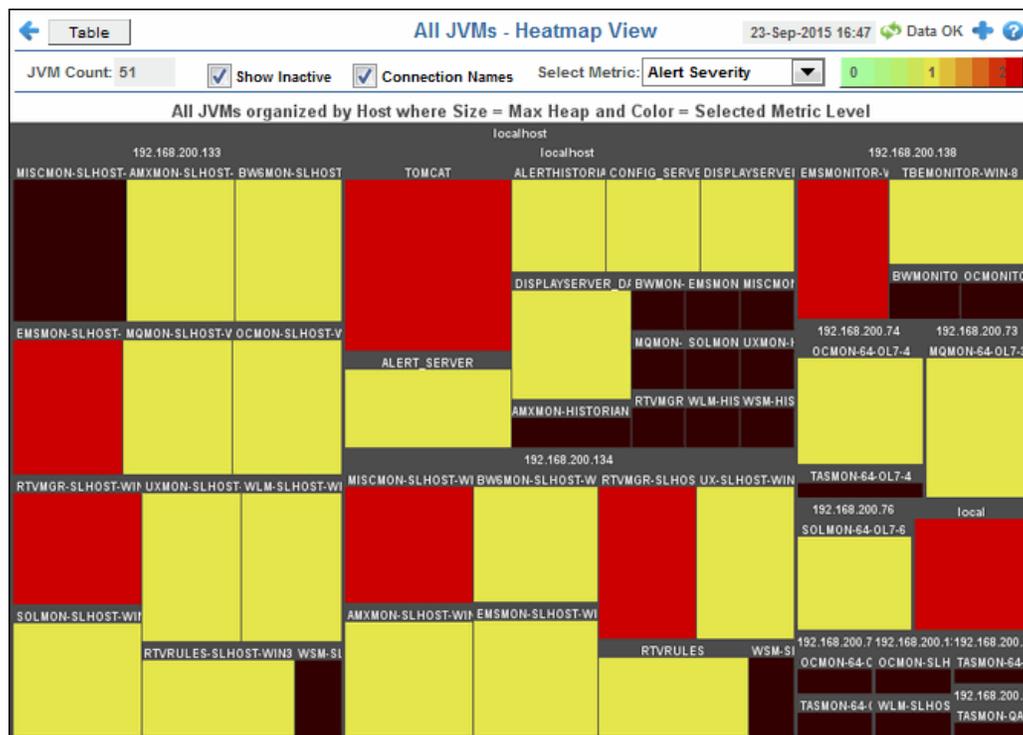
You can set alert thresholds on performance and resource metrics for your JVMs, including **CPU Percent**, **Memory Used** and **Gc Duty cycle**. Alerts are shown in the [“All JVMs Heatmap”](#) display. Use the detailed JVM displays to investigate further; for example a **Memory Used** alarm might take you to the [“JVM Summary”](#) display to get historical memory use, or a **Gc Duty Cycle** alarm might take you to the [“JVM GC Trends”](#) display. Displays in this View are:

- [“All JVMs Heatmap” on page 179](#): Heatmap of alert states for all JVM connections
- [“All JVMs Table” on page 180](#): Table of connection details for all JVM connections.
- [“JVM Summary” on page 182](#): Table of connection details for a single JVM as well as performance trend graphs.
- [“JVM System Properties” on page 186](#): Table of system details for a single JVM.
- [“JVM Memory Pool Trends” on page 187](#): Trend graphs of memory pool utilization.
- [“JVM GC Trends” on page 190](#): Trend graphs of garbage collection memory utilization.

## All JVMs Heatmap

View the most critical alert state for all monitored JVM connections, as well as CPU and memory utilization. The heatmap organizes JVM connections by source and host, and uses color to show the most critical Metric value for each JVM connection associated with that source. Each rectangle in the heatmap represents a JVM connection. The rectangle size represents the amount of memory reserved for that process; a larger size is a larger value. Each Metric (selected from the drop-down menu) has a color gradient bar that maps relative values to colors.

Use the check-boxes  to include or exclude labels in the heatmap. Move your mouse over a rectangle to see additional information. Drill-down and investigate by clicking a rectangle in the heatmap to view details for the selected connection in the “JVM Summary” display.



### Title Bar:

Indicators and functionality might include the following:

Open the previous and upper display.  
 and navigate to displays commonly accessed from this display.

19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Cis: 3,047 The number of items in the display.

Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

Open the online help page for this display.

**Fields and Data**

This display includes:

**JVM Count** The number of JVM connections shown in the display.

**Show Inactive** Check the Show Inactive box to include inactive connections.

**Connection Names** Check the box to display the names of the JVM connections.

**Metric**

Select the Metric to display in the heatmap. Each Metric has a color gradient bar that maps relative values to colors.

**Alert Severity** The maximum level of alerts in the heatmap rectangle. Values range from **0** - **2**, as indicated in the color gradient  bar, where **2** is the highest Alert Severity.

 Red indicates that one or more alerts have reached their alarm threshold. Alerts that have exceeded their specified ALARM LEVEL threshold have an Alert Severity value of **2**.

 Yellow indicates that one or more alerts have reached their alarm threshold. Alerts that have exceeded their specified WARNING LEVEL threshold have an Alert Severity value of **1**.

 Green indicates that no alerts have reached their alert thresholds. Alerts that have not exceeded their specified thresholds have an Alert Severity value of **0**.

**CPU %** The total percent (%) CPU utilization for the rectangle. The color gradient  bar values range from **0** to the maximum percent (%) CPU utilization in the heatmap.

**Memory %** The total percent (%) memory utilization for the rectangle. The color gradient  bar values range from **0** to the maximum percent (%) memory utilization in the heatmap.

**All JVMs Table**

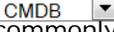
View JVM connection details, the most critical alert state for each JVM connection, as well as CPU and memory utilization in a tabular format. Each row in the table is a different connection. Check the **Show Inactive** box to include inactive connections. The row color for inactive connections is dark red.

Click Sort  to order column data. Drill-down and investigate by clicking a row in the table to view details for the selected connection in the “JVM Summary” display.

| Heatmap              |                                     | All JVMs - Table View                             |       | 23-Sep-2015 16:45   |       | Data OK |               |            |  |
|----------------------|-------------------------------------|---|-------|---------------------|-------|---------|---------------|------------|--|
| JVM Count: 51        |                                     | <input checked="" type="checkbox"/> Show Inactive |       | All JMX Connections |       |         |               |            |  |
| Connection           | Expired                             | Connected   | Alert | Host                | Port  | CPU %   | Max Heap      | Mem Used % |  |
| ALERT_SERVER         | <input checked="" type="checkbox"/> |   |       | localhost           | 10023 | 19.7    | 499,974,144   | 35.4       |  |
| ALERTHISTORIAN       | <input checked="" type="checkbox"/> |   |       | localhost           | 10025 | 0.7     | 477,233,152   | 4.1        |  |
| AMXMON-HISTORIAN     | <input checked="" type="checkbox"/> |   |       | localhost           | 3387  |         | 0             |            |  |
| AMXMON-SLHOST-WIN3   | <input checked="" type="checkbox"/> |   |       | 192.168.200.133     | 6368  | 1.5     | 954,466,304   | 29.9       |  |
| AMXMON-SLHOST-WIN4   | <input checked="" type="checkbox"/> |   |       | 192.168.200.134     | 6368  | 2.1     | 954,466,304   | 13.3       |  |
| BW6MON-SLHOST-WIN3   | <input checked="" type="checkbox"/> |   |       | 192.168.200.133     | 3368  | 0.8     | 954,466,304   | 32.0       |  |
| BW6MON-SLHOST-WIN4   | <input checked="" type="checkbox"/> |   |       | 192.168.200.134     | 3368  | 1.2     | 954,466,304   | 17.2       |  |
| BW6MON-HISTORIAN     | <input checked="" type="checkbox"/> |   |       | localhost           | 3367  |         | 0             |            |  |
| BW6MONITOR-WIN-8     | <input checked="" type="checkbox"/> |   |       | 192.168.200.138     | 3368  |         | 0             |            |  |
| CONFIG_SERVER        | <input checked="" type="checkbox"/> |   |       | localhost           | 10013 | 2.9     | 477,233,152   | 51.5       |  |
| DISPLAYSERVER        | <input checked="" type="checkbox"/> |   |       | localhost           | 10024 | 4.8     | 477,233,152   | 46.8       |  |
| DISPLAYSERVER_DARKST | <input checked="" type="checkbox"/> |   |       | localhost           | 10124 | 2.9     | 477,233,152   | 25.8       |  |
| EMSMON-HISTORIAN     | <input checked="" type="checkbox"/> |   |       | localhost           | 3187  |         | 0             |            |  |
| EMSMONITOR-WIN-8     | <input checked="" type="checkbox"/> |   |       | 192.168.200.138     | 3168  | 1.3     | 954,466,304   | 53.4       |  |
| EMSMON-SLHOST-WIN3   | <input checked="" type="checkbox"/> |   |       | 192.168.200.133     | 3168  | 1.4     | 954,466,304   | 28.7       |  |
| EMSMON-SLHOST-WIN4   | <input checked="" type="checkbox"/> |   |       | 192.168.200.134     | 3168  | 2.1     | 954,466,304   | 28.2       |  |
| local                | <input checked="" type="checkbox"/> |   |       |                     |       | 0.9     | 954,466,304   | 21.1       |  |
| MISCMON-HISTORIAN    | <input checked="" type="checkbox"/> |   |       | localhost           | 3967  |         | 0             |            |  |
| MISCMON-SLHOST-WIN3  | <input checked="" type="checkbox"/> |   |       | 192.168.200.133     | 3968  | 22.1    | 1,070,466,024 | 92.5       |  |
| MISCMON-SLHOST-WIN4  | <input checked="" type="checkbox"/> |   |       | 192.168.200.134     | 3968  | 5.9     | 997,785,600   | 90.4       |  |
| MQMON-64-OL7-3       | <input checked="" type="checkbox"/> |   |       | 192.168.200.73      | 3468  | 4.0     | 1,037,959,168 | 13.0       |  |
| MQMON-HISTORIAN      | <input checked="" type="checkbox"/> |   |       | localhost           | 3467  |         | 0             |            |  |
| MQMON-SLHOST-WIN3    | <input checked="" type="checkbox"/> |   |       | 192.168.200.133     | 3468  | 2.2     | 954,466,304   | 10.3       |  |
| OCMON-64-OL7-1       | <input checked="" type="checkbox"/> |   |       | 192.168.200.71      | 9911  |         | 0             |            |  |
| OCMON-64-OL7-4       | <input checked="" type="checkbox"/> |   |       | 192.168.200.74      | 9911  | 0.4     | 954,728,448   | 4.7        |  |
| OCMONITOR-WIN-8      | <input checked="" type="checkbox"/> |   |       | 192.168.200.138     | 9911  |         | 0             |            |  |
| OCMON-SLHOST-WIN3    | <input checked="" type="checkbox"/> |   |       | 192.168.200.133     | 9911  | 1.8     | 954,466,304   | 18.5       |  |

### Title Bar:

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 and  navigate to displays commonly accessed from this display.

 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 Cts: 3,047 The number of items in the display.

 Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

### Row Color Code:

Tables with colored rows indicate the following:

-  Red indicates that one or more alerts exceeded their ALARM LEVEL threshold in the table row.
-  Yellow indicates that one or more alerts exceeded their WARNING LEVEL threshold in the table row.
-  Green indicates that no alerts exceeded their WARNING or ALARM LEVEL threshold in the table row.

### Fields and Data

This display includes:

**JVM Count** The number of JVM connections shown in the display.

**Show Inactive** Check to include inactive connections.

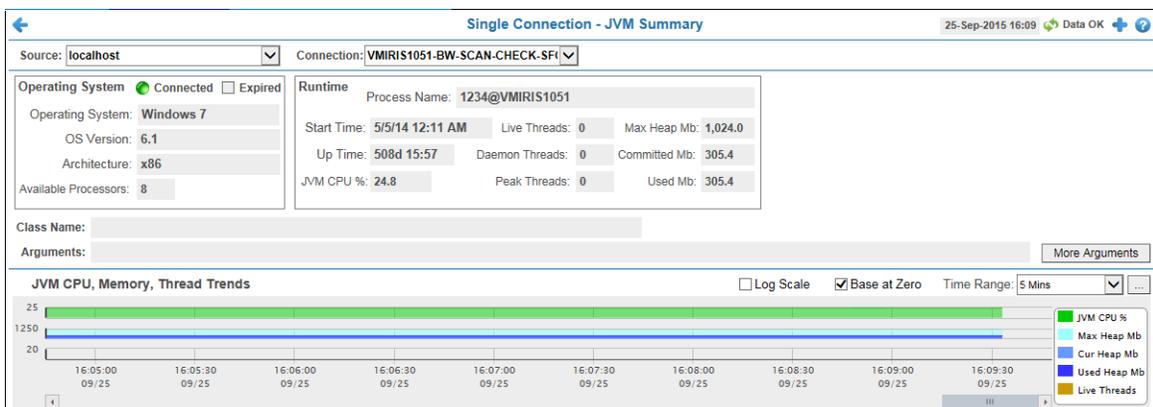
### All JMX Connections

|                   |   |
|-------------------|---|
| <b>Connection</b> | The name of the JVM connection.   |
| <b>Expired</b>    | When checked, this connection is expired due to inactivity.   |
| <b>Connected</b>  | The data connection state:<br><input type="radio"/> Disconnected.<br><input checked="" type="radio"/> Connected.  |
| <b>Alert</b>      | The maximum level of alerts associated with the connection. Values range from <b>0</b> to <b>2</b> , where <b>2</b> is the greatest Alert Severity.<br><input checked="" type="radio"/> One or more alerts associated with the connection exceeded their ALARM LEVEL threshold.<br><input type="radio"/> One or more alerts associated with the connection exceeded their WARNING LEVEL threshold.<br><input checked="" type="radio"/> No alerts associated with the connection have exceeded their thresholds. |
| <b>Host</b>       | The name of the host for this connection.   |
| <b>CPU %</b>      | The amount of CPU, in percent (%) used by this connection.  |
| <b>Max Heap</b>   | The maximum amount of heap, in kilobytes, allocated to this connection.   |
| <b>Mem % Used</b> | The amount of JVM memory, in percent (%) used by this connection.   |
| <b>RtvAppType</b> | The type of RTView application, where: <b>1</b> is for the Historian, <b>3</b> is for the Data Server; <b>5</b> is for the Display Server, and <b>0</b> is a non-RTView application.  |
| <b>Source</b>     | The Data Server that sent this value.   |
| <b>time_stamp</b> | The date and time this row of data was last updated.  |

## JVM Summary

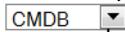
Track JVM memory and CPU usage, get JVM system information, application performance metrics, and input arguments for a single connection. Verify whether the memory usage has reached a plateau. Or, if usage is getting close to the limit, determine whether to allocate more memory.

Use the available drop-down menus or right-click to filter data shown in the display.



**Title Bar:**

Indicators and functionality might include the following:

  Open the previous and upper display.  and  navigate to displays commonly accessed from this display.

 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 CIs: 3,047 The number of items in the display.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

**Fields and Data**

This display includes:

**Source** Select the type of connection to the RTView Server.

**Connection** Select an RTView Server from the drop-down menu. Names can be modified in the RTView Server configuration properties file.

**Operating System**

Displays data pertaining to the operating system running on the host on which the JVM resides.

**Connected** The data connection state:

 Disconnected.

 Connected.

**Expired** When checked, this server is expired due to inactivity.

**Operating System** The name of the operating system running on the host on which the JVM resides.

**OS Version** The operating system version.

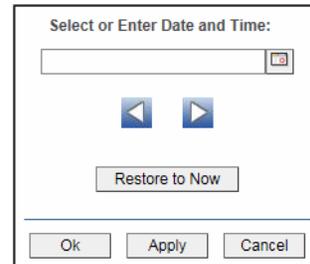
**Architecture** The ISA used by the processor.

**Available Processors** The total number of processors available to the JVM.

**Runtime**

|                                       |   |
|---------------------------------------|---|
| <b>Process Name</b>                   | Name of the process.  |
| <b>Start Time</b>                     | The date and time that the application started running.   |
| <b>Up Time</b>                        | The amount of time the application has been running, in the following format:<br><b>0d 00:00</b><br><b>&lt;days&gt;d &lt;hours&gt;:&lt;minutes&gt;:&lt;seconds&gt;</b><br>For example:<br><b>10d 08:41:38</b>   |
| <b>JVM CPU %</b>                      | The amount of CPU usage by the JVM, in percent.   |
| <b>Live Threads</b>                   | The total number of live threads.   |
| <b>Daemon Threads</b>                 | The total number of live daemon threads.  |
| <b>Peak Threads</b>                   | The total number of peak live threads since the JVM started or the peak was reset.  |
| <b>Max Heap Mb</b>                    | The maximum amount of memory used for memory management by the application in the time range specified. This value may change or be undefined.<br><br>NOTE: A memory allocation can fail if the JVM attempts to set the <b>Used</b> memory allocation to a value greater than the <b>Committed</b> memory allocation, even if the amount for <b>Used</b> memory is less than or equal to the <i>Maximum</i> memory allocation (for example, when the system is low on virtual memory).                              |
| <b>Committed Mb</b>                   | The amount of memory, in megabytes, guaranteed to be available for use by the JVM. The amount of committed memory can be a fixed or variable size. If set to be a variable size, the amount of committed memory can change over time, as the JVM may release memory to the system. This means that the amount allocated for <b>Committed</b> memory could be less than the amount initially allocated. <b>Committed</b> memory will always be greater than or equal to the amount allocated for <b>Used</b> memory. |
| <b>Used Mb</b>                        | The amount of memory currently used by the application. Memory used includes the memory occupied by all objects including both reachable and unreachable objects.   |
| <b>Class Name</b>                     | Class name used for JVM.  |
| <b>Arguments</b>                      | The arguments used to start the application.  |
| <b>More Arguments</b>                 | Additional arguments used to start the application.   |
| <b>JVM CPU, Memory, Thread Trends</b> | Shows JVM metrics for the selected server.  |

- Log Scale** Enable to use a logarithmic scale for the Y axis. Use Log Scale to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. Log Scale makes data on both scales visible by applying logarithmic values rather than actual values to the data.
- Base at Zero** Use zero as the Y axis minimum for all graph traces.
- Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click Restore to Now to reset the time range end point to the current time.

- JVM CPU %** Traces the amount of memory, in percent, used by the JVM in the time range specified.
- Max Heap Mb** Traces the maximum amount of memory used for memory management by the application in the time range specified. This value may change or be undefined.  
NOTE: A memory allocation can fail if the JVM attempts to set the **Used** memory allocation to a value greater than the **Committed** memory allocation, even if the amount for **Used** memory is less than or equal to the **Maximum** memory allocation (for example, when the system is low on virtual memory).
- Cur Heap Mb** Traces the current amount of memory, in megabytes, used for memory management by the application in the time range specified.
- Used Heap Mb** Traces the memory currently used by the application.
- Live Threads** Traces the total number of currently active threads in the time range specified.

## JVM System Properties

Track JVM input arguments and system properties for a single connection. Use the available drop-down menus or right-click to filter data shown in the display.

| System Properties                         |  |
|---|--|
| Property                                  | Value  |
| awt.toolkit                               | sun.awt.windows.WToolkit                                   |
| com.sl.rtvie.customRtvAppManagerClassName | com.sl.gmsjrtvutils.RtvApmAppManager                       |
| com.sl.rtvie.log4jFile                    | C:\TestBed\rtv\apm\rtv\view\server\apache-tomcat-6.0.18-si |
| com.sl.rtvie.RTVLog4jLevel                | info   |
| com.sl.rtvie.showLogCategory              | true   |
| com.sl.rtvie.useLog4j                     | true   |

### Title Bar:

Indicators and functionality might include the following:

- Open the previous and upper display.
- and navigate to displays commonly accessed from this display.
- 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
- Cts: 3,047 The number of items in the display.

- Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

### Fields and Data

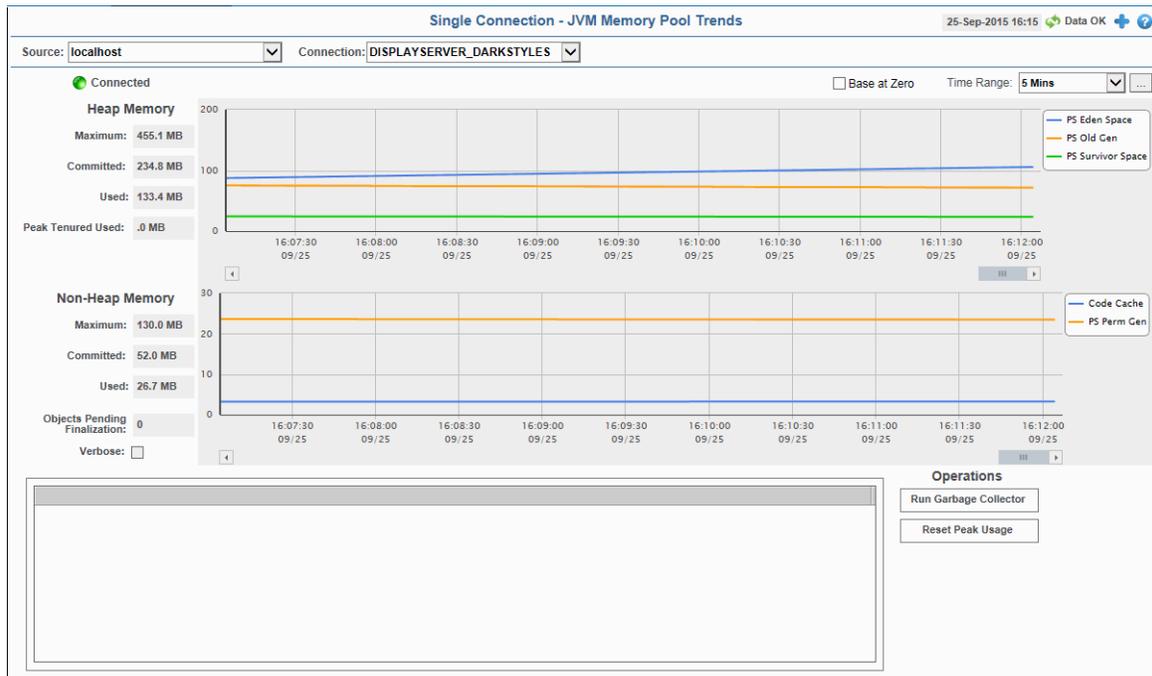
This display includes:

- Source** Select the type of connection to the RTView Server.
- Connection** Select an RTView Server from the drop-down menu. Names can be modified in the RTView Server configuration properties file.
- Connected** The data connection state:
  - Disconnected.
  - Connected.
- Java Version** The Java version running on the selected server.
- JVM Arguments** The JVM arguments in the **RuntimeMBean InputArguments** attribute.
- Command Line Arguments** Arguments used to start the application.
- System Properties** This table lists and describes system property settings.

|                 |                                |
|-----------------|--------------------------------|
| <b>Property</b> | Name of the property.          |
| <b>Value</b>    | Current value of the property. |

## JVM Memory Pool Trends

Track JVM heap and non-heap memory usage for a single connection. Use the available drop-down menus or right-click to filter data shown in the display.



### Title Bar:

Indicators and functionality might include the following:

- Open the previous and upper display.
- and navigate to displays commonly accessed from this display.
- 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
- CIs: 3,047 The number of items in the display.

- Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

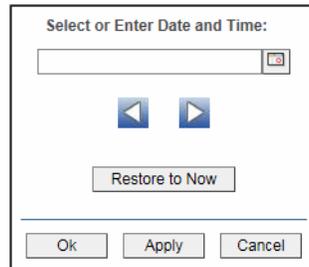
### Fields and Data

This display includes:

- Source** Select the type of connection to the RTView Server.
- Connection** Select an RTView Server from the drop-down menu. Names can be modified in the RTView Server configuration properties file.
- Connected** The data connection state:
  - Disconnected.
  - Connected.

**Base at Zero** Use zero as the Y axis minimum for all graph traces.

**Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu. Click Restore to Now to reset the time range end point to the current time.

## Heap Memory

|                          |   |
|--------------------------|---|
| <b>Maximum</b>           | The maximum amount of memory used, in megabytes, for memory management by the application in the time range specified. This value may change or be undefined.<br><br>NOTE: A memory allocation can fail if the JVM attempts to set the <b>Used</b> memory allocation to a value greater than the <b>Committed</b> memory allocation, even if the amount for <b>Used</b> memory is less than or equal to the <b>Maximum</b> memory allocation (for example, when the system is low on virtual memory).               |
| <b>Committed</b>         | The amount of memory, in megabytes, guaranteed to be available for use by the JVM. The amount of committed memory can be a fixed or variable size. If set to be a variable size, the amount of committed memory can change over time, as the JVM may release memory to the system. This means that the amount allocated for <b>Committed</b> memory could be less than the amount initially allocated. <b>Committed</b> memory will always be greater than or equal to the amount allocated for <b>Used</b> memory. |
| <b>Used</b>              | The amount of memory, in megabytes, currently used by the application. Memory used includes the memory occupied by all objects including both reachable and unreachable objects.  |
| <b>Peak Tenured Used</b> | The amount of memory, in megabytes, used by tenured JVM objects in the time range specified. Tenured refers to JVM objects contained in a pool that holds objects that have avoided garbage collection and reside in the survivor space. Peak tenured refers to the maximum value of the tenured memory over a specified period of time.  |
| <b>Eden Space</b>        | Traces the amount of memory used by the JVM eden pool in the time range specified. Eden refers to the JVM eden pool, which is used to initially allocate memory for most objects.   |
| <b>Survivor Space</b>    | Traces the amount of memory used by the JVM survivor pool in the time range specified. The JVM survivor pool holds objects that survive the eden space garbage collection.  |
| <b>Tenured Gen</b>       | Traces the amount of memory used by tenured JVM objects in the time range specified. Tenured refers to JVM objects contained in a pool that holds objects that have avoided garbage collection and reside in the survivor space. Peak tenured refers to the maximum value of the tenured memory over a specified period of time.  |

**Non-Heap Memory**

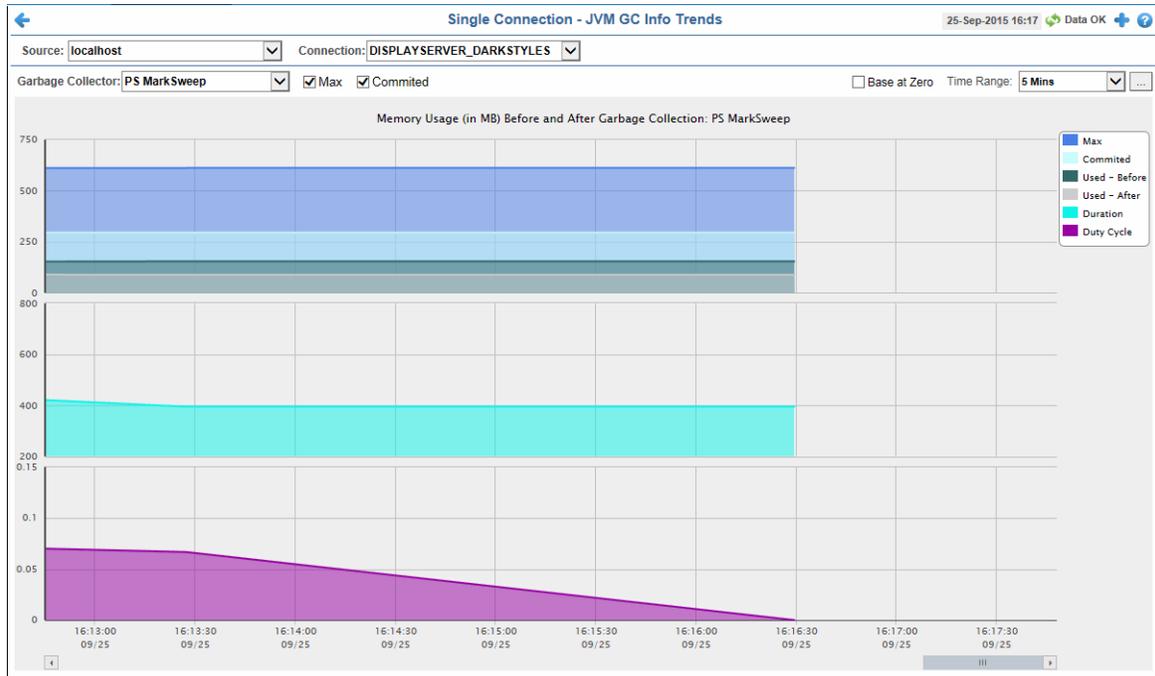
|                                     |  |
|-------------------------------------|--|
| <b>Maximum</b>                      | The maximum amount of memory, in megabytes, used for JVM non-heap memory management by the application in the time range specified.  |
| <b>Committed</b>                    | The amount of memory, in megabytes, guaranteed to be available for use by JVM non-heap memory management. The amount of committed memory can be a fixed or variable size. If set to be a variable size, it can change over time, as the JVM may release memory to the system. This means that the amount allocated for <b>Committed</b> memory could <b>be</b> less than the amount initially allocated. Committed memory will always be greater than or equal to the amount allocated for <b>Used</b> memory. |
| <b>Used</b>                         | The amount of memory, in megabytes, currently used by the application. Memory used includes the memory occupied by all objects including both reachable and unreachable objects.   |
| <b>Objects Pending Finalization</b> | The value of the <b>MemoryMXBean ObjectPendingFinalizationCount</b> attribute.   |
| <b>Verbose</b>                      | The value of the <b>MemoryMXBean Verbose</b> attribute.  |
| <b>Code Cache</b>                   | Traces the amount of non-heap memory used in the JVM for compilation and storage of native code.   |
| <b>Perm Gen</b>                     | Traces the amount of memory used by the pool containing reflective data of the virtual machine, such as class and method objects. With JVMs that use class data sharing, this generation is divided into read-only and read-write areas.   |

**Operations**

|                              |   |
|------------------------------|---|
| <b>Run Garbage Collector</b> | Performs garbage collection on the selected server. |
| <b>Reset Peak Usage</b>      | Clears peak usage on the selected server.           |

## JVM GC Trends

Track JVM garbage collection memory usage for a single connection. Use the available drop-down menus or right-click to filter data shown in the display.



### Title Bar:

Indicators and functionality might include the following:

← ↑ Open the previous and upper display.  
 CMDB and Table navigate to displays commonly accessed from this display.

19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Cls: 3,047 The number of items in the display.

Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

⚠ Open the **Alert Views - RTView Alerts Table** display.

⊕ Open an instance of this display in a new window.

❓ Open the online help page for this display.

### Fields and Data

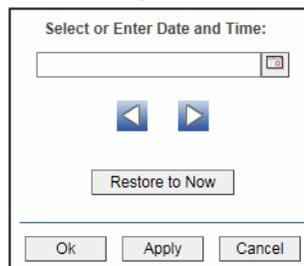
This display includes:

- Source** Select the type of connection to the RTView Server.
- Connection** Select an RTView Server from the drop-down menu. Names can be modified in the RTView Server configuration properties file.
- Garbage Collector** Select a garbage collection method: **Copy** or **MarkSweepCompact**.
- Max** Shows the maximum amount of memory GC used for JVM garbage collection in the time range specified.

**Committed** Shows the amount of memory guaranteed to be available for use by JVM non-heap memory management. The amount of committed memory can be a fixed or variable size. If set to be a variable size, it can change over time, as the JVM may release memory to the system. This means that the amount allocated for **Committed** memory could be less than the amount initially allocated. **Committed** memory will always be greater than or equal to the amount allocated for **Used** memory.

**Base at Zero** Use zero as the Y axis minimum for all graph traces.

**Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click Restore to Now to reset the time range end point to the current time.

### Memory Usage (in MB) Before and After Garbage Collection

|                      |   |
|----------------------|---|
| <b>Maximum</b>       | Traces the maximum amount of memory used by garbage collection in the time range specified. This value may change or be undefined.<br>NOTE: A memory allocation can fail if the JVM attempts to set the <b>Used</b> memory allocation to a value greater than the <b>Committed</b> memory allocation, even if the amount for <b>Used</b> memory is less than or equal to the <b>Maximum</b> memory allocation (for example, when the system is low on virtual memory).                                      |
| <b>Committed</b>     | Traces the amount of memory guaranteed to be available for use by the JVM. The amount of committed memory can be a fixed or variable size. If set to be a variable size, the amount of committed memory can change over time, as the JVM may release memory to the system. This means that the amount allocated for <b>Committed</b> memory could be less than the amount initially allocated. <b>Committed</b> memory will always be greater than or equal to the amount allocated for <b>Used</b> memory. |
| <b>Used - Before</b> | Traces the amount of memory used before the last garbage collection.  |
| <b>Used - After</b>  | Traces the amount of memory used after the last garbage collection.   |
| <b>Duration</b>      | The duration, in seconds, of garbage collection.  |
| <b>Duty Cycle</b>    | The percentage of time that the application spends in garbage collection.   |

## Tomcat Servers

These displays present performance data for monitored Tomcat Application Servers. Use these displays to examine the state and performance of your Tomcat servers as well as all installed web modules. The server displays include summary overviews and detail pages with historical trends. Displays in this View are:

- [“All Servers Table” on page 192](#): Table of connection details and performance metrics for all Tomcat connections.
- [“Server Summary” on page 194](#): Performance metrics for one Tomcat Server, including current and historic performance metrics.
- [“All Apps Heatmap” on page 197](#): Heatmap of performance metrics for all Web modules for one Tomcat Server.
- [“App Summary” on page 199](#): Table and trend graphs of performance metrics for Web modules.

### All Servers Table

View Tomcat Server details per connection such as the total number of sessions, bytes sent/received, and processing time. Each row in the table is a different Tomcat Server. The row color for inactive connections is dark red.

Use this display to see summary information for your Tomcat servers, including session counts, access and request rates, cache hit rates, and data transmission metrics.

Drill-down and investigate by clicking a row in the table to view details for the selected connection in the [“Service Summary”](#) display.

| All Tomcat Servers - Table |           |                 |                |                  |                  |                |                    |                 |
|----------------------------|-----------|-----------------|----------------|------------------|------------------|----------------|--------------------|-----------------|
| Tomcat Count: 1            |           |                 |                |                  |                  |                |                    |                 |
| All Tomcat Servers         |           |                 |                |                  |                  |                |                    |                 |
| Connection                 | Source    | Sessions Active | Sessions Total | Sessions Expired | Accesses per sec | Accesses Total | Bytes Rcvd per sec | Bytes Rcv Total |
| TOMCAT                     | localhost | 4               | 17             | 13               | 1.4              | 30,302         | 603.1              | 433,851.8       |

**Title Bar:**

Indicators and functionality might include the following:



Open the previous and upper display. **CMDB** and **Table** navigate to displays commonly accessed from this display.

**19-Feb-2014 16:50**

The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

**Cls: 3,047**

The number of items in the display.



**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.



Open the **Alert Views - RTView Alerts Table** display.



Open an instance of this display in a new window.



Open the online help page for this display.

**Fields and Data**

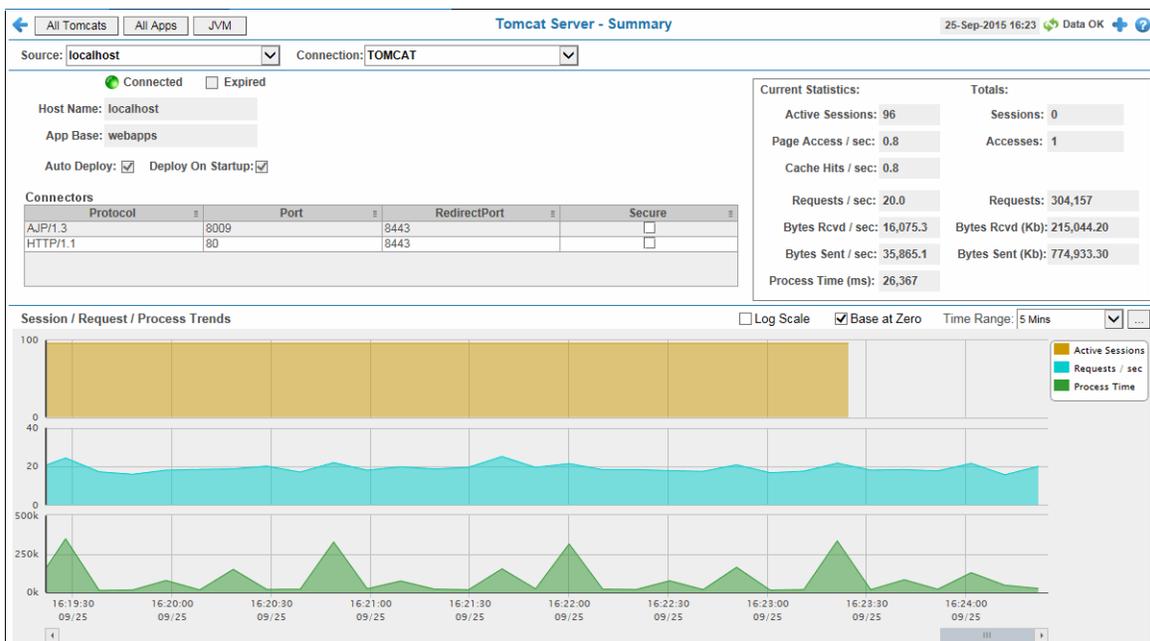
This display includes:

|                           |  |
|---------------------------|--|
| <b>Tomcat Count</b>       | The number of Tomcat connections in the table.                                   |
| <b>Connection</b>         | The name of the Tomcat connection.   |
| <b>Source</b>             | The host where the Tomcat Server is running.                                     |
| <b>Sessions Active</b>    | The number of currently active client sessions.                                  |
| <b>Sessions Total</b>     | The total number of client sessions since the server was started.                |
| <b>Sessions Expired</b>   | The total number of client sessions that expired since the server was started.   |
| <b>Accesses per sec</b>   | The number of times pages are accessed, per second.                              |
| <b>Accesses Total</b>     | The total number of times pages have been accessed since the server was started. |
| <b>Bytes Rcvd per sec</b> | The number of bytes received per second.   |
| <b>Bytes Rcvd Total</b>   | The total number of bytes received since the server was started.                 |
| <b>Bytes Sent per sec</b> | The number of bytes sent per second.   |
| <b>Bytes Sent Total</b>   | The total number of bytes sent since the server was started.                     |
| <b>Cache Hit Rate</b>     | The number of times the cache is accessed, per second.                           |
| <b>Requests per sec</b>   | The number of requests received, per second.                                     |
| <b>Requests Total</b>     | The total number of requests received since the server was started.              |
| <b>Process Time</b>       | The average amount of time, in milliseconds, to process requests.                |
| <b>Error Count</b>        | The number of errors that have occurred since the server was started.            |

|                     |   |
|---------------------|---|
| <b>appBase</b>      | The directory in which Tomcat is installed.   |
| <b>Display Name</b> | The name of the currently open display.   |
| <b>Expired</b>      | When checked, this connection is expired due to inactivity.   |
| <b>time_stamp</b>   | The date and time this row of data was last updated.<br>Format:<br><b>MM/DD/YY HH:MM:SS</b><br><b>&lt;month&gt;/ &lt;day&gt;/&lt;year&gt; &lt;hours&gt;:&lt;minutes&gt;:&lt;seconds&gt;</b> |

## Server Summary

Track the performance of one Tomcat Server and get Tomcat hosting and connection details. You can drill down to this display from the Servers table for detailed information and historical trends for a specific server. The trends include Active Sessions, Requests per Sec, and Process Time.



### Title Bar:

Indicators and functionality might include the following:

← ↑ Open the previous and upper display.  
 CMDB and Table navigate to displays commonly accessed from this display.

19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Cls: 3,047 The number of items in the display.

Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

🚨 Open the **Alert Views - RTView Alerts Table** display.

➕ Open an instance of this display in a new window.

🔍 Open the online help page for this display.

**Fields and Data**

This display includes:

|                          |   |
|--------------------------|---|
| <b>Source</b>            | Select the host where the Tomcat Server is running.   |
| <b>Connection</b>        | Select a Tomcat Server from the drop-down menu.   |
| <b>Connected</b>         | The Tomcat Server connection state:<br> Disconnected.<br> Connected.  |
| <b>Expired</b>           | When checked, this server is expired due to inactivity.   |
| <b>Host Name</b>         | The name of the host where the application resides.   |
| <b>App Base</b>          | The directory in which Tomcat modules are installed.  |
| <b>Auto Deploy</b>       | When checked, indicates that the Tomcat option, automatic application deployment, is enabled.<br>NOTE: This Tomcat option is set using the <b>autoDeploy</b> property in the <b>server.xml</b> file, located in the Tomcat <b>conf</b> directory. <b>autoDeploy=true</b> enables the option.  |
| <b>Deploy On Startup</b> | When checked, indicates that the option to deploy the application on Tomcat startup is enabled.<br>NOTE: This Tomcat option is set using the <b>deployOnStartup</b> property in the <b>server.xml</b> file, located in the Tomcat <b>conf</b> directory. When enabled ( <b>deployOnStartup=true</b> ), applications from the host are automatically deployed. |

**Connectors**

This table shows Tomcat application connection information.

|                     |   |
|---------------------|---|
| <b>Protocol</b>     | The protocol used by the Tomcat application on the host.                                  |
| <b>Port</b>         | The port number used by the Tomcat application on the host.                               |
| <b>RedirectPort</b> | The redirect port number used by the Tomcat application on the host.                      |
| <b>Secure</b>       | When checked, specifies that the Tomcat application uses a secure connection on the host. |

**Current Statistics / Totals**

|                          |  |
|--------------------------|--|
| <b>Active Sessions</b>   | The number of clients currently in session with the servlet.                     |
| <b>Sessions</b>          | The total number of client sessions since the server was started.                |
| <b>Page Access / sec</b> | The number of times pages are accessed, per second.                              |
| <b>Accesses</b>          | The total number of page accesses since the server was started.                  |
| <b>Cache Hits / sec</b>  | The number of times the cache is accessed, per second.                           |
| <b>Requests / sec</b>    | The number of requests received, per second.                                     |
| <b>Requests</b>          | The total number of requests since the server was started.                       |
| <b>Bytes Rcvd / sec</b>  | The number of bytes received, per second.  |
| <b>Bytes Rcvd (Kb)</b>   | The number of kilobytes received since the server was started.                   |
| <b>Bytes Sent / sec</b>  | The number of bytes sent, per second.  |
| <b>Bytes Sent (Kb)</b>   | The total number of kilobytes sent since the server was started.                 |
| <b>Process Time</b>      | The amount of time, in milliseconds, for the servlet to process client requests. |

**Session / Request / Process Trends**

Shows metrics for the selected server.

- Log Scale** Select to enable a logarithmic scale. Use Log Scale to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. Log Scale makes data on both scales visible by applying logarithmic values rather than actual values to the data.
- Base at Zero** Use zero as the Y axis minimum for all graph traces.
- Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar [...].

By default, the time range end point is the current time. To change the time range end point, click Calendar [...] and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows ◀ ▶ to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click Restore to Now to reset the time range end point to the current time.

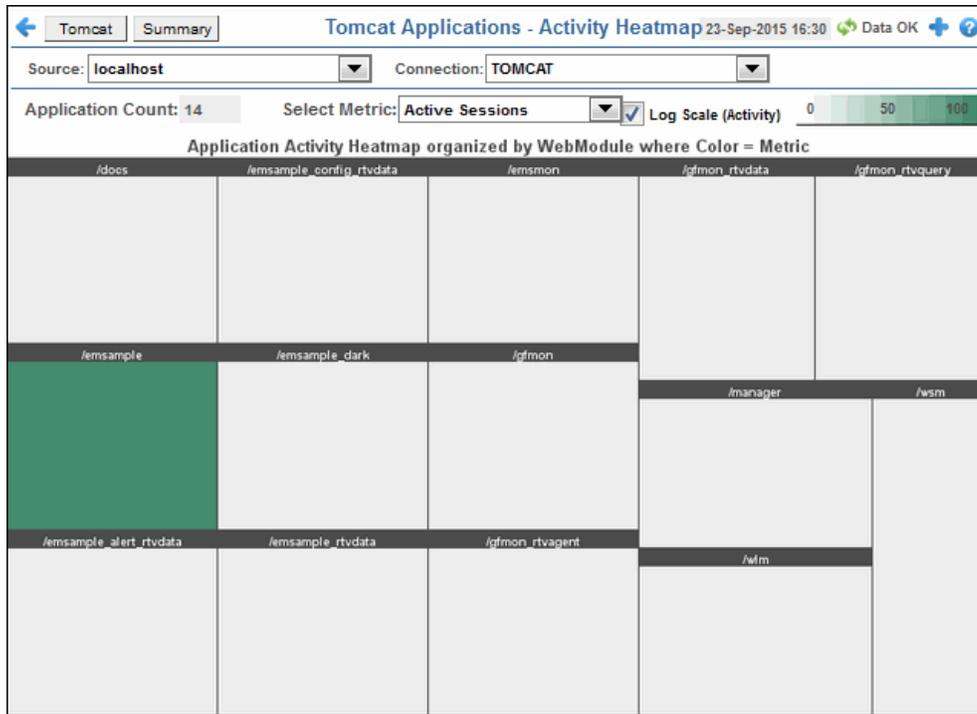
- Active Sessions** Traces the number of currently active client sessions.
- Requests /sec** Traces the number of requests received, per second.
- Process Time** Traces the average amount of time, in milliseconds, to process requests.

## All Apps Heatmap

View performance metrics for all monitored Tomcat Web modules for one Tomcat Server. The heatmap organizes Tomcat Web modules by server, and uses color to show the most critical Metric value for each Tomcat connection associated with the selected source. Each rectangle in the heatmap represents a Web module. In this heatmap, the rectangle size is the same for all Web modules. Each Metric (selected from the drop-down menu) has a color gradient bar that maps relative values to colors.

Use this display to see at-a-glance the health of all your web applications. You can select the heatmap color metric from a list including active sessions, access rate, and total access count.

Use the available drop-down menus or right-click to filter data shown in the display. Use the check-boxes  to include or exclude labels in the heatmap. Move your mouse over a rectangle to see additional information. Drill-down and investigate by clicking a rectangle in the heatmap to view details for the selected Web module in the “App Summary” display.



### Title Bar:

Indicators and functionality might include the following:

- Open the previous and upper display.
- and navigate to displays commonly accessed from this display.
- 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
- Cis: 3,047 The number of items in the display.

- Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

### Fields and Data

This display includes:

- Source** Select the host where the Tomcat Server is running.
- Connection** Select a Tomcat Server from the drop-down menu.
- Application Count** The number of Tomcat applications in the heatmap.

**Log Scale (Activity)**

Select to enable a logarithmic scale. Use Log Scale to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. Log Scale makes data on both scales visible by applying logarithmic values rather than actual values to the data.

**Select Metric**

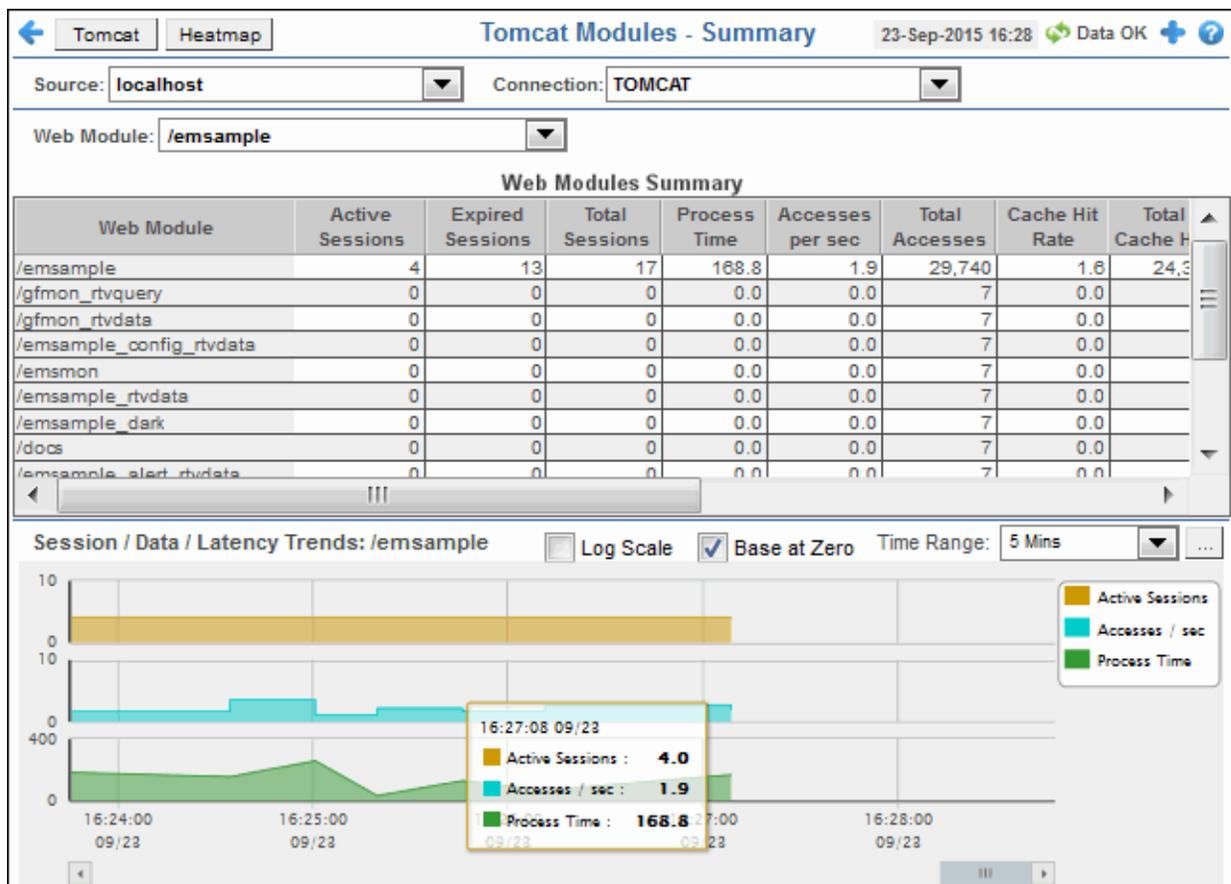
Select the metric to display in the heatmap. Each Metric has a color gradient bar that maps relative values to colors.

**App Summary**

Track the performance of all web application modules in a server and view utilization details. The table summarizes the sessions, accesses, cache hit and so forth, for all installed web modules. Each row in the table is a different web application module. The row color for inactive modules is dark red. Select a web application module to view metrics in the trend graph.

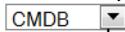
Use this data to verify response times of your Web application modules.

Use the available drop-down menus or right-click to filter data shown in the display.



**Title Bar:**

Indicators and functionality might include the following:

  Open the previous and upper display.  and  navigate to displays commonly accessed from this display.

 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 The number of items in the display.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

**Fields and Data**

This display includes:

- Source** Select the host where the Tomcat Server is running.
- Connection** Select a Tomcat Server from the drop-down menu. This menu is populated by the selected Source.
- Web Module** Select a Web module from the drop-down menu. This menu is populated by the selected Connection. The Web Module you select populates the trend graphs.

**Web Module Summary**

|                           |   |
|---------------------------|---|
| <b>Web Module</b>         | The name of the Web module.   |
| <b>Sessions Active</b>    | The number of currently active client sessions.                                       |
| <b>Sessions Total</b>     | The total number of client sessions since the application was started.                |
| <b>Sessions Expired</b>   | The total number of client sessions that expired since the application was started.   |
| <b>Accesses per sec</b>   | The number of times pages are accessed, per second.                                   |
| <b>Accesses Total</b>     | The total number of times pages have been accessed since the application was started. |
| <b>Bytes Rcvd per sec</b> | The number of bytes received per second.  |
| <b>Bytes Rcvd Total</b>   | The total number of bytes received since the application was started.                 |
| <b>Bytes Sent per sec</b> | The number of bytes sent per second.  |
| <b>Bytes Sent Total</b>   | The total number of bytes sent since the application was started.                     |
| <b>Cache Hit Rate</b>     | The number of times the cache is accessed, per second.                                |
| <b>Requests per sec</b>   | The number of requests received, per second.  |
| <b>Requests Total</b>     | The total number of requests received since the application was started.              |

|                     |   |
|---------------------|---|
| <b>Process Time</b> | The average amount of time, in milliseconds, to process requests.   |
| <b>Error Count</b>  | The number of errors occurred since the application was started.  |
| <b>appBase</b>      | The directory in which Tomcat is installed.   |
| <b>Expired</b>      | When checked, this connection is expired due to inactivity.   |
| <b>time_stamp</b>   | The date and time this row of data was last updated.<br>Format:<br><b>MM/DD/YY HH:MM:SS</b><br><b>&lt;month&gt;/ &lt;day&gt;/&lt;year&gt; &lt;hours&gt;:&lt;minutes&gt;:&lt;seconds&gt;</b> |

### Session/Data/Latency Trends

Shows metrics for the selected Web module. The Web module can be selected from the **Web Module** drop-down menu or the **Web Modules Summary** table.

|                     |  |
|---------------------|--|
| <b>Log Scale</b>    | Select to enable a logarithmic scale. Use Log Scale to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. Log Scale makes data on both scales visible by applying logarithmic values rather than actual values to the data. |
| <b>Base at Zero</b> | Use zero as the Y axis minimum for all graph traces.   |
| <b>Time Range</b>   | Select a time range from the drop down menu varying from <b>2 Minutes</b> to <b>Last 7 Days</b> , or display <b>All Data</b> . To specify a time range, click Calendar <input type="button" value="..."/> .  |



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click Restore to Now to reset the time range end point to the current time.

|                        |  |
|------------------------|--|
| <b>Active Sessions</b> | Traces the number of currently active client sessions.                   |
| <b>Accesses / sec</b>  | Traces the number of times pages are accessed, per second.               |
| <b>Process Time</b>    | Traces the average amount of time, in milliseconds, to process requests. |

## RTView Servers

These displays present performance data for all RTView Servers.

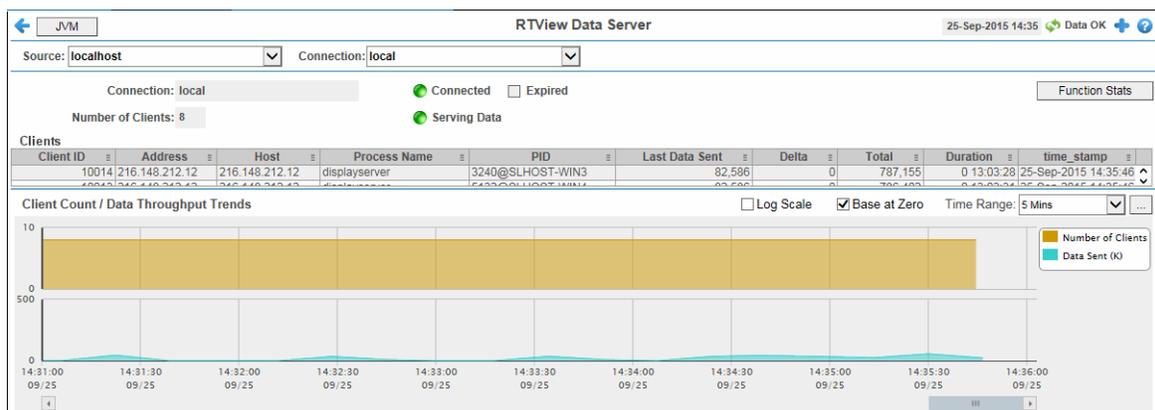
RTView Servers displays are available when you install the RTVMGR Solution Package. The RTVMGR Solution Package is provided with RTView Enterprise Monitor. Displays in this View are:

- “Data Servers” on page 202: Shows metrics for RTView Data Servers.
- “Display Servers” on page 204: Shows metrics for RTView Display Servers.
- “Historian Servers” on page 206: Shows metrics for RTView Historian Servers.
- “Version Info” on page 207: Shows the version information of each jar used in each connected RTView application.

## Data Servers

Track data transfer metrics for RTView Data Servers, client count and throughput trends.

Use the available drop-down menus or right-click to filter data shown in the display.



### Title Bar:

Indicators and functionality might include the following:

- ← ↑ Open the previous and upper display.
- CMDB and Table navigate to displays commonly accessed from this display.
- 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
- Cls: 3,047 The number of items in the display.

- Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- ⚠ Open the **Alert Views - RTView Alerts Table** display.
- + Open an instance of this display in a new window.
- ? Open the online help page for this display.

- Source** Select the type of connection to the RTView Server.
- Connection** Select an RTView Server from the drop-down menu. Names can be modified in the RTView Server configuration properties file.
- Connection** The connection selected from the **Connection** drop-down menu.
- Number of Clients** The number of clients currently server on this Data Server.

|                       |  |
|-----------------------|--|
| <b>Connected</b>      | The Data Server connection state:<br> Disconnected.<br> Connected.                             |
| <b>Serving Data</b>   |  The Data Server is not currently serving data.<br> The Data Server is currently serving data. |
| <b>Expired</b>        | This server has been marked as expired after no activity.  |
| <b>Function Stats</b> | Opens the <b>RTView Function Stats</b> display which shows detailed performance statistics for RTView functions in the selected Data Server. This button is only enabled if the RTVMGR has a JMX connection defined for the selected Data Server.                |

**Clients**

This table describes all clients on the selected server.

|                       |  |
|-----------------------|--|
| <b>Address</b>        | The client IP address.   |
| <b>Client ID</b>      | The unique client identifier.  |
| <b>Duration</b>       | The amount of time for this client session. Format:<br><b>dd HH:MM:SS</b><br><b>&lt;days&gt; &lt;hours&gt;:&lt;minutes&gt;:&lt;seconds&gt;</b><br><b>For example:</b><br><b>10d 08:41:38</b> |
| <b>Host</b>           | The client host name.  |
| <b>Last Data Sent</b> | The amount of data, in bytes, last sent to the client.   |
| <b>Delta</b>          | The amount of data, in bytes, sent since the last update.  |
| <b>Total</b>          | The total amount of data, in bytes, sent to the client.  |
| <b>TIME_STAMP</b>     | The date and time this row of data was last updated.   |

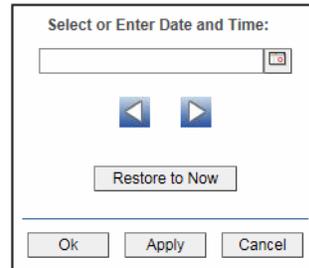
**Client Count / Data Throughput Trends**

Shows throughput metrics for all clients on the selected server.

|                     |  |
|---------------------|--|
| <b>Log Scale</b>    | Enable to use a logarithmic scale for the Y axis. Use Log Scale to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. Log Scale makes data on both scales visible by applying logarithmic values rather than actual values to the data. |
| <b>Base at Zero</b> | Use zero as the Y axis minimum for all graph traces.   |

**Time Range**

Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click Restore to Now to reset the time range end point to the current time.

**Number of Clients**

Traces the number of clients being served by the Data Server.

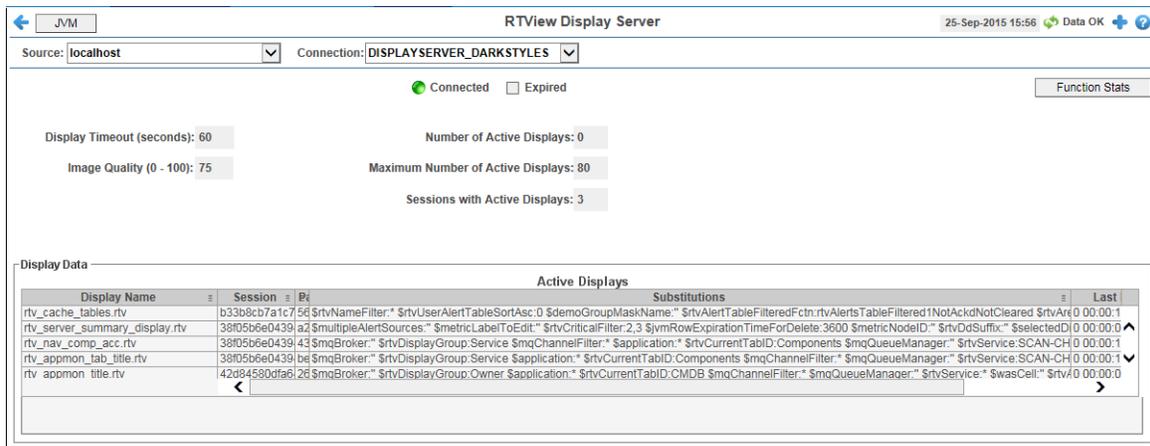
**Data Sent**

Traces the total amount of data, in Kilobytes, sent to all clients.

**Display Servers**

Track display utilization metrics for RTView Display Servers.

Use the available drop-down menus or right-click to filter data shown in the display.



**Title Bar:**

Indicators and functionality might include the following:



Open the previous and upper display. **CMDB** and **Table** navigate to displays commonly accessed from this display.

**19-Feb-2014 16:50**

The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Cls: **3,047**

The number of items in the display.



**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.



Open the **Alert Views - RTView Alerts Table** display.



Open an instance of this display in a new window.



Open the online help page for this display.

**Fields and Data**

This display includes:

|  |   |
|--|---|
| <b>Source</b>                            | Select the type of connection to the RTView Server.   |
| <b>Connection</b>                        | Select an RTView Server from the drop-down menu. Names can be modified in the RTView Server configuration properties file.  |
| <b>Connected</b>                         | The Display Server connection state:<br> Disconnected.<br> Connected.   |
| <b>Expired</b>                           | This server has been marked as expired after no activity.   |
| <b>Function Stats</b>                    | Opens the <b>RTView Function Stats</b> display which shows detailed performance statistics for RTView functions in the selected Display Server. This button is only enabled if the RTVMGR has a JMX connection defined for the selected Display Server.   |
| <b>Display Timeout (seconds)</b>         | The amount of time, in seconds, that a display can be kept in memory after the Display Servlet has stopped requesting it. The default is <b>60</b> seconds (to allow faster load time when switching between displays).   |
| <b>Image Quality (0-100)</b>             | A value between <b>0</b> and <b>100</b> , which controls the quality of the generated images. If the value is <b>100</b> , the Display Server outputs the highest quality image with the lowest compression. If the value is <b>0</b> , the Display Server outputs the lowest quality image using the highest compression. The default is <b>75</b> . |
| <b>Number of Active Displays</b>         | The total number of displays currently being viewed by a user.  |
| <b>Maximum Number of Active Displays</b> | The maximum number of displays kept in memory. The default is <b>20</b> (to optimize memory used by the Display Server).  |
| <b>Sessions with Active Displays</b>     | Number of clients accessing the Display Server.   |

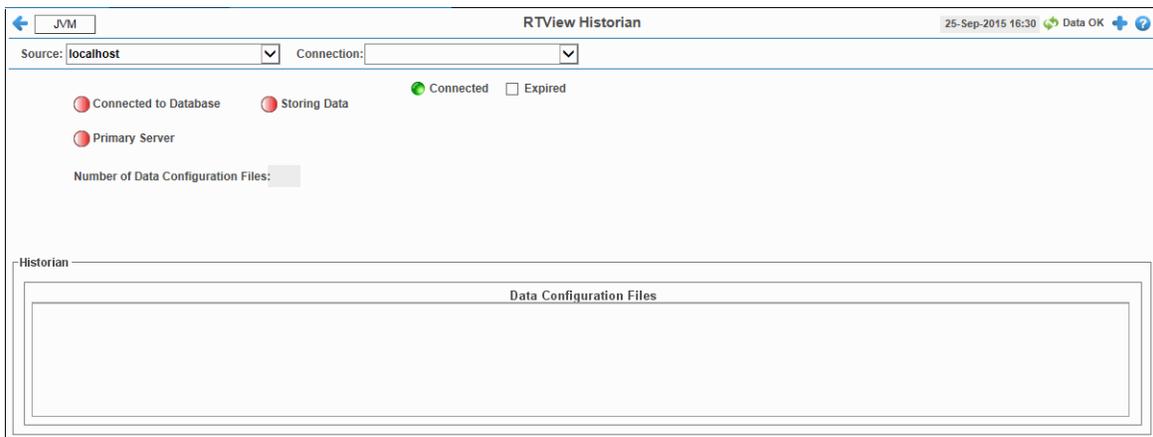
**Display Data / Active Displays**

|                      |  |
|----------------------|--|
| <b>Display Name</b>  | The name of the currently open display.  |
| <b>Session</b>       | A unique string identifier assigned to each session.   |
| <b>Panel ID</b>      | A unique string identifier assigned to each panel. The Display Server loads each display requested by each client into a panel. This ID can be useful in troubleshooting.  |
| <b>Substitutions</b> | Lists the substitutions used for the display.  |
| <b>Last Ref</b>      | The amount of time that has elapsed since the display was last requested by a client.  |
| <b>ID</b>            | The client ID.   |
| <b>Preloaded</b>     | When checked, indicates that the display ( <b>.rtv</b> ) file is configured in the <b>DISPLAYSERVER.ini</b> file to be preloaded. The <b>history_config</b> option is used to configure display preloading. Preloading a display makes data immediately available. Preloaded displays are not unloaded unless the Display Server is restarted or the display cache is cleared via JMX. This option can be used multiple times to specify multiple displays to preload. |

## Historian Servers

Track the status of RTView Historian Servers and data configuration file usage. View the caches that are archived by the Historian application, substitution variables associated with the history cache configuration file, as well as the history cache status. You can also stop and start the Historian, and purge data.

Use the available drop-down menus or right-click to filter data shown in the display.



### Title Bar:

Indicators and functionality might include the following:

← ↑ Open the previous and upper display.

CMDB and Table navigate to displays commonly accessed from this display.

19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Cls: 3,047 The number of items in the display.

Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

⚠ Open the **Alert Views - RTView Alerts Table** display.

⊕ Open an instance of this display in a new window.

🔍 Open the online help page for this display.

**Fields and Data**

This display includes:

|   |   |
|---|---|
| <b>Source</b>                             | Select the type of connection to the RTView Server.   |
| <b>Connection</b>                         | Select an RTView Server from the drop-down menu. Names can be modified in the RTView Server configuration properties file.  |
| <b>Connected</b>                          | The Historian Server connection state:<br> Disconnected.<br> Connected.   |
| <b>Expired</b>                            | This server has been marked as expired after no activity.   |
| <b>Connected to Database</b>              | The Historian Server database connection state:<br> Disconnected.<br> Connected.  |
| <b>Primary Server</b>                     | When green, indicates that this Historian, when used within a group of Historians, is the primary group member. If the primary member fails or shuts down, the standby member with the highest priority becomes the primary group member. When red, indicates that the Historian is a secondary server.<br>The Historian Server member state:<br> The Historian Server is a secondary group member.<br> This Historian is the primary group member. |
| <b>Number of Data Configuration Files</b> | The number of configuration files that are used by the history cache.   |

**Historian / Data Configuration Files**

|                      |  |
|----------------------|--|
| <b>File Name</b>     | The name of the history cache configuration file.                          |
| <b>Substitutions</b> | Lists the substitutions specified in the history cache configuration file. |

**Version Info**

This display provides detailed version information for all of the connected RTView applications. You can view specific applications by filtering data using the **Source**, **Connection**, **Filter Field**, and **Filter Value** fields at the top of the display. This display provides valuable information about the version of each jar that is used in each connected RTView application that can be used to help Technical Support when issues arise. All RTView applications use multiple jars and this display lists the version information for each jar in the application. The **ApplicationConfiguration** column shows the version of the jar that contains the main class

for the application which is also the version that is printed to the console at startup. The **JarConfiguration** shows the version of the jar specified in the **JarName** field. When **ApplicationConfiguration** and **JarConfiguration** do not match, it indicates that the application is using jars from multiple releases of RTView or that the application is using a patched jar. Rows in the table where the **JarConfiguration** does not match the **ApplicationConfiguration** are highlighted in teal.

**Note:** RTView applications running versions previous to this enhancement will only have one row in the table and will display "version info not supported in this version" in the **ApplicationConfiguration** column.

RTView Application Versions 25-Sep-2015 14:41 Data OK

Source: All Sources Filter Field: Clear  
 Connection: All Connections Filter Value:  RegEx  Not Equal

Detailed Version for All Connected RTView Applications  
 Rows where the JarConfiguration does not match ApplicationConfiguration are highlighted in teal

| Source | Connection   | ApplicationName       | JarName              | ApplicationConfiguration                 | JarConfiguration                         | JarVersionNumber |
|--------|--------------|-----------------------|----------------------|--|--|------------------|
| WIN3   | SLMON-DISP-5 | RTView Display Server | gmsjagentds.jar      | APM.3.0.0.0_20150910_000.19559-alpha_119 | APM.3.0.0.0_20150910_000.19559-alpha_119 | 3.0.0.0          |
| WIN3   | SLMON-DISP-5 | RTView Display Server | gmsjalertds.jar      | APM.3.0.0.0_20150910_000.19559-alpha_119 | APM.3.0.0.0_20150910_000.19559-alpha_119 | 3.0.0.0          |
| WIN3   | SLMON-DISP-5 | RTView Display Server | gmsjcacheds.jar      | APM.3.0.0.0_20150910_000.19559-alpha_119 | APM.3.0.0.0_20150910_000.19559-alpha_119 | 3.0.0.0          |
| WIN3   | SLMON-DISP-5 | RTView Display Server | gmsjcmdbds.jar       | APM.3.0.0.0_20150910_000.19559-alpha_119 | APM.3.0.0.0_20150910_000.19559-alpha_119 | 3.0.0.0          |
| WIN3   | SLMON-DISP-5 | RTView Display Server | gmsjext.jar          | APM.3.0.0.0_20150910_000.19559-alpha_119 | APM.3.0.0.0_20150910_000.19559-alpha_119 | 3.0.0.0          |
| WIN3   | SLMON-DISP-5 | RTView Display Server | gmsjflash.jar        | APM.3.0.0.0_20150910_000.19559-alpha_119 | APM.3.0.0.0_20150910_000.19559-alpha_119 | 3.0.0.0          |
| WIN3   | SLMON-DISP-5 | RTView Display Server | gmsjmxds.jar         | APM.3.0.0.0_20150910_000.19559-alpha_119 | APM.3.0.0.0_20150910_000.19559-alpha_119 | 3.0.0.0          |
| WIN3   | SLMON-DISP-5 | RTView Display Server | gmsjlog4jds.jar      | APM.3.0.0.0_20150910_000.19559-alpha_119 | APM.3.0.0.0_20150910_000.19559-alpha_119 | 3.0.0.0          |
| WIN3   | SLMON-DISP-5 | RTView Display Server | gmsjmodels.jar       | APM.3.0.0.0_20150910_000.19559-alpha_119 | APM.3.0.0.0_20150910_000.19559-alpha_119 | 3.0.0.0          |
| WIN3   | SLMON-DISP-5 | RTView Display Server | gmsjlapds.jar        | APM.3.0.0.0_20150910_000.19559-alpha_119 | APM.3.0.0.0_20150910_000.19559-alpha_119 | 3.0.0.0          |
| WIN3   | SLMON-DISP-5 | RTView Display Server | gmsjpipeps.jar       | APM.3.0.0.0_20150910_000.19559-alpha_119 | APM.3.0.0.0_20150910_000.19559-alpha_119 | 3.0.0.0          |
| WIN3   | SLMON-DISP-5 | RTView Display Server | gmsjrrds.jar         | APM.3.0.0.0_20150910_000.19559-alpha_119 | APM.3.0.0.0_20150910_000.19559-alpha_119 | 3.0.0.0          |
| WIN3   | SLMON-DISP-5 | RTView Display Server | gmsjrtvhistorian.jar | APM.3.0.0.0_20150910_000.19559-alpha_119 | APM.3.0.0.0_20150910_000.19559-alpha_119 | 3.0.0.0          |
| WIN3   | SLMON-DISP-5 | RTView Display Server | gmsjrtvuser.jar      | APM.3.0.0.0_20150910_000.19559-alpha_119 | APM.3.0.0.0_20150910_000.19559-alpha_119 | 3.0.0.0          |

Page 1 of 8 1 - 200 of 1581 items

### Title Bar:

Indicators and functionality might include the following:

Open the previous and upper display.  
 and navigate to displays commonly accessed from this display.

19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Cts: 3,047 The number of items in the display.

Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

Open the online help page for this display.

### Fields and Data

This display includes:

**Source** Select a filter value for the **Source** column.

**Connection** Select a filter value for the **Connection** column.

**Filter Field** Select a table column from the drop-down menu to perform a search in: **ApplicationName, JarName, ApplicationConfiguration, JarConfiguration, JarVersionNumber, JarVersionDate, JarReleaseDate, and JarMicroVersion.**

Filters limit display content and drop-down menu selections to only those items that pass through the selected filter's criteria. If no items match the filter, you might have zero search results (an empty table). Double-clicking on a specific field in the table will populate this field with the selected field's content. For example, double-clicking on the **DataServerName** field in one of the rows displays the entire field's content into this field.

|                                  |   |
|----------------------------------|---|
| <b>Clear</b>                     | Clears entries in the <b>Filter Field</b> display list, <b>Filter Value</b> field, and <b>Not Equal</b> check box.  |
| <b>Filter Value</b>              | Enter the (case-sensitive) string to search for in the selected <b>Filter Field</b> .   |
| <b>RegEx</b>                     | Select this check box to use the <b>Filter Value</b> as a regular expression when filtering. When selected, the <b>Not Equal</b> check box displays.  |
| <b>Not Equal</b>                 | Works in conjunction with the <b>RegEx</b> field. Selecting this check box searches for values in the specified <b>Filter Field</b> that are NOT equal to the value defined in the <b>Filter Value</b> field. For example, if the <b>Filter Field</b> specified is <b>JarMicroVersion</b> , the <b>Filter Value</b> is specified as <b>317</b> , and this check box is selected, then only those rows containing <b>JarMicroVersion</b> fields NOT EQUAL to <b>317</b> will display. This field is only enabled when the <b>RegEx</b> check box is checked. |
| <b>Source</b>                    | The name of the source of the RTVMGR.   |
| <b>Connection</b>                | Lists the name of the JMX connection to the RTView application.   |
| <b>Application Name</b>          | Lists the name of the application.  |
| <b>JarName</b>                   | Lists the name of the jar used in the connected application.  |
| <b>Application Configuration</b> | Lists the configuration string of the application. This string contains the main application version that corresponds to the version information printed to the console at startup.   |
| <b>JarConfiguration</b>          | Lists the configuration string for the jar.   |
| <b>JarVersionNumber</b>          | Lists the version number for the jar.   |
| <b>JarVersionDate</b>            | Lists the version date for the jar.   |
| <b>JarReleaseType</b>            | Lists the release type for the jar.   |
| <b>JarMicroVersion</b>           | Lists the micro version for the jar.  |
| <b>Expired</b>                   | When checked, this connection is expired due to inactivity.   |
| <b>time_stamp</b>                | The time at which the information in the current row was last received.   |
| <b>DataServerName</b>            | The name of the RTVMGR Data Server connection.  |

## Alert Views

These displays present detailed information about all alerts that have occurred in your RTView Enterprise Monitor system (all Owners and all Areas). The type of alerts that appear in these displays depends on the Solution Packages installed on your RTView Enterprise Monitor system. Displays in this View are:

- [“RTView Alerts Table” on page 209](#): Shows current alert data. Use this time-ordered tabular view to track, manage and assign alerts.
- [“Alert History Table” on page 214](#): Shows historical alert data. Use this time-ordered tabular view to track alert status changes.

## RTView Alerts Table

Use this display to track and manage all alerts that have occurred in the system, add comments, acknowledge or assign Owners to alerts.

The color coded navigation tree shows the contents of the CMDB hierarchically ordered. Choose a node to filter alerts shown in the table. The **Alerts Table** only shows alerts associated with the node you select. A green indicator means the node has no associated alerts. A red indicator means the node has one or more associated alerts.

Service name labels are appended with the Environment and number of alerts. For example, the following illustrates that the **TBE** Service currently has no (**0**) associated alerts in the **PRODUCTION** Environment.

- ▼ ✔ TIBCO-AS
  - ✔ TAS-MEMBER (PRODUCTION)

Each row in the table is a different active alert. Select one or more rows, right-click and choose **Alert** to see all actions that you can perform on the selected alert(s). Choose **Alert / Set Filter Field** to apply the selected cell data to the **Field Filter** and **Search Text** fields. Or enter filter criteria directly in the **Field Filter** and **Search Text** fields. Click **Clear** to clear the **Field Filter** and **Search Text** fields.

Click a column heading to sort the table on that column data.

Optionally, you can use the **\$rtvUserShowDualTables** substitution to add a table that lists alerts owned by the logged in user.

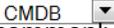
The screenshot shows the 'Alerts Table' interface. At the top, there are navigation controls including 'Current', 'Alert Group' (set to 'All'), and a date/time stamp '11-Apr-2016 15:50'. Below this are filter fields: 'Field Filter', 'Search Text', and 'CMDB Filter' (with a filter expression: 'Owner = \* | Area = \* | Group = \* | Service = \* | Env = \*'). There are also radio buttons for 'All', 'Open', and 'Closed', and a 'Alert Settings Conn OK' indicator.

The main table displays a list of alerts. The summary row shows: Total 166 / 166, Critical 164 / 164, Warning 2 / 2, and Suppressed 0. The table columns are: First Occ, Last Occ, Count, Sup, Owner, Alert Name, Primary Service, and CI. The rows are color-coded: yellow for Critical alerts and red for Warning alerts. The first row is yellow and shows an alert for 'JvmCpuPercentHigh' on 'localhost.SOLMON-elph'. The second row is yellow and shows an alert for 'JvmCpuPercentHigh' on 'localhost'. The remaining rows are red and show various alerts like 'BwProcessExecutionTimeHigh', 'BwProcessElapsedTimeHigh', and 'BwEngineMemUsedHigh' on 'SLHOST8(domain6).dor'.

At the bottom of the interface, there are 'Columns' checkboxes for 'Id', 'Closed', 'Closed Reason', and 'Alert Index', along with 'Go To CI', 'Options', and 'Details' buttons.

**Title Bar:**

Indicators and functionality might include the following:

  Open the previous and upper display.  and  navigate to displays commonly accessed from this display.

 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 The number of items in the display.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

The row color indicates the following:

**Row Color Code:**

Tables with colored rows indicate the following:

-  Red indicates that one or more alerts exceeded their ALARM LEVEL threshold in the table row.
-  Yellow indicates that one or more alerts exceeded their WARNING LEVEL threshold in the table row.
-  Green indicates that no alerts exceeded their WARNING or ALARM LEVEL threshold in the table row.
-  Gray indicates that the alert engine that is hosting the alert is not connected, not enabled or not initialized. When you select a gray row the **Own**, **Suppress**, **Unsuppress**, **Close**, **Annotate**, **Options** and **Details** options are disabled.

**Alerts Available with RTView Enterprise Monitor**

If the RTVMGR Solution Package and the RTVRULES Solution Package (which come with RTView Enterprise Monitor) are installed on your system you might see the following alert types for RTView Servers (Data Servers, Display Servers and Historian Servers).

**RTVMGR Solution Package Alert Types**

|                                    |   |
|------------------------------------|---|
| <b>JvmCpuPercentHigh</b>           | The percent JVM CPU usage exceeded the specified threshold.   |
| <b>JvJvmGcDutyCycleHigh</b>        | The JVM garbage collection contains an item that exceeded the specified duty cycle threshold (the percent of time spent in Garbage Collection). |
| <b>JvmMemoryUsedAfterGCHigh</b>    | The percentage of the memory used after garbage collection exceeded the specified threshold.  |
| <b>JvmMemoryUsedHigh</b>           | The percent JVM memory used exceeded the specified threshold.   |
| <b>JvmNotConnected</b>             | The JVM is not connected.   |
| <b>JvmStaleData</b>                | The JVM stopped receiving data.   |
| <b>TomcatAccessRateHigh</b>        | The Access Rate of a Tomcat application deployed on a Tomcat server exceeded the specified threshold.   |
| <b>TomcatActiveSessionsHigh</b>    | The number of active Tomcat Server sessions exceeded the specified threshold.   |
| <b>TomcatAppAccessRateHigh</b>     | The application deployed on a Tomcat Server exceeded the specified threshold.   |
| <b>TomcatAppActiveSessionsHigh</b> | The number of active Tomcat application sessions exceeded the specified threshold.  |

## RTVRULES Solution Package Alert Types

|                                    |  |
|------------------------------------|--|
| <b>RtvEmServiceAlert</b>           | This discrete alert is generated when a Service has one or more alerts on any associated CIs.                                      |
| <b>RtvEmServiceAlertImpactHigh</b> | This limits alert is generated when a Service has an Alert Impact value that exceeds the specified threshold on any associated CI. |

### Fields and Data

This display includes:

|                               |   |            |   |                  |  |                    |  |
|-------------------------------|---|------------|---|------------------|--|--------------------|--|
| <b>Field Filter</b>           | Select a table column from the drop-down menu to perform a search in: <b>Alert Name, Alert Text, Alert Class, Service, CI, Closed Reason, Closed, CompId, Count, First Occ, ID, Last Occ, Owner, Primary Service, Sup, TicketGroup, TicketID.</b><br>Filters limit display content and drop-down menu selections to only those items that pass through the selected filter's criteria. If no items match the filter, you might have zero search results (an empty table).   |            |   |                  |  |                    |  |
| <b>Clear</b>                  | Clears the <b>Field Filter</b> and <b>Search Text</b> entries.  |            |   |                  |  |                    |  |
| <b>Search Text</b>            | Enter the (case-sensitive) string to search for in the selected <b>Field Filter</b> .   |            |   |                  |  |                    |  |
| <b>CMDB Filter</b>            | Shows the selected Owner, Area, Group, Service and Environment filters. By default, all components of the CMDB (*) are included in the search.<br>These <b>CMDB Filter</b> fields are populated when you click Open Alerts Table  , which is accessible from the <b>Multi Area Service Views</b> displays, to open the <b>Alerts Table</b> in a new window. The filters selected in the <b>All Management Areas</b> and <b>Multi Area Service Views</b> displays are applied to the <b>Alerts Table</b> (that opens in the new window). NOTE: When you use the navigation tree (in the left panel) to open the <b>Alerts Table</b> display, the <b>Environment</b> filter is applied to the display if it has a value other than * (asterisk). |            |   |                  |  |                    |  |
| <b>Clear CMDB Filter</b>      | Clears all of the values in the <b>CMDB Filter (Owner, Area, Group, Service and Environment filters)</b> . NOTE: This action is not applied to any other display.   |            |   |                  |  |                    |  |
| <b>RegEx</b>                  | Toggles the <b>Search Text</b> field to accept Regular Expressions for filtering.   |            |   |                  |  |                    |  |
| <b>All</b>                    | Click to show all alerts in the table: <b>Open</b> and <b>Closed</b> alerts.  |            |   |                  |  |                    |  |
| <b>Open</b>                   | Click to only show <b>Open</b> alerts in the table.   |            |   |                  |  |                    |  |
| <b>Closed</b>                 | Click to only show <b>Closed</b> alerts in the table.   |            |   |                  |  |                    |  |
| <b>Owner Filter</b>           | Select the alert <b>Owner</b> to show alerts for in the table.  |            |   |                  |  |                    |  |
|                               | <table> <tr> <td><b>All</b></td> <td>Shows alerts for all Owners in the table: <b>Not Owned</b> and <b>Owned By Me</b> alerts.</td> </tr> <tr> <td><b>Not Owned</b></td> <td>Shows only alerts without Owners in the table.</td> </tr> <tr> <td><b>Owned By Me</b></td> <td>Shows only alerts for the current user in the table.</td> </tr> </table>  | <b>All</b> | Shows alerts for all Owners in the table: <b>Not Owned</b> and <b>Owned By Me</b> alerts. | <b>Not Owned</b> | Shows only alerts without Owners in the table. | <b>Owned By Me</b> | Shows only alerts for the current user in the table. |
| <b>All</b>                    | Shows alerts for all Owners in the table: <b>Not Owned</b> and <b>Owned By Me</b> alerts.   |            |   |                  |  |                    |  |
| <b>Not Owned</b>              | Shows only alerts without Owners in the table.  |            |   |                  |  |                    |  |
| <b>Owned By Me</b>            | Shows only alerts for the current user in the table.  |            |   |                  |  |                    |  |
| <b>Alert Settings Conn OK</b> | The Alert Server connection state:<br> Disconnected.<br> Connected.   |            |   |                  |  |                    |  |
| <b>Total</b>                  | <b>X/Y</b> where <b>X</b> is the total number of alerts in the table with all selected filters applied. <b>Y</b> is the number of alerts in the table with only the <b>CMDB</b> and <b>Cleared</b> filters applied.   |            |   |                  |  |                    |  |
| <b>Critical</b>               | Check to show alerts in the table that are currently in a critical state. NOTE: You must check <b>Critical</b> to see alerts that are in a critical state.<br><b>X/Y</b> where <b>X</b> is the total number of critical alerts in the table with all selected filters applied. <b>Y</b> is the number of alerts in the table with only the <b>CMDB Filter</b> and <b>Cleared</b> filters applied.   |            |   |                  |  |                    |  |

|                   |  |
|-------------------|--|
| <b>Warning</b>    | Check to show alerts in the table that are currently in a warning state. NOTE: You must check <b>Warning</b> to see alerts that are in a warning state.<br><b>X/Y</b> where <b>X</b> is the total number of warning alerts in the table with all selected filters applied. <b>Y</b> is the number of alerts in the table with only the <b>CMDB</b> and <b>Cleared</b> filters applied. |
| <b>Suppressed</b> | Check to show alerts in the table that are suppressed. The <b>Suppressed</b> count is not impacted by the <b>Critical</b> and <b>Warning</b> filters. It is impacted only by the <b>CMDB Filter</b> and the <b>Owner Filter</b> . NOTE: You must check <b>Suppressed</b> to see Suppressed alerts in the table.  |
| <b>Own</b>        | Click to assign an Owner for the alert. This option is only visible when logged in as one of the following roles: event, full, admin, super. This option is disabled when you select a gray row. For details, see <b>Configure User and Role Management</b> .  |
| <b>Suppress</b>   | Click to suppress the alert. This option is only visible when logged in as one of the following roles: event, full, admin, super. This option is disabled when you select a gray row. For details, see <b>Configure User and Role Management</b> .   |
| <b>UnSuppress</b> | Click to unsuppress the alert. This option is only visible when logged in as one of the following roles: event, full, admin, super. This option is disabled when you select a gray row or when you select a row. For details, see <b>Configure User and Role Management</b> .  |
| <b>Close</b>      | Click to close the alert. This option is only visible to users with Administrator privileges. This option is disabled when you select a gray row or you select a row where the Primary Service is not in the \$rtvManageableCompID list for the logged in user. For details, see <b>Configure User and Role Management</b> .   |

#### Alerts Table

This table lists all active alerts for the current filters. The table is empty unless you check **Critical**, **Warning**, or both. Filter the list using the search fields and drop-down menus (in the upper portion of the display). To view details about an alert, select an alert and click **Details** (in the bottom right portion of the display) to open the **Alert Detail** dialog. To view details about the CI source of the alert, select an alert and click **Go To CI** (in the bottom right portion of the display) to open its Summary display.

|                        |   |
|------------------------|---|
| <b>First Occ</b>       | The date and time the alert first occurred.   |
| <b>Last Occ</b>        | The date and time the alert last occurred.  |
| <b>Count</b>           | The number of times the alert was generated.  |
| <b>Sup</b>             | When checked, the alert has been suppressed by a user.                                  |
| <b>Owner</b>           | The named owner assigned by the administrator.  |
| <b>Alert Name</b>      | The name of the alert.  |
| <b>Primary Service</b> | The name of the Service with which the alert is associated.                             |
| <b>CI</b>              | The CI alert source.  |
| <b>Alert Text</b>      | Description of the alert.   |
| <b>AlertClass</b>      | An optional alert field which can be used when integrating with other alerting systems. |
| <b>CompID</b>          | An optional alert field which can be used when integrating with other alerting systems. |
| <b>TicketID</b>        | An optional alert field which can be used when integrating with other alerting systems. |
| <b>TicketGroup</b>     | An optional alert field which can be used when integrating with other alerting systems. |
| <b>Columns</b>         | <b>Id</b> When checked, shows the <b>ID</b> column in the table.                        |

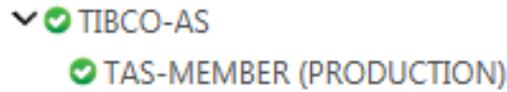
|                       |   |
|-----------------------|---|
| <b>Closed</b>         | When checked, shows the <b>Closed</b> column in the table.  |
| <b>Closed Reason</b>  | When checked, shows the <b>Closed Reason</b> column in the table.   |
| <b>Alert Index</b>    | When checked, shows the <b>Alert Index</b> column in the table.   |
| <b>Go To CI</b>       | Select an alert from the <b>Alerts Table</b> , then click <b>Go To CI</b> to view details for the selected CI in the Summary display.   |
| <b>Annotate</b>       | Select one or more alerts from the <b>Alerts Table</b> , then click <b>Annotate</b> to open the <b>Set Owner and Comments</b> dialog and enter comments or change alert owner. This option is only visible when logged in as one of the following roles: event, full, admin, super. This option is disabled when you select a gray row or when you select a row where the Primary Service is not in the \$rtvManageableCompID list for the logged in user. For details, see <b>Configure User and Role Management</b> . |
| <b>ID</b>             | Lists the alert IDs, separated by semicolons, for the alerts selected from the <b>Alert Table</b> .   |
| <b>Source</b>         | Lists the name of the back-end Data Server reporting the alert, separated by semicolons.  |
| <b>Enter Owner</b>    | Enter the name of the owner for one or more alerts, click <b>Set Owner of One Alert</b> to assign the Owner, then click <b>Close</b> . By default, this field displays the current user name.   |
| <b>Enter Comment</b>  | Enter a comment for one or more alerts, click <b>Add Comment on One Alert</b> to apply the Comment, then click <b>Close</b> . By default, this field displays previously entered comments. The text appears in the <b>Comments</b> field for the alert.   |
| <b>Set Owner</b>      | Applies the name of the alert owner in the <b>Enter Owner</b> field for one or more alerts.   |
| <b>Add Comment</b>    | Applies the comment in the <b>Enter Comment</b> field for one or more alerts.   |
| <b>Clear Comments</b> | Removes all comments for one or more alerts.  |
| <b>Close</b>          | Closes the dialog.  |
| <b>Options</b>        | Select a single alert from the <b>Alerts Table</b> , then click <b>Options</b> to open the <b>Alert Options</b> dialog. This dialog is provided for customizing your own alert options. This option is disabled when you select a gray row or more than one row.  |
| <b>Details</b>        | Select a single alert from the <b>Alerts Table</b> , then click <b>Details</b> to open the <b>Alert Detail</b> window and view alert details. This option is disabled when you select a gray row or more than one row.  |

## Alert History Table

Use this display to track the history of any alert that has occurred in your RTView Enterprise Monitor system. There is one row in the table for each update to each alert. The table is limited to **20,000** rows. If there are more than **20,000** rows in the selected time range, the newest **20,000** rows are shown.

The color coded navigation tree shows the contents of the CMDB hierarchically ordered. Choose a node to filter alerts shown in the table. The **Alert History Table** only shows alerts associated with the node you select. A green indicator means the node has no associated alerts. A red indicator means the node has one or more associated alerts.

Service name labels are appended with the Environment. For example, the following illustrates that the **TAS-MEMBER** Service currently has no alerts in the **PRODUCTION** Environment.



To filter the table, select a table column from the **Field Filter** drop-down menu. In the **Search Text** field, enter the (case-sensitive) string to search for in the selected **Field Filter**, then click **<Enter>**. Click **Clear** to clear the **Field Filter** and **Search Text** fields.

The **Count** label shows two values: the filtered row count / the total row count.

Click a column heading to sort the table by the column data.

**Title Bar:**

Indicators and functionality might include the following:

- Open the previous and upper display.
- and navigate to displays commonly accessed from this display.
- The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
- The number of items in the display.

- Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

**Note:** The **Count** field in the title bar of this display shows two values: the filtered row count and the unfiltered row count.

The row color indicates the most critical alert state for the row, as follows:

**Row Color Code:**

Tables with colored rows indicate the following:

- Red indicates that one or more alerts exceeded their ALARM LEVEL threshold in the table row.
- Yellow indicates that one or more alerts exceeded their WARNING LEVEL threshold in the table row.
- Green indicates that no alerts exceeded their WARNING or ALARM LEVEL threshold in the table row.

If the RTVMGR Solution Package and the RTVRULES Solution Package (which come with RTView Enterprise Monitor) are installed on your system you might see the following alert types for RTView Servers (Data Servers, Display Servers and Historian Servers):

**RTVMGR Solution Package Alert Types**

|                                    |   |
|------------------------------------|---|
| <b>JvmCpuPercentHigh</b>           | The percent JVM CPU usage exceeded the specified threshold.   |
| <b>JvJvmGcDutyCycleHigh</b>        | The JVM garbage collection contains an item that exceeded the specified duty cycle threshold (the percent of time spent in Garbage Collection). |
| <b>JvmMemoryUsedAfterGCHigh</b>    | The percentage of the memory used after garbage collection exceeded the specified threshold.  |
| <b>JvmMemoryUsedHigh</b>           | The percent JVM memory used exceeded the specified threshold.   |
| <b>JvmNotConnected</b>             | The JVM is not connected.   |
| <b>JvmStaleData</b>                | The JVM stopped receiving data.   |
| <b>TomcatAccessRateHigh</b>        | The Access Rate of a Tomcat application deployed on a Tomcat server exceeded the specified threshold.   |
| <b>TomcatActiveSessionsHigh</b>    | The number of active Tomcat Server sessions exceeded the specified threshold.   |
| <b>TomcatAppAccessRateHigh</b>     | The application deployed on a Tomcat Server exceeded the specified threshold.   |
| <b>TomcatAppActiveSessionsHigh</b> | The number of active Tomcat application sessions exceeded the specified threshold.  |

**RTVRULES Solution Package Alert Types**

|                                    |  |
|------------------------------------|--|
| <b>RtvEmServiceAlert</b>           | This discrete alert is generated when a Service has one or more alerts on any associated CIs.                                      |
| <b>RtvEmServiceAlertImpactHigh</b> | This limits alert is generated when a Service has an Alert Impact value that exceeds the specified threshold on any associated CI. |

**Fields and Data**

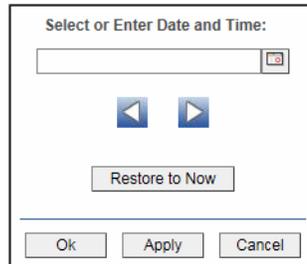
This display includes:

|                     |  |
|---------------------|--|
| <b>Field Filter</b> | Select a table column from the drop-down menu to perform a search in: <b>Alert Name, Alert Text, Cleared Reason, Clr, ID, Owner, Sev, Source, Sup, ID</b> or <b>Time</b> .<br>Filters limit display content and drop-down menu selections to only those items that pass through the selected filter's criteria. If no items match the filter, you might have zero search results (an empty table). |
| <b>Clear</b>        | Clears entries in the <b>Alert Name Filter</b> field and all table data.   |
| <b>Search Text</b>  | Enter the (case-sensitive) string to search for in the selected <b>Field Filter</b> .  |

**RegEx** Toggles the **Search Text** field to accept Regular Expressions for filtering.

**Sort by ID + Time** When checked, table rows are sorted by the **Time** and **ID** columns.

**Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar [...].



By default, the time range end point is the current time. To change the time range end point, click Calendar [...] and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows ◀ ▶ to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click Restore to Now to reset the time range end point to the current time.

### Alerts Table

This table lists all alerts for all Owners and all Areas that have occurred in your RTView Enterprise Monitor system. Filter the list by alert names using the **Alert Name Filter** drop-down menu.

|                       |  |
|-----------------------|--|
| <b>Time</b>           | The date and time the alert first occurred.  |
| <b>ID</b>             | The unique string identifier for the alert.  |
| <b>Clear</b>          | When checked, the alert has been cleared by a user.  |
| <b>Sup</b>            | When checked, the alert has been suppressed by a user.   |
| <b>Owner</b>          | The named owner assigned by the administrator.   |
| <b>Alert Name</b>     | The name of the alert.   |
| <b>Alert Index</b>    | Lists the Alert Indexes, separated by tildes (~), for the alert.   |
| <b>Alert Text</b>     | Descriptive text about the alert.  |
| <b>Cleared Reason</b> | <b>DATA UPDATE:</b> The metric returned to normal thresholds.<br><b>MANUAL:</b> A user cleared or closed the alert manually. |
| <b>Sev</b>            | The severity level of the alert.   |
| <b>Source</b>         | The name of the back-end Data Server reporting the alert.  |

## Administration

These displays enable you to set alert thresholds, and observe how alerts are managed. Displays in this View are:

- [“Alert Administration” on page 218](#): Displays active alerts and provides interface to modify and manage alerts.
- [“Alert Admin Audit” on page 224](#): Track modifications of alerts throughout your system, such as alert threshold modifications.
- [“Alert Action Audit Trail” on page 226](#): Track alert management throughout your system, including the name of the user who performed the action, the time the action was performed and what the action was.

### Alert Administration

Set global or override alert thresholds. Alert settings are global by default. Only users logged in with the admin or super roles can save changes to alert thresholds. For details, see **Configure User and Role Management**.

The table describes the global settings for all alerts on the system. To filter the alerts listed in the table, enter a string in the **Alert Filter** field and press **<enter>** or click elsewhere in the display. Filters are case sensitive and no wildcard characters are needed for partial strings. For example, if you enter Server in the **Alert Filter** field, it filters the table to show only alerts with **Server** in the name. Choose **Clear** to clear the filter.

### Global Thresholds

To set a global alert, select an alert from the **Active Alert Table**. The name of the selected alert populates the **Settings for Selected Alert Name** field. Edit the **Settings for Selected Alert** and click **Save Settings** when finished.

The manner in which global alerts are applied depends on the Solution Package. For example, the EMS Monitor Solution Package has queue alerts, topic alerts and server alerts. When a queue alert is applied globally, it is applied to all queues on all servers. Likewise, a server alert applies to all servers, and a topic alert applies to all topics on all servers.

### Override Thresholds

Setting override alerts allows you to set thresholds for a single resource (for example, a single server). Override alerts are useful if the majority of your alerts require the same threshold setting, but there are other alerts that require a different threshold setting. For example, you might not usually be concerned with execution time at a process level, but perhaps certain processes are critical. In this case, you can apply alert thresholds to each process individually.

To apply an individual alert you Index the Monitored Instance or resource (such as a message queue, in the case of the EMS Monitor package). The Index Types available are determined by the Solution Package installed. For example, with the EMS Monitor package you can set an alert for a specific topic on a specific server--the PerServerTopic Index option--rather than for all topics on all servers.

For information about setting override alerts, see “[Tabular Alert Administration](#)” on page 221.

**Note:** To filter the alerts shown in the **Administration - “Alert Administration”** display by Solution Package, use the `$rtvAlertPackageMask` substitution.

The screenshot shows the 'Alert Administration' interface. At the top, there is a title bar with a back arrow, the title 'Alert Administration', the date and time '23-Sep-2015 16:15', and a 'Data OK' indicator with a green arrow and a plus sign. Below the title bar is an 'Alert Filter' input field with a 'Clear' button and an 'Alert Settings Conn OK' indicator with a green circle. The main area contains a table of alerts with columns: Alert, Warning Level, Alarm Level, Duration, Alert Enabled, and Override Count. The table lists various alerts such as 'AcwInstanceCpuHigh', 'AcwInstanceDiskReadBytesHigh', etc. Below the table is a 'Settings for Selected Alert' panel for 'AcwInstanceDiskWriteOpsHigh'. This panel includes fields for Name, Description, Warning Level (100.0), Alarm Level (200.0), Duration (Secs.) (30), and Enabled (checked). There are 'Save Settings' and 'Override Settings' buttons. At the bottom, a note states: 'The Warning Level, Alert Level and Alarm Enabled values on this screen can be overridden for each alert'.

| Alert                                   | Warning Level | Alarm Level | Duration | Alert Enabled                       | Override Count |
|---|---------------|-------------|----------|-------------------------------------|----------------|
| AcwInstanceCpuHigh                      | 50            | 75          | 30       | <input checked="" type="checkbox"/> |                |
| AcwInstanceDiskReadBytesHigh            | 100000        | 200000      | 30       | <input checked="" type="checkbox"/> |                |
| AcwInstanceDiskReadOpsHigh              | 100           | 200         | 30       | <input checked="" type="checkbox"/> |                |
| AcwInstanceDiskWriteBytesHigh           | 100000        | 200000      | 30       | <input checked="" type="checkbox"/> |                |
| AcwInstanceDiskWriteOpsHigh             | 100           | 200         | 30       | <input checked="" type="checkbox"/> |                |
| AcwInstanceNetworkReadBytesHigh         | 100000        | 200000      | 30       | <input checked="" type="checkbox"/> |                |
| AcwInstanceNetworkWriteBytesHigh        | 100000        | 200000      | 30       | <input checked="" type="checkbox"/> |                |
| AmxServiceHitRateHigh                   | 200           | 400         | 30       | <input checked="" type="checkbox"/> |                |
| AmxServiceNodeFaultRateHigh             | 200           | 400         | 30       | <input checked="" type="checkbox"/> |                |
| AmxServiceNodeHitRateHigh               | 200           | 400         | 30       | <input checked="" type="checkbox"/> |                |
| AmxServiceNodeMovingAvgHitRateHigh      | 200           | 400         | 30       | <input checked="" type="checkbox"/> |                |
| AmxServiceNodeMovingAvgResponseTimeHigh | 200           | 400         | 30       | <input checked="" type="checkbox"/> |                |
| AmxServiceNodeResponseTimeHigh          | 200           | 400         | 30       | <input checked="" type="checkbox"/> |                |
| AmxServiceResponseTimeHigh              | 200           | 400         | 30       | <input checked="" type="checkbox"/> |                |
| Bw6AppNodeCpuUsedHigh                   | 50            | 80          | 30       | <input type="checkbox"/>            |                |
| Bw6AppNodeMemUsedHigh                   | 50            | 80          | 30       | <input type="checkbox"/>            |                |
| Bw6AppProcessCreatedRateHigh            | 50            | 80          | 30       | <input checked="" type="checkbox"/> |                |
| Bw6AppProcessElapsedTimeHigh            | 100           | 200         | 30       | <input type="checkbox"/>            |                |

**Settings for Selected Alert**

Name:  Warning Level:  Duration (Secs.):

Description:  Alarm Level:  Enabled:

Save Settings

Tabular Alert Options

The Warning Level, Alert Level and Alarm Enabled values on this screen can be overridden for each alert

### Title Bar:

Indicators and functionality might include the following:

Open the previous and upper display.

and  navigate to displays commonly accessed from this display.

The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

The number of items in the display.

**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

Open the online help page for this display.

## Fields and Data

This display includes:

- Alert Filter** Enter the (case-sensitive) string to filter the table by the **Alert** table column value. NOTE: Partial strings can be used without wildcard characters. Press **<enter>** or click elsewhere in the display to apply the filter.
- Clear** Clears the **Alert Filter** entry.
- Alert Settings** The Alert Server connection state:  
● Disconnected.  
● Connected.

### Active Alert Table

This table describes the global settings for all alerts on the system. Select an alert. The name of the selected alert populates the **Settings for Selected Alert Name** field (in the lower panel). Edit **Settings for Selected Alert** fields and click **Save Settings** when finished.

NOTE: To filter the alerts shown in the table by Solution Package, use the **\$rtvAlertPackageMask** substitution.

|                        |   |
|------------------------|---|
| <b>Alert</b>           | The name of the alert.  |
| <b>Warning Level</b>   | The global warning threshold for the selected alert. When the specified value is exceeded a warning is executed.  |
| <b>Alarm Level</b>     | The global alarm threshold for the selected alert. When the specified value is exceeded an alarm is executed.   |
| <b>Duration (Secs)</b> | The amount of time (in seconds) that the value must be above the specified Warning Level or Alarm Level threshold before an alert is executed. <b>0</b> is for immediate execution. |
| <b>Alert Enabled</b>   | When checked, the alert is enabled globally.  |
| <b>Override Count</b>  | The number of times thresholds for this alert have been defined individually in the <b>Tabular Alert Administration</b> display.  |

### Settings for Selected Alert

To view or edit Global settings, select an alert from the **Active Alert Table**. Edit the **Settings for Selected Alert** fields and click **Save Settings** when finished.

To set override alerts, click on **Override Settings** to open the **Tabular Alert Administration** display.

|                      |   |
|----------------------|---|
| <b>Name</b>          | The name of the alert selected in the <b>Active Alert Table</b> .   |
| <b>Description</b>   | Description of the selected alert. Click Calendar <input type="text"/> for more detail.   |
| <b>Warning Level</b> | Set the Global warning threshold for the selected alert. When the specified value is exceeded a warning is executed. To set the warning to occur sooner, reduce the Warning Level value. To set the warning to occur later, increase the Warning Level value.<br>NOTE: For low value-based alerts (such as <b>EmsQueuesConsumerCountLow</b> ), to set the warning to occur sooner, increase the Warning Level value. To set the warning to occur later, reduce the Warning Level value. |
| <b>Alarm Level</b>   | Set the Global alarm threshold for the selected alert. When the specified value is exceeded an alarm is executed. To set the alarm to occur sooner, reduce the Alarm Level value. To set the warning to occur later, increase the Alarm Level value.<br>NOTE: For low value-based alerts (such as <b>EmsQueuesConsumerCountLow</b> ), to set the alarm to occur sooner, increase the Alarm Level value. To set the alarm to occur later, reduce the Alarm Level value.                  |

- Duration** Set the amount of time (in seconds) that the value must be above the specified Warning Level or Alarm Level threshold before an alert is executed. **0** is for immediate execution. This setting is global.
- Enabled** Check to enable alert globally.
- Save Settings** Click to apply alert settings.
- Override Settings** Click to open the **Tabular Alert Administration** display to set override alerts on the selected alert.

### Tabular Alert Administration

Set override alerts (override global alert settings). This display opens when you select an alert in the **Alert Administration** display and then select **Override Settings**.

For step-by-step instructions setting thresholds for individual alerts, see **Setting Override Alerts**.

### Fields and Data

This display includes:

- Alert Settings Conn OK** The connection state.
- No servers are found.
  - One or more servers are delivering data.

### Override Settings For Alert:(name)

This table lists and describes alerts that have override settings for the selected alert. Select a row to edit alert thresholds. The selected item appears in the Index field. Edit settings in the Alert Settings fields, then click Save Settings.

**Index Type** Select the type of alert index to show in the Values table. Options in this drop-down menu are populated by the type of alert selected, which are determined by the Package installed. For example, with the EMS Monitor package the following Index Types are available:

- PerServer: Alert settings are applied to a specific server.
- PerQueue: Alert settings are applied to the queue on each server that has the queue defined.
- PerServerQueue: Alert settings are applied to a single queue on a specific server.
- PerTopic: Alert settings are applied to the topic on each server that has the topic defined.
- PerServerTopic: Alert settings are applied to a single topic on a specific server.

**Index** The value of the index column.

**Override Settings** When checked, the override settings are applied.

**Alert Enabled** When checked, the alert is enabled.

**Index Type** Select the index type. The index type specifies how to apply alert settings. For example, to a queue (topic or JVM, and so forth) across all servers, or to a queue on a single server. NOTE: Options in this drop-down menu are populated by the type of alert selected from the Alert Administration display. Index Types available depend on the Package installed.

**Index** The selected index column to be edited. This field is populated by the selection made in the **Unassigned Indexes** table.

**Unassigned Indexes** This table lists all possible indexes corresponding to the Index Type chosen in the drop-down list. Select a row to apply individual alert thresholds. The selected item appears in the **Index** field. Edit settings in the **Alert Settings** fields, then click **Add**.

**Add** Click to add changes made in **Alert Settings**, then click **OK** to confirm.

**Remove** Click to remove an alert selected in the **Index Alert Settings** table, then click **OK** to confirm.

**Save Settings** Click to save changes made to alert settings.

### Alert Settings

Select a topic, server or queue from the **Unassigned Indexes** table and edit the following settings.

**Warning Level** Set the warning threshold for the selected alert. When the specified value is exceeded a warning is executed. To set the warning to occur sooner, reduce the Warning Level value. To set the warning to occur later, increase the Warning Level value.

NOTE: For low value-based alerts (such as **EmsQueuesConsumerCountLow**), to set the warning to occur sooner, increase the Warning Level value. To set the warning to occur later, reduce the Warning Level value.

**Click Save Settings to save settings.**

**Alarm Level** Set the alarm threshold for the selected alert. When the specified value is exceeded an alarm is executed. To set the alarm to occur sooner, reduce the Alarm Level value. To set the warning to occur later, increase the Alarm Level value.

NOTE: For low value-based alerts (such as **EmsQueuesConsumerCountLow**), to set the alarm to occur sooner, increase the Alarm Level value. To set the alarm to occur later, reduce the Alarm Level value. Click **Save Settings** to save settings.

- Alert Enabled** Check to enable the alert, then click **Save Settings**.
- Override Settings** Check to enable override global setting, then click **Save Settings**.

**Back to Alerts** Returns to the **Administration - Alert Administration** display.

### Setting Override Alerts

Perform the following steps to set an override alert. Index Types available depend on the Solution Package installed. In this example, we use the EMS Monitor Package to illustrate.

---

**Note:** To turn on an alert, both **Alert Enabled** and **Levels Enabled** must be selected.

---

To turn on/off, change threshold settings, enable/disable or remove an alert on a single resource:

1. In the **Alert Administration** display, select a tabular alert in the **Active Alert Table** and click **Override Settings**. The **Tabular Alert Administration** display opens.
2. In the **Tabular Alert Administration** display, select the Index type from the **Index Type** drop-down menu (options are populated by the type of alert you previously selected). For example, with the EMS Monitor package, select PerServerQueue, PerServerTopic or PerServer. NOTE: If you select PerServerQueue or PerServerTopic, the alert settings are applied to the queue or topic on a single server.
3. In the **Unassigned Indexes** table, select the item you want to apply an override alert setting to, click **Add** and **OK** in the confirmation dialog. After a few moments the override setting appears in the **AlertLevels** table.
4. Select the item in the **AlertLevels** table.
5. In the Alert Settings panel (lower right), if needed, modify the Warning Level and Alarm Level settings.
6. In the **Alert Settings** panel, set the following as appropriate.
  - To turn on the alert for this index with the given thresholds:
    - Alert Enabled** Select this option.
    - Override Settings** Select this option.
    - NOTE:** To turn on an alert, both **Alert Enabled** and **Override Settings** must be selected.
  - To turn off the alert for only this index (global alert thresholds will no longer apply to this index):
    - Alert Enabled** Deselect this option.
    - Override Settings** Select this option.
  - To no longer evaluate this indexed alert and revert to global settings (or, optionally, Remove it if it is never to be used again):

**Alert Enabled** Not used.

**Override Settings** Deselect this option.

- Click **Save Settings**. In a few moments the modifications are updated and a new record appears in the **AlertLevels** table. For example, in the following figure, the EmsServerConnectionCountHigh alert has a new override applied. New overrides increment the alert **Override Count** in the **ALERTLEVELS** table..

| Alert                        | Warning Level | Alarm Level | Duration | Alert Enabled                       | Override Count |
|------------------------------|---------------|-------------|----------|-------------------------------------|----------------|
| EmsQueuesProducerCountHigh   | 60            | 80          | 30       | <input type="checkbox"/>            | 0              |
| EmsQueuesProducerCountLow    | 15            | 5           | 30       | <input type="checkbox"/>            | 0              |
| EmsServerAsyncDBSizeHigh     | 50            | 100         | 30       | <input type="checkbox"/>            | 0              |
| EmsServerConnectionCountHigh | 60            | 80          | 30       | <input checked="" type="checkbox"/> | 1              |
| EmsServerInMsgRateHigh       | 60            | 80          | 30       | <input type="checkbox"/>            | 0              |
| EmsServerMemUsedHigh         | 60            | 80          | 30       | <input type="checkbox"/>            | 0              |

### Alert Admin Audit

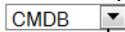
View alert management details such as alert threshold modifications.

Each table row is a single modification made to an alert. To view modifications for a single alert in a group, click Sort  to order the **ALERTNAME** column.

| Alert Administration Audit Trail |       |         |                             |           |            |              |
|----------------------------------|-------|---------|-----------------------------|-----------|------------|--------------|
| TIME_STAMP                       | USER  | ACTION  | ALERTNAME                   | INDEXTYPE | ALERTINDEX | WARNINGLEVEL |
| 09/20/15 15:27:45                | admin | UPDATED | BwActivityErrorRateHigh     | Default   | Default    | 0.0          |
| 09/20/15 15:16:16                | admin | UPDATED | BwActivityExecutionTimeHigh | Default   | Default    | 0.0          |
| 09/20/15 15:16:00                | admin | UPDATED | BwActivityErrorRateHigh     | Default   | Default    | 0.0          |
| 09/19/15 10:35:32                | admin | UPDATED | BwProcessElapsedTimeHigh    | Default   | Default    | 0.0          |
| 09/19/15 10:35:20                | admin | UPDATED | BwProcessElapsedTimeHigh    | Default   | Default    | 0.0          |
| 09/19/15 10:35:07                | admin | UPDATED | BwProcessAbortRateHigh      | Default   | Default    | 0.0          |
| 09/19/15 10:34:56                | admin | UPDATED | BwProcessAbortRateHigh      | Default   | Default    | 0.0          |
| 09/19/15 10:34:43                | admin | UPDATED | BwEngineCpuUsedHigh         | Default   | Default    | 0.0          |
| 09/19/15 10:34:32                | admin | UPDATED | BwEngineCpuUsedHigh         | Default   | Default    | 0.0          |
| 09/19/15 10:34:12                | admin | UPDATED | BwEngineMemUsedHigh         | Default   | Default    | 0.0          |
| 09/19/15 10:34:00                | admin | UPDATED | BwEngineMemUsedHigh         | Default   | Default    | 0.0          |
| 09/19/15 10:33:47                | admin | UPDATED | BwEngineCpuUsedHigh         | Default   | Default    | 0.0          |
| 09/19/15 10:33:36                | admin | UPDATED | BwEngineCpuUsedHigh         | Default   | Default    | 0.0          |
| 09/19/15 10:33:21                | admin | UPDATED | BwActivityExecutionTimeHigh | Default   | Default    | 0.0          |
| 09/19/15 10:33:06                | admin | UPDATED | BwActivityExecutionTimeHigh | Default   | Default    | 0.0          |
| 09/19/15 10:32:50                | admin | UPDATED | BwActivityErrorRateHigh     | Default   | Default    | 0.0          |
| 09/19/15 10:32:19                | admin | UPDATED | BwActivityErrorRateHigh     | Default   | Default    | 0.0          |
| 09/19/15 09:42:07                | admin | UPDATED | BwEngineCpuUsedHigh         | Default   | Default    | 0.0          |
| 09/19/15 09:41:42                | admin | UPDATED | BwActivityExecutionTimeHigh | Default   | Default    | 0.0          |
| 09/19/15 09:41:30                | admin | UPDATED | BwActivityExecutionTimeHigh | Default   | Default    | 0.0          |
| 09/19/15 09:40:59                | admin | UPDATED | BwActivityErrorRateHigh     | Default   | Default    | 0.0          |
| 09/19/15 09:40:30                | admin | UPDATED | BwActivityErrorRateHigh     | Default   | Default    | 0.0          |
| 09/19/15 09:39:30                | admin | UPDATED | BwActivityExecutionTimeHigh | Default   | Default    | 0.0          |
| 09/19/15 09:39:09                | admin | UPDATED | BwActivityExecutionTimeHigh | Default   | Default    | 0.0          |
| 09/19/15 09:34:23                | admin | UPDATED | BwActivityExecutionTimeHigh | Default   | Default    | 0.0          |
| 09/19/15 09:34:07                | admin | UPDATED | BwActivityErrorRateHigh     | Default   | Default    | 0.0          |

**Title Bar:**

Indicators and functionality might include the following:

  Open the previous and upper display.  
 and  navigate to displays commonly accessed from this display.

 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 Cts: 3,047 The number of items in the display.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

**Fields and Data**

This display includes:

|                      |   |
|----------------------|---|
| <b>Audit Conn OK</b> | The Alert Server connection state.<br> Disconnected.<br> Connected.   |
| <b>TIME_STAMP</b>    | The date and time of the modification.  |
| <b>USER</b>          | The user name of the administrator who made the modification.   |
| <b>ACTION</b>        | The type of modification made to the alert, such as <b>UPDATED</b> .  |
| <b>ALERTNAME</b>     | The name of the alert modified.   |
| <b>INDEXTYPE</b>     | The type of alert Index.<br>Index Type refers to the manner in which alert settings are applied and vary among Packages. For example, JVMs have a PerJvm Index Type. the EMS Monitor package PerServer, PerTopic and PerQueue Index Types, which apply alerts to servers, topics and queues, respectively.                        |
| <b>ALERTINDEX</b>    | The index of the alert which identifies its source.   |
| <b>WARNINGLEVEL</b>  | The warning threshold value for the alert at the time this modification was made, as indicated in the <b>TIME_STAMP</b> column.<br>The warning level is a threshold that, when exceeded, a warning is executed.   |
| <b>ALARMLEVEL</b>    | The alarm threshold value for the alert at the time this modification was made, as indicated in the <b>TIME_STAMP</b> column.<br>The alarm level is a threshold that, when exceeded, an alarm is executed.  |
| <b>DURATION</b>      | The duration value for the alert at the time this modification was made, as indicated in the <b>TIME_STAMP</b> column.<br>The alert duration is the amount of time (in seconds) that a value must be above the specified Warning Level or Alarm Level threshold before an alert is executed. <b>0</b> is for immediate execution. |
| <b>ENABLED</b>       | When checked, indicates the alert was enabled at the time this modification was made, as indicated in the <b>TIME_STAMP</b> column.   |
| <b>USEINDEX</b>      | When checked, indicates the alert override was enabled at the time this modification was made, as indicated in the <b>TIME_STAMP</b> column. For details about alert overrides, see <b>Alert Administration</b> .   |

## Alert Action Audit Trail

The **Alert Action Audit Trail** display shows all user actions concerning alert management, including the name of the user who performed the action, the time the action was performed and what the action was. This display can help managers of the RTView Enterprise Monitor solution determine how and when user interactions have impacted the alert system and help manage users so that best practices for alert handling are maintained.

| TIME_STAMP        | USER  | ACTION_TYPE      | ACTION      | TARGET | VALUE | ALERT_NAME            |
|-------------------|-------|------------------|-------------|--------|-------|-----------------------|
| 10/01/15 16:56:29 | admin | Event Management | Set Owner   | 2764   | admin | EmsServerRouteState   |
| 10/01/15 16:56:29 | admin | Event Management | Set Owner   | 2562   | admin | EmsQueueProviderIdleT |
| 10/01/15 16:56:29 | admin | Event Management | Set Owner   | 2385   | admin | EmsQueueProviderIdleT |
| 10/01/15 16:56:29 | admin | Event Management | Set Owner   | 2339   | admin | EmsTopicsProducerCou  |
| 10/01/15 16:56:29 | admin | Event Management | Set Owner   | 2304   | admin | EmsTopicsProducerCou  |
| 10/01/15 16:56:29 | admin | Event Management | Set Owner   | 2256   | admin | EmsTopicsProducerCou  |
| 10/01/15 16:56:29 | admin | Event Management | Set Owner   | 2096   | admin | EmsTopicsProducerCou  |
| 10/01/15 16:56:29 | admin | Event Management | Set Owner   | 2039   | admin | EmsTopicsConsumerCo   |
| 10/01/15 16:56:29 | admin | Event Management | Set Owner   | 2004   | admin | EmsTopicsConsumerCo   |
| 10/01/15 16:56:29 | admin | Event Management | Set Owner   | 1956   | admin | EmsTopicsConsumerCo   |
| 10/01/15 16:56:29 | admin | Event Management | Set Owner   | 1796   | admin | EmsTopicsConsumerCo   |
| 10/01/15 16:56:29 | admin | Event Management | Set Owner   | 1761   | admin | EmsServerAsyncDBSize  |
| 10/01/15 16:56:29 | admin | Event Management | Set Owner   | 1732   | admin | EmsQueuesProducerCo   |
| 10/01/15 16:56:29 | admin | Event Management | Set Owner   | 1375   | admin | EmsQueuesProducerCo   |
| 10/01/15 16:56:29 | admin | Event Management | Set Owner   | 1358   | admin | EmsQueuesConsumerC    |
| 10/01/15 16:56:29 | admin | Event Management | Set Owner   | 1001   | admin | EmsQueuesProducerCo   |
| 10/01/15 16:56:29 | admin | Event Management | Clear Alert | 2764   |       | EmsServerRouteState   |
| 10/01/15 16:56:29 | admin | Event Management | Clear Alert | 2562   |       | EmsQueueProviderIdleT |
| 10/01/15 16:56:29 | admin | Event Management | Clear Alert | 2385   |       | EmsQueueProviderIdleT |
| 10/01/15 16:56:29 | admin | Event Management | Clear Alert | 2339   |       | EmsTopicsProducerCou  |
| 10/01/15 16:56:29 | admin | Event Management | Clear Alert | 2304   |       | EmsTopicsProducerCou  |
| 10/01/15 16:56:29 | admin | Event Management | Clear Alert | 2256   |       | EmsTopicsProducerCou  |
| 10/01/15 16:56:29 | admin | Event Management | Clear Alert | 2096   |       | EmsTopicsProducerCou  |
| 10/01/15 16:56:29 | admin | Event Management | Clear Alert | 2039   |       | EmsTopicsConsumerCo   |
| 10/01/15 16:56:29 | admin | Event Management | Clear Alert | 2004   |       | EmsTopicsConsumerCo   |
| 10/01/15 16:56:29 | admin | Event Management | Clear Alert | 1956   |       | EmsTopicsConsumerCo   |

### Title Bar:

Indicators and functionality might include the following:

- Open the previous and upper display.
- and navigate to displays commonly accessed from this display.
- 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
- Cis: 3,047 The number of items in the display.

**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

Open the online help page for this display.

### Fields and Data

This display includes:

- Action Audit Conn OK** The Alert Action database connection availability.
  - The connection to the Alert Action database is not available.
  - The connection to the Alert Action database is available.
- Time\_Stamp** The time the action was performed.
- User** The log in name of the user who performed the action.
- Action\_Type** The type of action which was performed.
- Action** The action which was performed.
- Target** The alert ID on which the action was performed.
- Value** Any value associated with the alert action.

|                    |  |
|--------------------|--|
| <b>Alert_Name</b>  | The name of the alert on which the action was performed. |
| <b>Alert_Index</b> | The index of the alert which identifies its source.      |

## CMDB Administration

This display allows you to modify your Service Data Model.

- [“CMDB Admin” on page 227](#): View or modify your Service Data Model.

### CMDB Admin

Use this display to setup, view or modify your Service Data Model (CMDB), including: adding, renaming, deleting or merging your CMDB hierarchical elements (Owners, Areas, Groups or Services), associating CIs with Services and assigning or modifying CI attributes (such as Criticality). Only users logged in with the admin or super roles can apply changes in this display. For details, see [“Configure User and Role Management” on page 45](#).

The **CI List for Selected Service** (upper) table lists the CIs that are associated with the Service selected (from the **Service** drop-down menu).

The **Available Components** (lower) table is not part of the CMDB. The **Available Components** table lists all available CIs for the CI Type (selected from the **Selected CI Type** drop-down menu) that are in your RTView Enterprise Monitor system--whether or not they are in the CMDB. Filter this list using the **CIName Filter** field.

You add CIs to the CMDB by associating them with an Owner, Area, Group, and Service. To do so, select the CI Type from the **Selected CI Type** drop-down menu, choose one or more CIs from the **Available Components** table, then click **Add CI**.

It is not necessary to restart the Configuration Server after making changes to the Service Data Model using the **CMDB Admin** display.

#### **Creating a new Service, Group, Area or Owner:**

Select the CI Type from the **Selected CI Type** drop-down menu, choose one or more CIs from the **Available Components** table, then click **Add CI To...** Assign a new or existing Owner, Area, Group or Service, review your entries and click **OK**. Your changes are visible in drop-down menus and displays.

#### **Associating CIs with a Service:**

This option is useful when you want to define which CIs are to be monitored for Services. CIs can be associated with more than one Service, Group, Area or Owner. Select the Owner, Area, Group and Service to which you want to associate one or more CIs using the drop-down menus. The **CI List Table** (the upper table) populates with all CIs already associated with the Owner, Area, Group and Service you select. Select the CI Type of the CI(s) you want to associate. The **Available Components** table (the lower table) populates with all CIs that are categorized as that CI Type. Select one or more CIs in the **Available Components** table, set the Criticality and other optional assignments using the drop-down menus (on the right). Click **Add CI** to associate the CI(s) with the Service. A row is added for each associated CI to the **CI List Table**. Your changes are visible in the drop-down menus and displays.

**Renaming a Service, Group, Area or Owner:**

This option is useful when, for example, a *new* Owner is replacing a retiring Owner, a name is misspelled or a more relevant name is required. Select the relevant Owner, Area, Group or Service using the drop-down menus, then click the corresponding **Manage (Owner, Area, Group or Service)** option for what you are renaming. The **Manage (Owner, Area, Group or Service)** dialog opens. In the **Manage (Owner, Area, Group or Service)** dialog, type the new name in the **New Name** field, click **Rename** and **OK**. Your changes are visible in the drop-down menus and displays.

**Deleting a Service, Group, Area or Owner:**

This option is useful when, for example, an Owner, Area, Group or Service and all the CIs associated with it are not relevant in your RTView Enterprise Monitor system. When you delete a Service, Group, Area or Owner everything underneath it (lower CMDB levels and associated CIs) is also removed from the CMDB database and displays. Select the relevant Owner, Area, Group or Service using the drop-down menus, then click the corresponding **Manage (Owner, Area, Group or Service)** option for what you are deleting. The **Manage (Owner, Area, Group or Service)** dialog opens. In the **Manage (Owner, Area, Group or Service)** dialog click **Delete** and **OK**. Your changes are visible in the drop-down menus and displays.

---

**Important:** There is no option to undo a deletion from the CMDB. To restore a deletion you must recreate the Owner, Area, Group or Service and the CIs must be re-associated.

---

**Moving a Service, Group or Area:**

This option is useful when, for example, an Area belongs under a different Owner, a Group belongs under a different Area or a Service belongs under a different Group. When you move a Service, Group or Area (Owners cannot be moved) everything underneath it (lower CMDB levels and associated CIs) moves with it. Select the Area, Group or Service you want to move using the drop-down menus, then click the relevant **Manage (Area, Group or Service)** option for what you are moving. The **Manage (Area, Group or Service)** dialog opens. In the **Manage (Area, Group or Service)** dialog, select the new Owner, Area, Group or Service to move to from the **New (Area, Group or Service)** drop-down menus, click **Move** and **OK**. Your changes are visible in the drop-down menus and displays.

**Merging Services, Groups, Areas or Owners:**

This option is useful when, for example, an *existing* Owner is taking over for a retiring Owner. When you merge a Service, Group, Area or Owner its name changes to that of the target Service, Group, Area or Owner, and everything underneath it (lower CMDB levels and associated CIs) goes with it. Select the Area, Group or Service you want to merge using the drop-down menus, then click the relevant **Manage (Area, Group or Service)** option for what you are merging. The **Manage (Area, Group or Service)** dialog opens. In the **Manage (Area, Group or Service)** dialog, select an existing Owner, Area, Group or Service to merge to in the **New Name** field, click **Merge** and **OK**. Your changes are visible in the drop-down menus and displays.

**Deleting a CI:**

Select a CI from the **CI List Table**, click **Delete** and **OK**. The CI is removed from the CMDB database and displays. Your changes are visible in the drop-down menus and displays.

**Applying Criticality value to multiple CIs:**

In the **CI List Table** select a CI that has the Criticality value you want to apply to all CIs in the **CI List Table**, click **Update Criticality like selected CI** and **OK**. The **Criticality** column for all CIs is updated. Your changes are visible in the drop-down menus and displays.

## Changing CI attributes

In the **CI List Table** select the CI you want to modify attributes for, use the **Environment**, **Region**, **SiteName**, **Criticality**, **City**, **Country** and **OSType** drop-down menus to apply attributes, then click **Update** and **OK**. The **CI List Table** is updated. Your changes are visible in the drop-down menus and displays.

By default, the Owner named **Infrastructure** is created. **Infrastructure** organizes all available CIs collected through all Data Servers configured under RTView EM by technology. This default organization can be disabled if needed.

The screenshot shows the 'CMDB - Administration' interface. At the top, it displays the date '24-Sep-2015 11:45' and a 'Data OK' indicator. Below this, there are several dropdown menus for 'Owner' (Jerelyn Parker), 'Area' (Systems), 'Group' (Databases), and 'Service' (IBM DB2). To the right of these are 'Manage Owner', 'Manage Area', 'Manage Group', and 'Manage Service' buttons. A 'Source' field shows 'RTV\_CMDB'. Below these are buttons for 'Update Criticality like selected CI', 'Update', and 'Delete'. A 'CI List for Selected Service - select a CI to see detail and to edit:' table is shown with columns for CIType, CIName, Criticality, Region, and Env. Below this table are fields for 'Selected CI Type' (MQ-QUEUE), 'CIName Filter', and a 'Regex' checkbox. At the bottom, there is an 'Available Components (CIs):' table with columns for conn, Name, CIName, and Data Serv.

| CIType      | CIName                             | Criticality | Region | Env |
|-------------|------------------------------------|-------------|--------|-----|
| VMWARE-HOST | vSphere2:slesxi-1.sldemos-hq.local | B           |        | QA  |
| VMWARE-VM   | vSphere2:2008S-WIN14               | B           |        | QA  |

| conn    | Name      | CIName            | Data Serv      |
|---------|-----------|-------------------|----------------|
| vmrh5-1 | TEST_Q_01 | vmrh5-1;TEST_Q_01 | MQMON-64-OL7-3 |
| vmrh5-1 | TEST_Q_02 | vmrh5-1;TEST_Q_02 | MQMON-64-OL7-3 |
| vmrh5-1 | TEST_Q_03 | vmrh5-1;TEST_Q_03 | MQMON-64-OL7-3 |
| vmrh5-1 | TEST_Q_04 | vmrh5-1;TEST_Q_04 | MQMON-64-OL7-3 |
| vmrh5-1 | TEST_Q_05 | vmrh5-1;TEST_Q_05 | MQMON-64-OL7-3 |

### Title Bar:

Indicators and functionality might include the following:

- Open the previous and upper display. and navigate to displays commonly accessed from this display.
- The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
- The number of items in the display.

- Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

### Fields and Data

This display includes:

- Owner** Select an Owner to filter by. The Owner selected populates the **Area**, **Group** and **Service** drop-down menus.

|                       |   |
|-----------------------|---|
| <b>Manage Owner</b>   | <p>Opens a dialog that enables you to <b>Delete</b>, <b>Rename</b> or <b>Merge</b> the Owner.</p> <p><b>Delete</b> removes the Owner from the CMDB database as well as all CMDB data and CIs associated with the Owner.</p> <p><b>Rename</b> Changes all records for the Owner to a new name. <b>Rename</b> is disabled when the name you are typing in the text box already exists in the CMDB.</p> <p><b>Merge</b> Changes all records for the Owner to a different, already existing name in the CMDB. <b>Merge</b> is enabled when the name you are typing in the text box already exists in the CMDB.</p> <p><b>NOTE:</b> You cannot move Owners.</p>  |
| <b>Area</b>           | <p>Select an Area to filter by. The Area selected populates the <b>Group</b> and <b>Service</b> drop-down menus.</p>  |
| <b>Manage Area</b>    | <p>Opens a dialog that enables you to <b>Delete</b>, <b>Rename</b> or <b>Merge</b> the Area.</p> <p><b>Delete</b> removes the Area from the CMDB database as well as all CMDB data and CIs associated with the Area.</p> <p><b>Rename</b> Changes all records for the Area to a new name. <b>Rename</b> is disabled when the name you are typing in the text box already exists in the CMDB.</p> <p><b>Merge</b> Changes all records for the Area to a different, already existing name in the CMDB. <b>Merge</b> is enabled when the name you are typing in the text box already exists in the CMDB.</p> <p><b>Move</b> Changes all records for the Area to a different, already existing name in the CMDB that you choose from the <b>New Area</b> drop-down menu.</p>                      |
| <b>Group</b>          | <p>Select a Group to filter by. The Group selected populates the <b>Service</b> drop-down menu.</p>   |
| <b>Manage Group</b>   | <p>Opens a dialog that enables you to <b>Delete</b>, <b>Rename</b> or <b>Merge</b> the Group.</p> <p><b>Delete</b> removes the Group from the CMDB database as well as all CMDB data and CIs associated with the Group.</p> <p><b>Rename</b> Changes all records for the Group to a new name. <b>Rename</b> is disabled when the name you are typing in the text box already exists in the CMDB.</p> <p><b>Merge</b> Changes all records for the Group to a different, already existing name in the CMDB. <b>Merge</b> is enabled when the name you are typing in the text box already exists in the CMDB.</p> <p><b>Move</b> Changes all records for the Group to a different, already existing name in the CMDB that you choose from the <b>New Group</b> drop-down menu.</p>               |
| <b>Service</b>        | <p>Select a Service to edit, then click <b>Update</b>.</p>  |
| <b>Manage Service</b> | <p>Opens a dialog that enables you to <b>Delete</b>, <b>Rename</b> or <b>Merge</b> the Service.</p> <p><b>Delete</b> removes the Service from the CMDB database as well as all CMDB data and CIs associated with the Service.</p> <p><b>Rename</b> Changes all records for the Service to a new name. <b>Rename</b> is disabled when the name you are typing in the text box already exists in the CMDB.</p> <p><b>Merge</b> Changes all records for the Service to a different, already existing name in the CMDB. <b>Merge</b> is enabled when the name you are typing in the text box already exists in the CMDB.</p> <p><b>Move</b> Changes all records for the Service to a different, already existing name in the CMDB that you choose from the <b>New Service</b> drop-down menu.</p> |

**CI List Table**

This table lists all CIs associated with the selected Service. Each table row is a different CI. Select a CI to see its attributes in the drop-down menus at the right of the table. Use the **OSType**, **Region**, **SiteName**, **Criticality**, **City** and **Country** drop-down assign attributes, then click **Update**. To associate CIs with the Service, select one or more CIs from the **Available Components** table, then click **Add CI** (to associate the CI(s) with the selected Service.) or **Add CI To...** (to create a new Service and associate the CI(s) with it).

|                    |   |
|--------------------|---|
| <b>CIType</b>      | The type of CI. For example, server or application.   |
| <b>CIName</b>      | A unique identifier for the CI.   |
| <b>Criticality</b> | The importance level of the CI in your organization. Values range from <b>A</b> to <b>E</b> , where <b>A</b> is the highest Criticality and <b>E</b> is the lowest Criticality (with equally spaced intermediate values). This value is used to calculate the Alert Impact (maximum Alert Severity multiplied by the maximum Criticality equals Alert Impact).<br><br>Criticality values are listed in the <b>Component Views - CI Service Table</b> display. Criticality values are also shown in heatmaps and tables. |
| <b>Region</b>      | The name of the Region for the CI.  |
| <b>Environment</b> | The name of the Environment for the CI.   |
| <b>SiteName</b>    | The name of the Site for the CI.  |
| <b>OSType</b>      | The operating system on the CI.   |
| <b>City</b>        | The name of the City for the CI.  |
| <b>Country</b>     | The name of the Country for the CI.   |

**Update Criticality like selected CI** Updates the Criticality attribute assigned to all CIs in the **CI List** table to match the selected CI level.

**Environ** Select or type the Environment for the CI selected in the **CI List Table**, or the CI selected in the **Available Components** and added into the **CI List Table**.

**Region** Select or type the region for the CI selected in the **CI List Table**, or the CI selected in the **Available Components** and added into the **CI List Table**.

**SiteName** Select or type the site name for the CI selected in the **CI List Table**, or the CI selected in the **Available Components** and added into the **CI List Table**.

**Criticality** Specify the importance level of a Service or a CI for your organization. Select a Service or a CI and set the Criticality value from **A** to **E**, where **A** is the highest Criticality and **E** is the lowest Criticality (with equally spaced intermediate values). This value is used to calculate Alert Impact (maximum Alert Severity multiplied by the maximum Criticality equals Alert Impact).

Criticality values are listed in the **Component Views - CI Service Table** display. Criticality values are also shown in heatmaps and tables.

**Country** Select or type the country for the CI selected in the **CI List Table**, or the CI selected in the **Available Components** and added into the **CI List Table**.

**OSType** Select or type the operating system for the CI selected in the **CI List Table**, or the CI selected in the **Available Components** and added into the **CI List Table**.

**Update** Updates the CI selected in the **CI List Table** with attributes selected from the drop-down menus (on the right).

**Delete** Removes the selected CI from the CMDB database.

**Available Components Table**

This table lists all available CIs in your RTView Enterprise Monitor system whether they are in the CMDB or not. Each row in the table is a different CI (for example, a server or a process). Select one or more CIs to associate with the currently selected Service, then click **Add CI** (to associate the CI(s) with the selected Service.) or **Add CI To...** (to create a new Service and associate the CI(s) with it).

|                         |   |
|-------------------------|---|
| <b>Selected CI Type</b> | Select the type of CI to include in the <b>Available Components</b> table. All CIs of this type are listed. A CI can be associated with multiple Services.  |
| <b>CIName Filter</b>    | Enter a string to filter the list of available components.  |
| <b>Regex</b>            | Check to enable Regex filtering.  |
| <b>Add CI</b>           | <p>Associates the CI selected in the <b>Available Components</b> table with the selected Service, and applies the attributes selected from the drop-down menus (on the right) to the CI.</p> <p>To associate a CI with the currently selected Service, select a CI from the <b>Available Components</b> table, use the drop-down menus on the right (<b>Environ</b>, <b>Region</b>, <b>SiteName</b>, etc.) to modify attributes for the CI, click <b>Add CI</b> and then click <b>Update</b>. The CI appears in the <b>CI List Table</b>.</p> |
| <b>Add CI To...</b>     | <p>Creates a new Service and associates the selected CI with it.</p> <p>To create a new Service and associate a CI with it, select a CI from the <b>Available Components</b> table, use the drop-down menus on the right (<b>Environ</b>, <b>Region</b>, <b>SiteName</b>, etc.) to modify attributes for the CI, click <b>Add CI To...</b>, enter the name of the new Service, then click <b>Update</b>. The new Service is added to the list of Services and the CI appears in the <b>CI List Table</b>.</p>                                 |

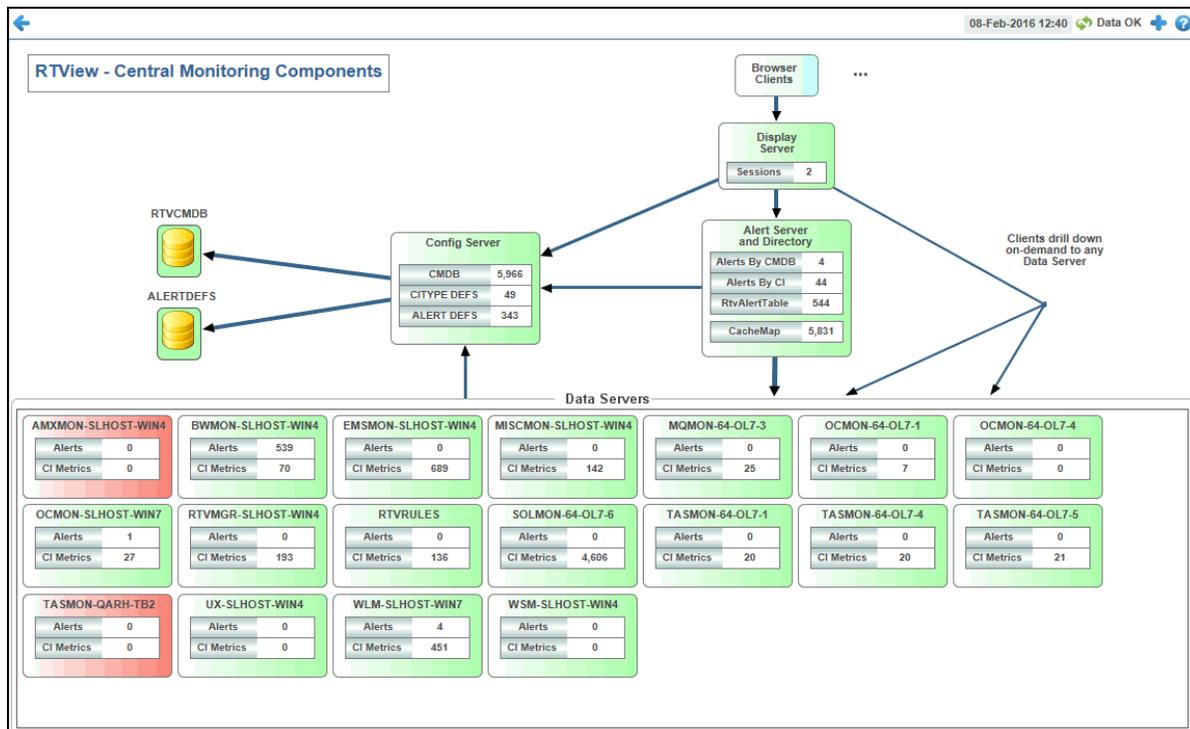
## Architecture

These displays provide a view of RTView Enterprise Monitor component connectivity, mapping between component types, and component level connection and performance information. The Architecture displays are provided with RTView Enterprise Monitor. Displays in this View are:

- [“System Overview” on page 232](#) Topology map of the main RTView Enterprise Monitor components. Objects are color-coded to show component status.
- [“RTView Data Servers” on page 234](#): Configuration and connection details for RTView Data Servers.
- [“Data Server Summary” on page 236](#): Connection and query statistics for RTView Data Servers.
- [“RTView History Table Statistics” on page 238](#): Performance of historical data being stored from caches with history.
- [“RTView Cache Tables” on page 239](#): Configuration and alert details for RTView Cache Tables.
- [“RTView CI Stats Tables” on page 241](#): Alert details for RTView Cache Tables by CI.
- [“RTView CI Type Defs” on page 242](#): CI Type definitions, cache map and alert map by CI Type.
- [“RTView KM Defs” on page 244](#): Key Metrics definitions for all CI Types.
- [“About” on page 245](#): This display shows details about the RTView Enterprise Monitor version and data sources available to your system.

## System Overview

View the topology of the central RTView Enterprise Monitor monitoring components and their current connection state. Each object represents a component which are color-coded to indicate component status. Red indicates the component stopped running. Green indicates the component is running.



### Title Bar:

Indicators and functionality might include the following:

← ↑ Open the previous and upper display.  
 CMDB ▾ and Table navigate to displays commonly accessed from this display.

19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

CIs: 3,047 The number of items in the display.

Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

🚨 Open the **Alert Views - RTView Alerts Table** display.

⊕ Open an instance of this display in a new window.

🔗 Open the online help page for this display.

### Fields and Data

This display includes:

#### Config Server

The Configuration Server provides configurations to all central RTView Enterprise Monitor components.

**CMDB** The number of CIs in the CMDB.

**CITYPE DEFS** The current number of CITYPE definitions.

**ALERTDEFS** The current number of alert settings and override definitions.

#### Alert Server and Directory

The Alert and Directory Server centralizes access to all alerts sent by remote Data Servers, and maintains a directory table of CI locations. The CI location is the name of the source Data Server.

**Alerts By CMDB** The number of Services in the CMDB that currently have at least one associated alert.

**Alerts By CI** The number of CIs in the CMDB that currently have at least one associated alert.

**RtvAlertTable** The number of currently active alerts in the system.

**CacheMap** The number of entries currently in the directory table.

**Display Server**

The Display Server generates HTML displays for browser clients.

**Sessions** The current number of users connected to the Display Server.

**Browser Clients** The browser clients are represented in the topology as a single object. No data is shown for browser clients.

**Data Servers**

This panel in the topology shows all Data Servers.

**Alerts** The number of currently activated alerts for the Data Server.

**CI Metrics** The count of CI metrics that the remote Data Server is sending.

**RTView Data Servers**

View Data Server connection status and detailed client connection information.

←
**RTView Data Server Tables**
23-Sep-2015 14:22 Data OK + ?

**Local Connections to DataServer**

| Name                | Connected                           | Status    | ConnectionString      | Rcv Cnt | ReceiveT    |
|---------------------|-------------------------------------|-----------|-----------------------|---------|-------------|
| ALERT_SERVER        | <input checked="" type="checkbox"/> | OK        | 192.168.200.134:10028 | 5,111   | 9/23/15 14  |
| AMXMON-SLHOST-WIN4  | <input checked="" type="checkbox"/> | OK        | 192.168.200.134:6378  | 52      | 9/23/15 13  |
| BW8MON-SLHOST-WIN4  | <input checked="" type="checkbox"/> | OK        | 192.168.200.134:3378  | 5       | 9/23/15 13  |
| CONFIG_SERVER       | <input checked="" type="checkbox"/> | OK        | 192.168.200.134:10018 | 133     | 9/23/15 14  |
| EMSMON-SLHOST-WIN4  | <input checked="" type="checkbox"/> | OK        | 192.168.200.134:3178  | 5       | 9/23/15 13  |
| MISCMON-SLHOST-WIN4 | <input checked="" type="checkbox"/> | OK        | 192.168.200.134:3978  | 112     | 9/23/15 11  |
| MQMON-64-OL7-3      | <input checked="" type="checkbox"/> | OK        | 192.168.200.73:3478   | 3       | 9/23/15 11  |
| OCMON-64-OL7-1      | <input type="checkbox"/>            | no connec | 192.168.200.71:3381   | 0       | 12/31/69 16 |
| OCMON-64-OL7-4      | <input checked="" type="checkbox"/> | OK        | 192.168.200.74:3381   | 3       | 9/23/15 11  |
| OCMON-SLHOST-WIN7   | <input type="checkbox"/>            | no connec | 192.168.200.137:3381  | 0       | 12/31/69 16 |
| RTVMGR-SLHOST-WIN4  | <input checked="" type="checkbox"/> | OK        | 192.168.200.134:3078  | 33      | 9/23/15 13  |

**DataServer Manager**

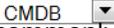
| NumberOfClients | ServingData                         | ConnectionRequestCount | ConnectionRequestFailedCount |
|-----------------|-------------------------------------|------------------------|------------------------------|
| 5               | <input checked="" type="checkbox"/> | 5                      |                              |

**DataServer Clients**

| Client ID | Address         | Host        | Process Name  | PID               | Last Data Sent | Total Data Sent | Du    |
|-----------|-----------------|-------------|---------------|-------------------|----------------|-----------------|-------|
| 3         | 192.168.200.134 | SLHOST-WIN4 | dataserverd   | 55364@SLHOST-WIN4 | 5,258          | 93,963,548      | 0 04: |
| 4         | 127.0.0.1       | 127.0.0.1   | historiand    | 15868@SLHOST-WIN4 | 2,722          | 37,981,383      | 0 04: |
| 1         | 192.168.200.134 | SLHOST-WIN4 | displayserver | 27116@SLHOST-WIN4 | 190,604        | 616,260,790     | 0 04: |
| 2         | 127.0.0.1       | 127.0.0.1   | dataserverd   | 10564@SLHOST-WIN4 | 17,287         | 126,666,689     | 0 04: |
| 5         | 192.168.200.134 | SLHOST-WIN4 | displayserver | 55200@SLHOST-WIN4 | 5,258          | 73,499,814      | 0 04: |

**Title Bar:**

Indicators and functionality might include the following:

  Open the previous and upper display.  and  navigate to displays commonly accessed from this display.

 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 Cls: 3,047 The number of items in the display.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

**Fields and Data**

This display includes:

**Local Connections to Data Server**

This table lists all Data Servers and detailed connection information. Select a Data Server to view further details (in the lower tables).

|                          |  |
|--------------------------|--|
| <b>Name</b>              | The Data Server name.  |
| <b>Connected</b>         | When checked, the connection is currently connected.                                   |
| <b>Status</b>            | The Data Server connection status.   |
| <b>Connection String</b> | The host name and port number for TCP connections, or the URL for servlet connections. |
| <b>Rcv Cnt</b>           | The number of data updates received from that Data Server.                             |
| <b>ReceiveTime</b>       | The time that data was last received.  |
| <b>Config</b>            | The RTView version running on the Data Server.   |

**Data Server Manager**

This table shows connection information for the Data Server selected from the **Local Connections to Data Server** table.

|                                       |  |
|---------------------------------------|--|
| <b>NumberOf Clients</b>               | The number of clients currently connected to the Data Server.                            |
| <b>ServingData</b>                    | When checked, the Data Server is currently serving data.                                 |
| <b>Connection Request Count</b>       | The number of client requests to connect to the Data Server.                             |
| <b>Connection Request FailedCount</b> | The number of client requests to connect to the Data Server that were unable to connect. |

**Data Server Clients**

This table shows information for clients connected to the Data Server selected from the **Local Connections to Data Server** table.

- ClientID**            A unique string identifier for the client.
- Address**            The client IP address.
- Duration**            The client session length of time.
- Host**                The address of the client host.
- Last Data Sent**        The amount of data, in bytes, the Data Server last sent to the client.
- Total Data Sent**      The total amount of data, in bytes, the Data Server has sent to the client.

### Data Server Summary

View Data Server connection status, cache table sizes and database query metrics. Use the available drop-down menus or right-click to filter data shown in the display.

**RTView Data Server - Summary**    23-Sep-2015 14:20    Data OK

Data Server: <Default>

| Connection Status |        |                   |               |              |        | RTView Cache Tables   |        |
|-------------------|--------|-------------------|---------------|--------------|--------|-----------------------|--------|
| Connected         | Status | Connection String | Receive Count | Receive Time | Config | CacheTable            | Rows   |
|                   |        |                   |               |              |        | RtvAlertTableLocal    | 19,905 |
|                   |        |                   |               |              |        | RtvMxCacheDefsWithCo  | 1,429  |
|                   |        |                   |               |              |        | RtvTabTreeCache       | 488    |
|                   |        |                   |               |              |        | RtvMxCacheDefsRaw     | 234    |
|                   |        |                   |               |              |        | RtvMxCacheDefs        | 169    |
|                   |        |                   |               |              |        | RtvCmdbServiceTable   | 56     |
|                   |        |                   |               |              |        | RtvMxCacheInfoByServ  | 56     |
|                   |        |                   |               |              |        | RtvDataServerConnecti | 20     |
|                   |        |                   |               |              |        | RtvCmdbGroupTable_I   | 17     |
|                   |        |                   |               |              |        | RtvCmdbAreaTable_loc  | 8      |
|                   |        |                   |               |              |        | RtvCmdbOwnerTable_I   | 2      |
|                   |        |                   |               |              |        | JmxStatsTotals        | 1      |
|                   |        |                   |               |              |        | RtvAlertMapByCI       | 0      |
|                   |        |                   |               |              |        | RtvAlertSourceStats   | 0      |
|                   |        |                   |               |              |        | RtvAlertStatsByCI     | 0      |
|                   |        |                   |               |              |        | RtvAlertStatsByCIAndA | 0      |

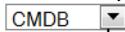
  

**Database Queries (running on selected Data Server)**

| Database   | Conn                                | Count | Active                   | ExecTime | Rows | RunTime | Status |
|------------|-------------------------------------|-------|--------------------------|----------|------|---------|--------|
| ALERTDEFS  | <input checked="" type="checkbox"/> | 0     | <input type="checkbox"/> | NaN      | 0    |         |        |
| PROPDB     | <input checked="" type="checkbox"/> | 0     | <input type="checkbox"/> | NaN      | 0    |         |        |
| RTVCMDB    | <input checked="" type="checkbox"/> | 0     | <input type="checkbox"/> | NaN      | 0    |         |        |
| RTVCONFIG  | <input checked="" type="checkbox"/> | 0     | <input type="checkbox"/> | NaN      | 0    |         |        |
| RTVHISTORY | <input checked="" type="checkbox"/> | 0     | <input type="checkbox"/> | NaN      | 0    |         |        |

**Title Bar:**

Indicators and functionality might include the following:

  Open the previous and upper display.  
 and  navigate to displays commonly accessed from this display.

 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 The number of items in the display.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

**Fields and Data**

This display includes:

**Data Server** Select a Data Server from the drop-down menu to view details for in the display.

**Connection Status**

This table shows connection details for the selected Data Server.

|                          |  |
|--------------------------|--|
| <b>Connected</b>         | When checked, the Data Server is currently connected.                                  |
| <b>Status</b>            | The Data Server connection status.   |
| <b>Connection String</b> | The host name and port number for TCP connections, or the URL for servlet connections. |
| <b>Rcv Cnt</b>           | The number of data updates received from that Data Server.                             |
| <b>ReceiveTime</b>       | The time that data was last received.  |
| <b>Config</b>            | The RTView version running on the Data Server.   |

**Alert Table View** Select to view or manage current alerts for the selected Data Server in the **RTView Alerts Table** display.

**Alert Admin** Select to view or manage alert thresholds for the selected Data Server in the **Alert Administration** display.

**History Tables** Select to view database table statistics for each cache for the selected Data Server in the "RTView History Table Statistics" display.

**RTView Cache Tables**

This table lists Cache Tables and their size, in number of rows, for the selected Data Server. Select a Cache Table to view details in the **RTView Cache Tables** display.

Use this data for debugging. This display is typically used for troubleshooting with SL Technical Support.

|                   |  |
|-------------------|--|
| <b>CacheTable</b> | The name of the Cache Table.                   |
| <b>Rows</b>       | The current number of rows in the Cache Table. |

**Database Queries**

This table lists the databases and query details for the selected Data Server. Each table row describes a different query.

|                 |  |
|-----------------|--|
| <b>Database</b> | The name of the database.                              |
| <b>Conn</b>     | When checked, the database is currently connected.     |
| <b>Count</b>    | The number of query requests from current Data Server. |

|                 |  |
|-----------------|--|
| <b>Active</b>   | When checked, the query is currently running.              |
| <b>ExecTime</b> | The amount of time, in milliseconds, to execute the query. |
| <b>Rows</b>     | The number of rows the query created.                      |
| <b>RunTime</b>  | The time the query was executed.                           |
| <b>Status</b>   | The latest result status of the query.                     |
| <b>Query</b>    | The query that was executed.                               |

## RTView History Table Statistics

This display opens when you click **History Tables** from the **Architecture - "Data Server Summary"** on page 236 display. View information about the performance of historical data being stored from caches with history. Use this display to verify your tables are growing as expected by:

- seeing how many rows are in the database table (**Row Count**).
- seeing how many rows are added at each update period (**Delta**).
- verifying that the range of the data stored in the table is consistent with defined compaction rules and that behavior is as expected. To do this, compare the time of **First Entry** and **Last Entry** and verify the dates match the defined compaction interval (for example, **2 weeks** by default). For this verification, you must first confirm the historian has been operating for at least the defined compaction time interval, otherwise the range of data will be shorter.

| Cache Name / DB Table Name                |           | Row Count | Delta  | Distinct             | First Entry          | Last Entry | Current |
|---|-----------|-----------|--------|----------------------|----------------------|------------|---------|
| EmsAdmStats<br>EMS_ADMSTATS               | 8,337     | 1         | 0      | 18-Sep-2014 01:15:00 | 10-Dec-2014 07:16:00 |            |         |
| EmsDurables<br>EMS_DURABLES               | 395,397   | 53        | 53     | 18-Sep-2014 01:15:00 | 10-Dec-2014 07:15:00 |            |         |
| EmsQueueTotalsByServer<br>EMS_QUEUETOTALS | 181,236   | 181,236   | 24     | 18-Sep-2014 01:15:00 | 10-Dec-2014 05:25:00 |            |         |
| EmsQueues<br>EMS_QUEUES                   | 3,958,595 | 296       | 665    | 15-Sep-2014 02:00:00 | 10-Dec-2014 07:16:00 |            |         |
| EmsRouteCountsByServer<br>EMS_ROUTECOUNTS | 124,790   | 15        | 16     | 18-Sep-2014 01:15:00 | 10-Dec-2014 07:16:00 |            |         |
| EmsRoutes<br>EMS_ROUTES                   | 208,014   | 25        | 26     | 18-Sep-2014 01:15:00 | 10-Dec-2014 07:16:00 |            |         |
| EmsServerInfo<br>EMS_SERVERINFO           | 199,807   | 24        | 25     | 18-Sep-2014 01:15:00 | 10-Dec-2014 07:16:00 |            |         |
| EmsTopicTotalsByServer<br>EMS_TOPICTOTALS | 183,187   | 22        | 23     | 18-Sep-2014 01:15:00 | 10-Dec-2014 07:16:00 |            |         |
| EmsTopics<br>EMS_TOPICS                   | 7,132,737 | 621       | 37,369 | 18-Sep-2014 01:15:00 | 10-Dec-2014 07:16:00 |            |         |
| JvmMemory<br>JVM_MEMORY                   | 20,737    | 0         | 13     | 27-Nov-2014 00:15:00 | 10-Dec-2014 07:13:00 |            |         |
| JvmOperatingSystem<br>JVM_OPERATINGSYSTEM | 20,214    | 17        | 13     | 27-Nov-2014 00:15:00 | 10-Dec-2014 07:21:00 |            |         |

### Fields and Data

This display includes:

|                                   |   |
|-----------------------------------|---|
| <b>Cache Name / DB Table Name</b> | The name of the cache and the name of the database table. Mouse-over to see the <b>Index</b> columns for the cache. |
| <b>Row Count</b>                  | The number of rows in the table.  |
| <b>Delta</b>                      | The number of rows added since the last update.   |

- Distinct** The number of distinct indexes in the table.
- First Entry** The time stamp of the oldest entry written to the table.
- Last Entry** The time stamp of the most recent entry written to the table.
- Current** The current writing state of the table.
- (Time ≥ 10m) The writing latency is equal to or greater than ten minutes.
  - (Time ≥ 4m and < 10m) The writing latency is equal to or greater than four minutes and less than ten minutes.
  - (Time < 4m) The writing latency is less than four minutes.

## RTView Cache Tables

View Data Server Cache table sizes and contents. Select a cache table in the upper table and view its contents in the lower table. Use the available drop-down menus or right-click to filter data shown in the display.

←
**RTView Cache Tables**
23-Sep-2015 14:16 Data OK + ?

Data Server: <Default> ▼
**RTView Cache Tables**
Max Rows: 4000
 History Tables

| CacheTable                     | TableType      | Rows          | Columns   | Memory           |
|--------------------------------|----------------|---------------|-----------|------------------|
| RtvMxCacheDefsRaw              | current        | 234           | 9         | 190,222          |
| JmxStatsTotals                 | current        | 1             | 4         | 44               |
| RtvAlertMapByCI                | current        | 0             | 5         | 46               |
| RtvAlertSourceStats            | current        | 0             | 0         | 0                |
| RtvAlertStatsByCategoryIndex   | current        | 0             | 7         | 67               |
| RtvAlertStatsByCI              | current        | 0             | 5         | 47               |
| RtvAlertStatsByCIAndAlertGroup | current        | 0             | 6         | 56               |
| RtvAlertStatsByPackageIndex    | current        | 0             | 6         | 58               |
| RtvAlertTable                  | current        | 0             | 29        | 2,67             |
| <b>RtvAlertTableLocal</b>      | <b>current</b> | <b>19,906</b> | <b>38</b> | <b>36,159,37</b> |
| RtvCacheMapByCI                | current        | 0             | 5         | 47               |
| RtvCacheMapByCIType            | current        | 0             | 0         | 0                |

**RtvAlertTableLocal**
Rows: 19906

| time_stamp        | Time         | Alert Name | Alert Index | Severity | Alert Text    | Cleared                  | Acknowledg               | ID   | Last |
|-------------------|--------------|------------|-------------|----------|---------------|--------------------------|--------------------------|------|------|
| 09/23/15 14:16:19 | Sep 23, 2015 | HawkAlert  | SLHOST5(dc  | 1        | Server Proce  | <input type="checkbox"/> | <input type="checkbox"/> | 1044 | Sep  |
| 09/23/15 14:16:19 | Sep 23, 2015 | HawkAlert  | SLHOST5(dc  | 1        | Service Print | <input type="checkbox"/> | <input type="checkbox"/> | 1043 | Sep  |
| 09/23/15 14:16:19 | Sep 23, 2015 | HawkAlert  | SLHOST5(dc  | 1        | System Uptir  | <input type="checkbox"/> | <input type="checkbox"/> | 1042 | Sep  |
| 09/23/15 14:16:19 | Sep 23, 2015 | HawkAlert  | SLHOST5(dc  | 2        | Received fro  | <input type="checkbox"/> | <input type="checkbox"/> | 1041 | Sep  |
| 09/23/15 14:16:19 | Sep 23, 2015 | HawkAlert  | SLHOST6(dc  | 2        | Received fro  | <input type="checkbox"/> | <input type="checkbox"/> | 1045 | Sep  |
| 09/23/15 14:16:19 | Sep 23, 2015 | BwEngineSt | SLHOST5(dc  | 2        | Engine has s  | <input type="checkbox"/> | <input type="checkbox"/> | 1051 | Sep  |
| 09/23/15 14:16:19 | Sep 23, 2015 | BwEngineSt | SLHOST5(dc  | 2        | Engine has s  | <input type="checkbox"/> | <input type="checkbox"/> | 1050 | Sep  |
| 09/23/15 14:16:19 | Sep 23, 2015 | BwEngineSt | SLHOST5(dc  | 2        | Engine has s  | <input type="checkbox"/> | <input type="checkbox"/> | 1049 | Sep  |
| 09/23/15 14:16:19 | Sep 23, 2015 | BwEngineSt | SLHOST5(dc  | 2        | Engine has s  | <input type="checkbox"/> | <input type="checkbox"/> | 1048 | Sep  |
| 09/23/15 14:16:19 | Sep 23, 2015 | BwEngineSt | SLHOST5(dc  | 2        | Engine has s  | <input type="checkbox"/> | <input type="checkbox"/> | 1047 | Sep  |
| 09/23/15 14:16:19 | Sep 23, 2015 | HostMemory | myHawkDom   | 1        | High Warnin   | <input type="checkbox"/> | <input type="checkbox"/> | 1046 | Sep  |

←
III
▶

**Title Bar:**

Indicators and functionality might include the following:



Open the previous and upper display. **CMDB** and **Table** navigate to displays commonly accessed from this display.

19-Feb-2014 16:50

The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Cls: 3,047

The number of items in the display.



**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.



Open the **Alert Views - RTView Alerts Table** display.



Open an instance of this display in a new window.



Open the online help page for this display.

**Fields and Data**

This display includes:

**Data Server**

Select a Data Server from the drop-down menu to view details for in the display.

**Max Rows**

Enter the maximum number of rows to include in the lower table, then click Enter.

**History Tables**

Select to include all defined history tables in the **RTView Cache Tables** list.

**RTView Cache Tables**

This table lists cache tables for the selected Data Server. Select a cache table to view details in the lower table.

**CacheTable** The name of the cache table.

**TableType** The type of cache table.

**current** This table is a current table which shows the current values for each index.

**current\_condensed** This table is a current table with primary compaction configured.

**history** This table is a history table.

**history\_condensed** This table is a history table with primary compaction configured.

**history\_combo** This table is a history table with primary compaction configured, and which is also configured to store rows of recent raw data followed by rows of older condensed data.

**Rows** The number of rows currently in the table.

**Columns** The number of columns currently in the table.

**Memory** The amount of space, in bytes, used by the table.

**(Lower Table)**

This table shows the contents of the selected cache table. Available columns vary by cache. For example, a JVM cache table might provide **BootClassPath** and **InputArgument** columns, and a Tomcat cache might provide **RateAccess** and **cacheMaxSize** columns.

**Rows** The number of rows currently in the table.

## RTView CI Stats Tables

View details for components that currently have an active warning or alarm alert.

| time_stamp        | CITYPE    | CInAME   | MaxSeverity | AlertCount |
|-------------------|-----------|--|-------------|------------|
| 09/25/15 11:13:33 | BW-ENGINE | slhpux11(simon),domainsimon.BWApp-7.Procs          | 1           | 1          |
| 09/25/15 11:13:33 | BW-ENGINE | slapm(slapm),domainslapm.BWApp-5.Procs             | 2           | 1          |
| 09/25/15 11:13:33 | BW-ENGINE | slvmr2(slapm),domainslapm.BWEngine.Process Archive | 2           | 1          |
| 09/25/15 11:13:33 | BW-ENGINE | sls4-64(simon),domainsimon.BWApp-4.Procs           | 2           | 1          |
| 09/25/15 11:13:33 | BW-ENGINE | slapm(slapm),domainslapm.BW Engine.Process Archive | 2           | 1          |
| 09/25/15 11:13:33 | BW-ENGINE | slapm(slapm),domainslapm.BWApp.Space.Procs-1       | 2           | 1          |
| 09/25/15 11:13:33 | BW-ENGINE | sls4-64(simon),domainsimon.BWApp-5.Procs           | 1           | 1          |
| 09/25/15 11:13:33 | BW-ENGINE | sls4-64(simon),domainsimon.BWApp-10.Procs          | 1           | 1          |

| time_stamp        | CITYPE     | CACHENAME           | Source         |
|-------------------|------------|---------------------|----------------|
| 09/25/15 09:33:53 | ACW        | AwsEc2InstanceStats | MISCMON-DATA-1 |
| 09/25/15 01:32:30 | BW-ENGINE  | BwEngines           | Z-SIMDATA-1    |
| 09/25/15 06:02:09 | BW-ENGINE  | BwEngines           | BWMON-SLDEMOS  |
| 09/25/15 01:32:30 | BW-PROCESS | BwProcesses         | Z-SIMDATA-1    |
| 09/25/15 06:02:09 | BW-PROCESS | BwProcesses         | BWMON-SLDEMOS  |
| 09/25/15 01:32:30 | BW-SERVER  | BwServers           | Z-SIMDATA-1    |
| 09/25/15 06:02:09 | BW-SERVER  | BwServers           | BWMON-SLDEMOS  |

### Title Bar:

Indicators and functionality might include the following:

- Open the previous and upper display.
- and navigate to displays commonly accessed from this display.
- The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
- The number of items in the display.

**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

Open the online help page for this display.

### Fields and Data

This display includes:

#### Alert Stats By CI

This table provides summary alert details for all CIs that currently have active warning or alarm alerts.

- time\_stamp** The date and time this table row of data was last updated.  
Format:  
**MM/DD/YY HH:MM:SS**  
**<month>/ <day>/<year> <hours>:<minutes>:<seconds>**
- CITYPE** The component type.
- CInAME** The name of the component.
- MaxSeverity** The most critical alert state of all current alerts for this component.
- AlertCount** The number of current warning and alarm alerts for this component.

#### Cache Map By CItYPE

This table provides mapping of all component types to caches.

- time\_stamp** The date and time this table row of data was last updated.  
Format:  
**MM/DD/YY HH:MM:SS**  
**<month>/ <day>/<year> <hours>:<minutes>:<seconds>**

- CIType** The component type.
- CACHENAME** The name of the cache associated with the component type.
- Source** The name of the Data Server alert sending data for that component type.

**Cache Map By CI**

This table provides the location of all CIs.

- CI Type Filter:** Select the CI Type to filter by in this table, or select **All CI Types**.
- Count** The number of CIs currently in this table.
- time\_stamp** The date and time this table row of data was last updated.  
Format:  
**MM/DD/YY HH:MM:SS**  
**<month>/ <day>/ <year> <hours>:<minutes>:<seconds>**
- CIType** The component type.
- CIName** The name of the component.
- DataServerName** The name of the Data Server which sent this CI.
- Expired** When checked, data has not been received for **45** seconds. After **3600** seconds it is deleted from the table.

**RTView CI Type Defs**

This display provides component type definitions and shows the mapping of component types to caches as well as component types to alerts.

| RTView CI Type Definitions |           |                                  |                         |                                  |                |            |
|----------------------------|-----------|----------------------------------|-------------------------|----------------------------------|----------------|------------|
| CI Type Definitions        |           |                                  |                         |                                  |                |            |
| CITYPE                     | INDEXMAP  | INDEXNAMES                       | RTVDISPLAY              | CIVARMAP                         | DEFAULTQUALITY | OW         |
| ACW                        | 1         | Dimension                        | acw_instance_summary    | \$awsEc2InstanceId               |                | 1 Infrastr |
| AMX-HOST                   | 1         | AMX Host                         | amx_host_summary        | \$amxHost                        |                | 1 Infrastr |
| AMX-NODE                   | 1,2       | AMX Host;Node                    | amx_node_summary        | \$amxHost;\$amxNode              |                | 1 Infrastr |
| AMX-SERVICE                | 1,2       | Application;Service              | amx_service_summary     | \$amxApplication;\$amxService    |                | 1 Infrastr |
| AMX-SERVICENODE            | 1,2,3,4   | AMX Host;Node;Application;Ser... | amx_servicenode_summary | \$amxHost;\$amxNode;\$amxApp...  |                | 1 Infrastr |
| BW6-APP                    | 1,2,3     | Domain;AppSpace;Application...   | bw6_app_summary         | \$bw6domain;\$bw6appspace;\$b... |                | 1 Infrastr |
| BW6-APPNODE                | 1,2,3     | Domain;AppSpace;AppNode          | bw6_appnode_summary     | \$bw6domain;\$bw6appspace;\$b... |                | 1 Infrastr |
| BW6-PROCESS                | 1,2,3,4,5 | Domain;AppSpace;AppNode;Ap...    | bw6_process_summary     | \$bw6domain;\$bw6appspace;\$b... |                | 1 Infrastr |
| BW-ENGINE                  | 1,2       | AgentName;MicroAgentName         | bw_engine_summary       | \$bwserver;\$bwengine            |                | 1 Infrastr |

| Cache Map By CITYPE |                           | Alert Map By CITYPE |                                  |
|---------------------|---------------------------|---------------------|----------------------------------|
| CITYPE              | CACHENAME                 | CITYPE              | ALERTNAME                        |
| ACW                 | AwsEc2InstanceStats       | ACW                 | AcwInstanceCpuHigh               |
| AMX-NODE            | AmxNodes                  | ACW                 | AcwInstanceDiskReadBytesHigh     |
| AMX-SERVICE         | AmxServiceTotals          | ACW                 | AcwInstanceDiskReadOpsHigh       |
| AMX-SERVICEN...     | AmxServices               | ACW                 | AcwInstanceDiskWriteBytesHigh    |
| BW6-APP             | Bw6Apps                   | ACW                 | AcwInstanceDiskWriteOpsHigh      |
| BW6-APP             | Bw6ProcessTotalsByApp     | ACW                 | AcwInstanceNetworkReadBytesHigh  |
| BW6-APPNODE         | Bw6AppNodes               | ACW                 | AcwInstanceNetworkWriteBytesHigh |
| BW6-PROCESS         | Bw6Processes              | AMX-SERVICE         | AmxServiceNodeHitRateHigh        |
| BW-ENGINE           | BwEngines                 | AMX-SERVICE         | AmxServiceNodeResponseTimeHigh   |
| BW-PROCESS          | BwProcesses               | AMX-SERVICE         | AmxServiceNodeFaultRateHigh      |
| BW-SERVER           | BwServers                 | AMX-SERVICE         | AmxServiceHitRateHigh            |
| DB2                 | Db2DbSummary              | AMX-SERVICE         | AmxServiceResponseTimeHigh       |
| DB2                 | Db2ResponseTime           | AMX-SERVICE         | AmxServiceFaultRateHigh          |
| EM-SERVICE          | RtvCmdbServiceTable_local | AMX-SERVICE         | AmxServiceNodeNotRunning         |
| EM-SERVICE          | RtvCmdbServiceStats_local | BW6-APP             | Bw6AppProcessCreatedRateHigh     |

**Title Bar:**

Indicators and functionality might include the following:



Open the previous and upper display. **CMDB** and **Table** navigate to displays commonly accessed from this display.

**19-Feb-2014 16:50**

The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

**CIs: 3,047**

The number of items in the display.



**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.



Open the **Alert Views - RTView Alerts Table** display.



Open an instance of this display in a new window.



Open the online help page for this display.

**Fields and Data**

This display includes:

**CI Type Definitions**

This table provides definitions for all CI Types.

|                       |   |
|-----------------------|---|
| <b>CITYPE</b>         | The component type.   |
| <b>INDEXMAP</b>       | Number of indexes and the order in which they are used to form the CI Name.   |
| <b>INDEXNAMES</b>     | Semicolon-separated list of the index columns.  |
| <b>RTVDISPLAY</b>     | The name of the RTView display to drill-down to from the <b>Alerts Table</b> to see summary data for this CI Type. This is the target of the <b>Go To CI</b> button in the <b>Alerts Table</b> and in the <b>Service Summary</b> display. |
| <b>CIVARMAP</b>       | The names of substitutions that must be set to drill-down to the display.   |
| <b>DEFAULTQUALITY</b> | A flag indicating whether the lack of data is considered an error condition or not.   |
| <b>OWNER</b>          | The Owner the CITYPE is associated with, when the CMDB is populated automatically from CIs of this type.  |
| <b>AREA</b>           | The Area the CITYPE is associated with.   |
| <b>SERVICEGROUP</b>   | The SERVICEGROUP the CITYPE is associated with, when the CMDB is populated automatically from CIs of this type.   |

**Cache Map By CITYPE**

This table provides mapping of component types to caches for all component types.

|                  |   |
|------------------|---|
| <b>CITYPE</b>    | The type of CI.   |
| <b>CACHENAME</b> | The name of the cache associated with the component type. |

**Alert Map By CITYPE**

This table provides mapping of component types to alerts.

|                  |                        |
|------------------|------------------------|
| <b>CITYPE</b>    | The type of CI.        |
| <b>ALERTNAME</b> | The name of the alert. |

## RTView KM Defs

This display shows the Key Metrics definitions for all CI Types. For details, see “Available KM Metrics and Alerts” on page 156.

| CITYPE          | CACHENAME                | SELECTOR                | METRICNAME             | AlertName             |
|-----------------|--------------------------|-------------------------|------------------------|-----------------------|
| ACW             | AwsEc2InstanceStats      | Instance CPU Usage      | CPUUtilization         | AowInstanceCpuHigh    |
| AMX-SERVICE     | AmxServiceTotals         | Service Hits/Min        | Hits Per Minute        | AmxServiceHitRateHigh |
| AMX-SERVICE     | AmxServiceTotals         | Service Response Time   | Avg. Response Time     | AmxServiceResponseTir |
| AMX-SERVICENODE | AmxServices              | Node Hits/Min           | Hits Per Minute        | AmxServiceNodeHitRate |
| AMX-SERVICENODE | AmxServices              | Node Response Time      | Avg. Response Time     | AmxServiceNodeRespor  |
| BW6-APP         | Bw6ProcessTotalsByApp    | App Created / sec       | RateCreated            | Bw6AppProcessCreatedf |
| BW6-APP         | Bw6ProcessTotalsByApp    | App Exec Time / sec     | RateTotal Execution    | Bw6AppProcessExecutio |
| BW6-APPNODE     | Bw6AppNodes              | CPU Used %              | Used CPU Percentage    | Bw6AppNodeCpuUsedH    |
| BW6-APPNODE     | Bw6AppNodes              | Mem Used %              | Used Memory Percentage | Bw6AppNodeMemUsedf    |
| BW6-PROCESS     | Bw6Processes             | Process Created / sec   | RateCreated            | Bw6ProcessCreatedRate |
| BW6-PROCESS     | Bw6Processes             | Process Exec Time / sec | RateTotal Execution    | Bw6ProcessExecutionTi |
| BW-ENGINE       | BwEngines                | CPU Used %              | CPU %                  | BwEngineCpuUsedHigh   |
| BW-ENGINE       | BwEngines                | Memory Used %           | PercentUsed            | BwEngineMemUsedHigh   |
| BW-PROCESS      | BwProcesses              | Process Exec Time / sec | RateTotalExecution     | BwProcessExecutionTim |
| BW-SERVER       | BwServers                | CPU Used %              | CPU Usage %            | BwServerCpuUsedHigh   |
| DB2             | Db2ResponseTime          | Response Time           | ResponseTimeMilliSec   | Db2ResponseTimeHigh   |
| EM-SERVICE      | RtvCmdServiceStats_local | Alert Impact            | AlertImpact            | RtvEmServiceAlertImpa |
| EMS-QUEUE       | EmsQueues                | Pending Msgs            | pendingMessageCount    | EmsQueuesPendingMsg   |
| EMS-QUEUE       | EmsQueues                | In Msgs / sec           | inboundMessageRate     | EmsQueuesInMsgRateH   |
| EMS-QUEUE       | EmsQueues                | Out Msgs / sec          | outboundMessageRate    | EmsQueuesOutMsgRate   |
| EMS-QUEUE       | EmsQueues                | Consumers               | consumerCount          | EmsQueuesConsumerC    |

### Title Bar:

Indicators and functionality might include the following:

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- and navigate to displays commonly accessed from this display.
- The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
- The number of items in the display.

- Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

### Fields and Data

This display includes:

#### RTView Key Metrics Definitions

This table provides Key Metrics definitions for all CI Types.

|                   |   |
|-------------------|---|
| <b>CITYPE</b>     | The component type.   |
| <b>CACHENAME</b>  | The name of the cache that contains the Key Metric.   |
| <b>SELECTOR</b>   | The name used for this Key Metric in the <b>Metric Name</b> column of Key Metric displays.  |
| <b>METRICNAME</b> | The name of the <b>cache</b> column that contains this Key Metric.  |
| <b>ALERTNAME</b>  | The name of the alert associated with this Key Metric. When blank, the Key Metric is not configured for inclusion in Key Metric displays. |

**CalcMode**

The calculation used for the **Threshold %** value. The base value is calculated as the percent of the Key Metric value between **0** and the **ALARMLEVEL** of the associated alert. If the **CalcMode** is blank, this value is used. If the **CalcMode** is:

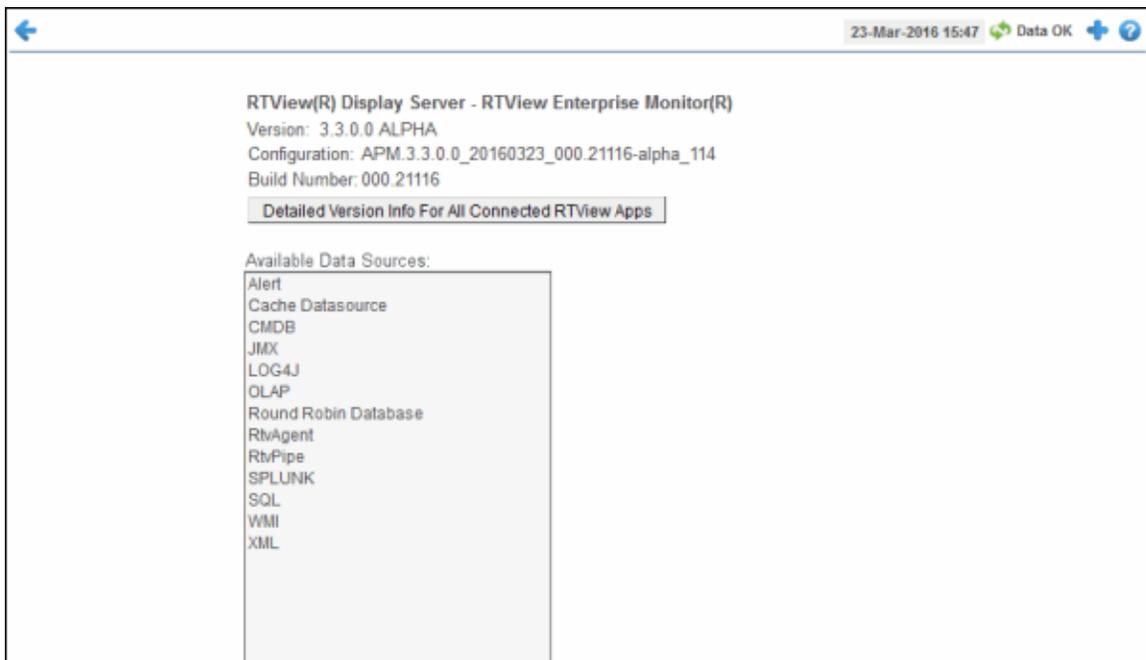
- **exp**, the value is adjusted so that lower values are diminished. Typically, this is used for memory metrics.
- **inverse**, the value is calculated in reverse of the standard thresholds. This is used when the associated alert is a low threshold alert.
- **invpct**, the value is calculated in reverse of the standard threshold and is assumed to be percent and therefore a value between **0** and **100**. This is used when the associated alert is a low threshold alert against a percent.
- **log**, a logarithmic algorithm is applied.

**Level**

The Key Metric level. Level **0** KMs are always displayed. Level **1** KMs are displayed if **Show More Metrics** is selected.

**About**

Get RTView Enterprise Monitor version and configuration information including a list of all available data sources. For more detailed version information, click **Version Info For All Connected RTView Apps** to open the “Version Info” display.



## Property Views

These displays show how your Monitor properties are configured and the values for all connected RTView processes. The displays are located under the **ADMIN** tab. Displays in this View are:

- [“Properties Configuration” on page 246](#): Table of properties configuration settings, per connection.
- [“System Properties” on page 248](#): Table of system properties for RTView processes, per connection.
- [“Applied Properties” on page 250](#): Table of all properties that were applied to RTView processes, per connection.
- [“All Properties” on page 252](#): Table of all properties that were read from the properties files and database regardless of whether or not the RTView process uses them.
- [“Properties Descriptions” on page 254](#): Table of all properties that are supported by RTView processes, per connection.

### Properties Configuration

This display shows properties configuration information. The **Last Property Read Time** shows the last time that properties were read for the RTView process specified by the selected **Connection**.

|   |   |
|---|---|
| Source: <input type="text" value="Data Server"/>  | Connection: <input type="text" value="ALERT_SERVER"/> |
| Last Property Read Time: Mar 23, 2016 10:53:12 AM |   |

Select the **Source** of the connection to the RTView process for which you want to see property information. Options are:

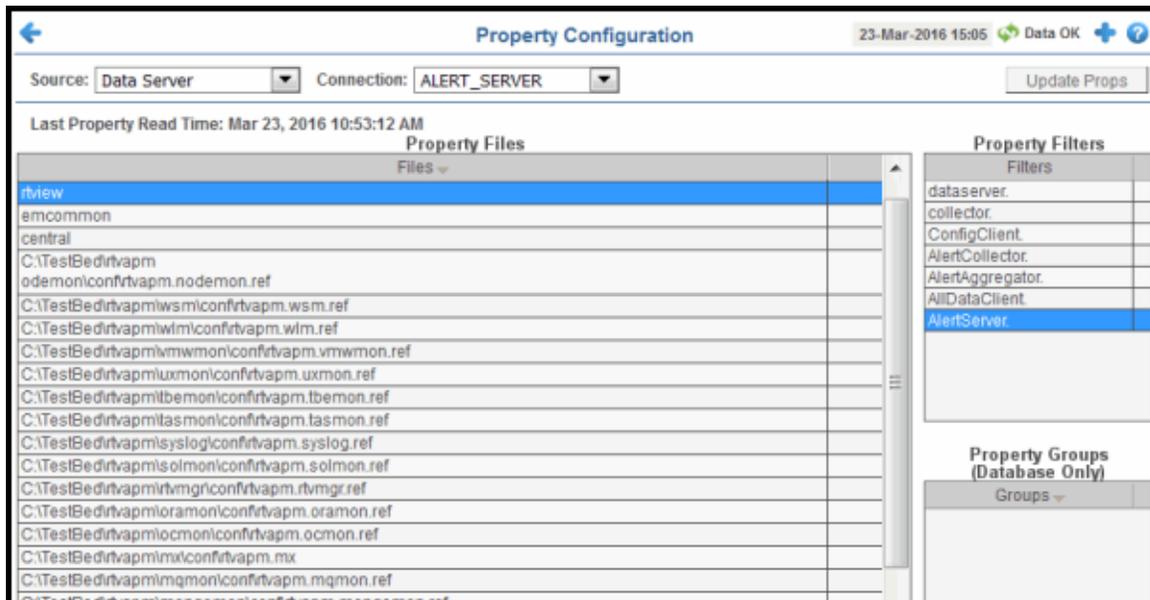
- **Data Server:** If the RTView process is a Data Server and the Thin Client has a defined Data Server connection for it, choose this option and select the name of the Data Server in the Connection field.
- **Local JMX Connection:** Select this option if the Thin Client has a defined JMX Connection to the RTView process.
- **RTVMGR JMX Connection:** Select this option if the RTVMGR has a defined JMX Connection to the RTView process.

Select the **Connection** to the RTView process for which you want to see property information. Options available depend on your setup. For example, **RTVMGR** is only visible when the **Source** is **RTVMGR JMX Connection** and you have multiple RTVMGRs. You can then select an RTVMGR that has a defined JMX Connection to the RTView process for which you want to see property information.

The **Property Files** table shows all of the properties files that were read by the RTView process specified by the selected **Connection** in the order they were read. The **Property Filters** table shows all filters that are applied to the properties. **Property Groups** shows all property groups that are applied to the properties. **Property Groups** are only used when reading properties from a database.

Click **Update Props** to have the RTView process specified by the selected **Connection** re-read all properties files and database properties. Note that most non-connection properties do NOT support updates. See the [“Properties Descriptions” on page 254](#) display to find out if a specific property supports updates.

Right-click/**Export** to create a PDF image of the display. Click Sort  to order column data.



### Title Bar:

Indicators and functionality might include the following:

  Open the previous and upper display.

 and  navigate to displays commonly accessed from this display.

 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 CIs: 3,047 The number of items in the display.

 Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

**Note:** The "Up" Arrow () opens the most recently viewed display under "Multi Area Service Views". For example, if the last viewed display under **Multi Area Service Views** was **Services CI Type Summary**, then clicking  opens the "Services CI Type Summary" display.

### Filter By:

**Source:** Select the **Source** of the connection to the RTView process for which you want to see property information.

**Connection:** Select the **Connection** to the RTView process for which you want to see property information.

### Fields and Data

This display includes:

**Update Props** Click to have the RTView process specified by the selected Connection re-read all properties files and database properties. Note that most non-connection properties do NOT support updates. Use the "Properties Descriptions" display to see if a specific property supports updates.

|                                 |   |
|---------------------------------|---|
| <b>Last Property Read Time</b>  | The last time that properties were read for the RTView process specified by the selected <b>Connection</b> .                                  |
| <b>Property Files</b> (table)   | List of all properties files that were read by the RTView process specified by the selected <b>Connection</b> in the order they were read.    |
| <b>Property Filters</b> (table) | List of all filters that are applied to the properties.   |
| <b>Property Groups</b>          | List of all property groups that are applied to the properties. <b>Property Groups</b> are only used when reading properties from a database. |

## System Properties

This display shows the System properties for the RTView process specified by the selected Connection.

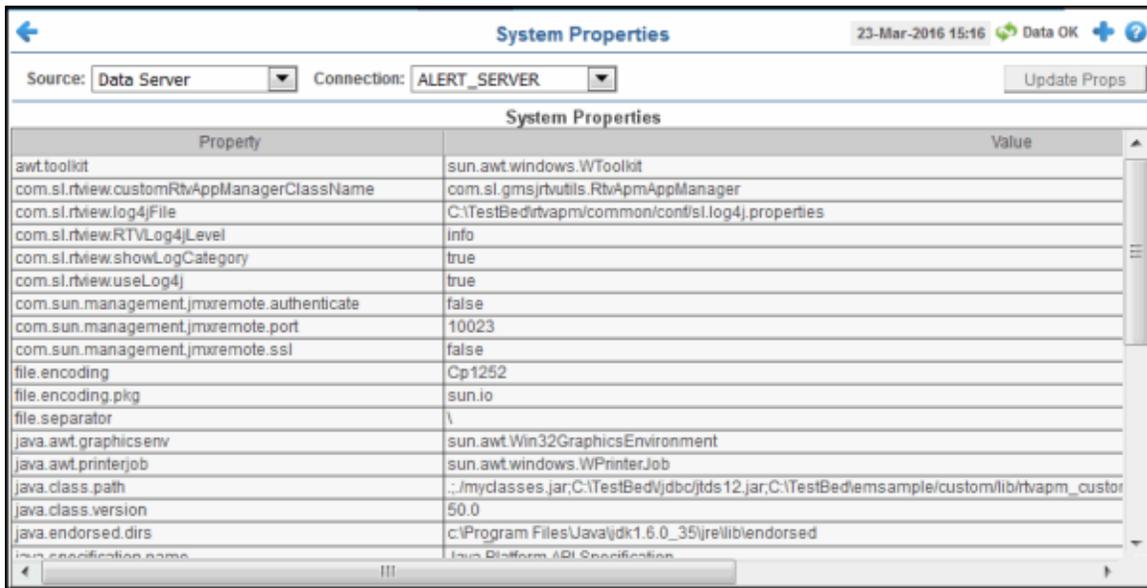
Select the **Source** of the connection to the RTView process for which you want to see property information. Options are:

- **Data Server:** If the RTView process is a Data Server and the Thin Client has a defined Data Server connection for it, choose this option and select the name of the Data Server in the Connection field.
- **Local JMX Connection:** Select this option if the Thin Client has a defined JMX Connection to the RTView process.
- **RTVMGR JMX Connection:** Select this option if the RTVMGR has a defined JMX Connection to the RTView process.

Select the **Connection** to the RTView process for which you want to see property information. Options available depend on your setup. For example, **RTVMGR** is only visible when the **Source** is **RTVMGR JMX Connection** and you have multiple RTVMGRs. You can then select an RTVMGR that has a defined JMX Connection to the RTView process for which you want to see property information.

Click **Update Props** to have the RTView process specified by the selected Connection re-read all properties files and database properties. Note that most non-connection properties do NOT support updates. See the "[Properties Descriptions](#)" display to find out if a specific property supports updates.

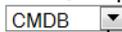
Right-click/**Export** to create a PDF image of the display. Click Sort  to order column data.



| Property                                  | Value  |
|---|--|
| awt.toolkit                               | sun.awt.windows.WToolkit   |
| com.sl.rtvie.customRtvAppManagerClassName | com.sl.gmsjrtvutils.RtvApmAppManager   |
| com.sl.rtvie.log4jFile                    | C:\TestBed\rtv\apm\common\conf\sl.log4j.properties                                       |
| com.sl.rtvie.RTVLog4jLevel                | Info   |
| com.sl.rtvie.showLogCategory              | true   |
| com.sl.rtvie.useLog4j                     | true   |
| com.sun.management.jmxremote.authenticate | false  |
| com.sun.management.jmxremote.port         | 10023  |
| com.sun.management.jmxremote.ssl          | false  |
| file.encoding                             | Cp1252   |
| file.encoding.pkg                         | sun.io   |
| file.separator                            | \  |
| java.awt.graphicsenv                      | sun.awt.Win32GraphicsEnvironment   |
| java.awt.printerjob                       | sun.awt.windows.WPrinterJob  |
| java.class.path                           | ..\myclasses.jar;C:\TestBed\jdbc\tds12.jar;C:\TestBed\emsample\custom\lib\rtv\apm_custom |
| java.class.version                        | 50.0   |
| java.endorsed.dirs                        | c:\Program Files\Java\jdk1.6.0_35\jre\lib\endorsed                                       |
| java.specification.name                   | Java Platform API Specification  |

### Title Bar:

Indicators and functionality might include the following:

  Open the previous and upper display.  and  navigate to displays commonly accessed from this display.

 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 Cls: 3,047 The number of items in the display.

 Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

### Filter By:

**Source:** Select the **Source** of the connection to the RTView process for which you want to see property information.

**Connection:** Select the **Connection** to the RTView process for which you want to see property information.

### Fields and Data

This display includes:

**Update Props** Click to have the RTView process specified by the selected Connection re-read all properties files and database properties. Note that most non-connection properties do NOT support updates. Use the "[Properties Descriptions](#)" display to see if a specific property supports updates.

**System Properties (table)** List of all system properties for the RTView process specified by the selected **Connection**.

**Property** The name of the property.

**Value** The property setting.

## Applied Properties

This display shows all properties that were applied to the RTView process specified by the selected **Connection**.

There are several reasons a property specified in a properties file might not be applied to an RTView process:

- the filter doesn't match.
- it was overridden in another property file.
- it was specified in a file that is not used by the RTView process.
- it was a property that is not supported in that RTView process (ex, a builder specific property would not be applied to a data server process).

You can filter the **Applied Properties** table using the **Filter Column** and **Field Value** fields. The **Clear Filter** button clears the filter. Double-click on a row in the table to drill down to the ["All Properties"](#) display filtered by the **Property Name** for that row.

**NOTE:** The double-click feature is not supported on iPad. iPad users can access the ["All Properties"](#) display from the navigation tree.

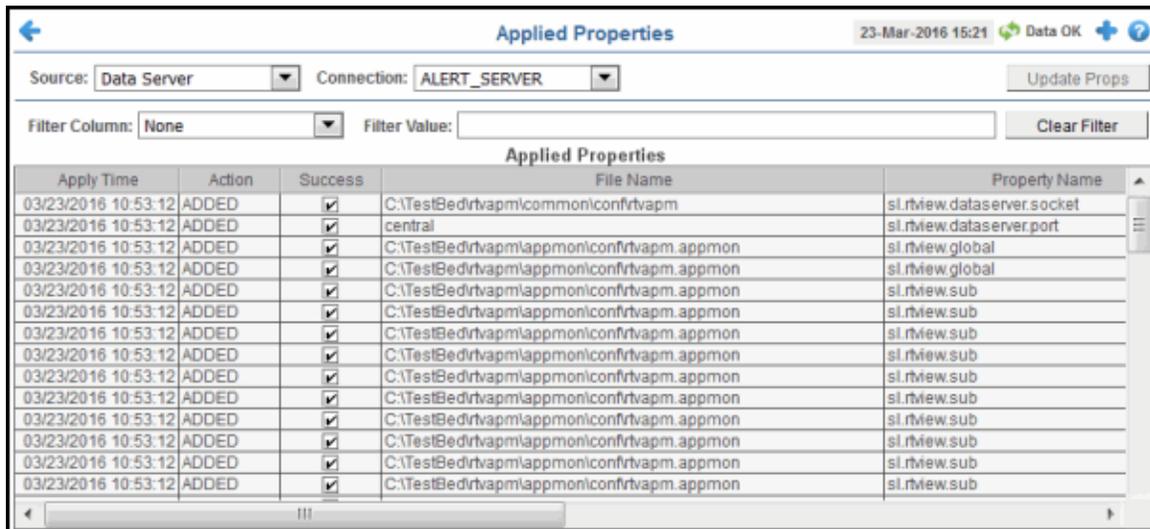
Select the **Source** of the connection to the RTView process for which you want to see property information. Options are:

- **Data Server:** If the RTView process is a Data Server and the Thin Client has a defined Data Server connection for it, choose this option and select the name of the Data Server in the Connection field.
- **Local JMX Connection:** Select this option if the Thin Client has a defined JMX Connection to the RTView process.
- **RTVMGR JMX Connection:** Select this option if the RTVMGR has a defined JMX Connection to the RTView process.

Select the **Connection** to the RTView process for which you want to see property information. Options available depend on your setup. For example, **RTVMGR** is only visible when the **Source** is **RTVMGR JMX Connection** and you have multiple RTVMGRs. You can then select an RTVMGR that has a defined JMX Connection to the RTView process for which you want to see property information.

Click **Update Props** to have the RTView process specified by the selected Connection re-read all properties files and database properties. Note that most non-connection properties do NOT support updates. See the ["Properties Descriptions"](#) display to find out if a specific property supports updates.

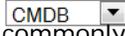
Right-click/**Export** to create a PDF image of the display. Click Sort  to order column data.



| Apply Time          | Action | Success                             | File Name                                   | Property Name              |
|---------------------|--------|-------------------------------------|---|----------------------------|
| 03/23/2016 10:53:12 | ADDED  | <input checked="" type="checkbox"/> | C:\TestBed\rtvapl\common\conf\rtvapl        | sl.rview.dataserver.socket |
| 03/23/2016 10:53:12 | ADDED  | <input checked="" type="checkbox"/> | central                                     | sl.rview.dataserver.port   |
| 03/23/2016 10:53:12 | ADDED  | <input checked="" type="checkbox"/> | C:\TestBed\rtvapl\appmon\conf\rtvapl.appmon | sl.rview.global            |
| 03/23/2016 10:53:12 | ADDED  | <input checked="" type="checkbox"/> | C:\TestBed\rtvapl\appmon\conf\rtvapl.appmon | sl.rview.global            |
| 03/23/2016 10:53:12 | ADDED  | <input checked="" type="checkbox"/> | C:\TestBed\rtvapl\appmon\conf\rtvapl.appmon | sl.rview.sub               |
| 03/23/2016 10:53:12 | ADDED  | <input checked="" type="checkbox"/> | C:\TestBed\rtvapl\appmon\conf\rtvapl.appmon | sl.rview.sub               |
| 03/23/2016 10:53:12 | ADDED  | <input checked="" type="checkbox"/> | C:\TestBed\rtvapl\appmon\conf\rtvapl.appmon | sl.rview.sub               |
| 03/23/2016 10:53:12 | ADDED  | <input checked="" type="checkbox"/> | C:\TestBed\rtvapl\appmon\conf\rtvapl.appmon | sl.rview.sub               |
| 03/23/2016 10:53:12 | ADDED  | <input checked="" type="checkbox"/> | C:\TestBed\rtvapl\appmon\conf\rtvapl.appmon | sl.rview.sub               |
| 03/23/2016 10:53:12 | ADDED  | <input checked="" type="checkbox"/> | C:\TestBed\rtvapl\appmon\conf\rtvapl.appmon | sl.rview.sub               |
| 03/23/2016 10:53:12 | ADDED  | <input checked="" type="checkbox"/> | C:\TestBed\rtvapl\appmon\conf\rtvapl.appmon | sl.rview.sub               |
| 03/23/2016 10:53:12 | ADDED  | <input checked="" type="checkbox"/> | C:\TestBed\rtvapl\appmon\conf\rtvapl.appmon | sl.rview.sub               |
| 03/23/2016 10:53:12 | ADDED  | <input checked="" type="checkbox"/> | C:\TestBed\rtvapl\appmon\conf\rtvapl.appmon | sl.rview.sub               |
| 03/23/2016 10:53:12 | ADDED  | <input checked="" type="checkbox"/> | C:\TestBed\rtvapl\appmon\conf\rtvapl.appmon | sl.rview.sub               |

### Title Bar:

Indicators and functionality might include the following:

  Open the previous and upper display.  and  navigate to displays commonly accessed from this display.

 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 The number of items in the display.

 The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

### Filter By:

**Source:** Select the **Source** of the connection to the RTView process for which you want to see property information.

**Connection:** Select the **Connection** to the RTView process for which you want to see property information.

### Fields and Data

This display includes:

**Update Props** Click to have the RTView process specified by the selected Connection re-read all properties files and database properties. Note that most non-connection properties do NOT support updates. Use the "[Properties Descriptions](#)" display to see if a specific property supports updates.

**Filter Column:** Select a column to filter the **Applied Properties** table.

**Filter Value:** Enter a string to filter the **Applied Properties** table.

**Clear Filter** Clears the filter.

### Applied Properties (table)

**Apply Time** The last time this property was applied.

|                       |   |
|-----------------------|---|
| <b>Action</b>         | Describes what occurred at <b>Apply Time</b> . <ul style="list-style-type: none"> <li>• <b>ADDED</b>: Property was added.</li> <li>• <b>REMOVED</b>: Property was removed.</li> <li>• <b>CHANGED</b>: Property was modified.</li> </ul> |
| <b>Success</b>        | When the box is checked the <b>Action</b> was successful.   |
| <b>File Name</b>      | The source of this property. For properties read from a database this value is <b>database</b> .  |
| <b>Property Name</b>  | The name of the property after the property filter has been applied.  |
| <b>Property Value</b> | The value of the property.  |
| <b>Handler</b>        | The RTView Handler that uses this property.   |

## All Properties

This display shows all properties that were read from the properties files and database regardless of whether or not the RTView process uses them. There are several reasons a property specified in a properties file might not be applied to an RTView process:

- the filter doesn't match.
- it was overridden in another property file.
- it was specified in a file that is not used by the RTView process.
- it was a property that is not supported in that RTView process (ex, a builder specific property would not be applied to a data server process).

You can filter the **All Properties** table using the **Filter Column** and **Field Value** fields. The **Clear Filter** button clears the filter. Double-click on a row in the table to drill down to the [“All Properties”](#) display filtered by the **Property Name** for that row.

Select the **Source** of the connection to the RTView process for which you want to see property information. Options are:

- **Data Server:** If the RTView process is a Data Server and the Thin Client has a defined Data Server connection for it, choose this option and select the name of the Data Server in the Connection field.
- **Local JMX Connection:** Select this option if the Thin Client has a defined JMX Connection to the RTView process.
- **RTVMGR JMX Connection:** Select this option if the RTVMGR has a defined JMX Connection to the RTView process.

Select the **Connection** to the RTView process for which you want to see property information. Options available depend on your setup. For example, **RTVMGR** is only visible when the **Source** is **RTVMGR JMX Connection** and you have multiple RTVMGRs. You can then select an RTVMGR that has a defined JMX Connection to the RTView process for which you want to see property information.

Click **Update Props** to have the RTView process specified by the selected **Connection** re-read all properties files and database properties. Note that most non-connection properties do NOT support updates. See the “[Properties Descriptions](#)” display to find out if a specific property supports updates.

| Order | File Name                              | Property Name                         | Property Value                                     |
|-------|--|---------------------------------------|--|
| 0     | C:\TestBed\rtv\apm\common\conf\rtv\apm | sl.rtvview.cp                         | C:\TestBed\rtv\apm\rtview\lib\rtvssa.jar           |
| 1     | C:\TestBed\rtv\apm\common\conf\rtv\apm | sl.rtvview.cp                         | C:\TestBed\rtv\apm\common\lib\rtv\apm_common.jar   |
| 2     | C:\TestBed\rtv\apm\common\conf\rtv\apm | sl.rtvview.cp                         | C:\TestBed\rtv\apm\common\lib\gms\rtvutils.jar     |
| 3     | C:\TestBed\rtv\apm\common\conf\rtv\apm | sl.rtvview.cp                         | C:\TestBed\rtv\apm\rtview\lib\rtvdebug.jar         |
| 4     | C:\TestBed\rtv\apm\common\conf\rtv\apm | sl.rtvview.jvm                        | -Xmx256m   |
| 5     | C:\TestBed\rtv\apm\common\conf\rtv\apm | sl.rtvview.jvm                        | -Xms128m   |
| 6     | C:\TestBed\rtv\apm\common\conf\rtv\apm | sl.rtvview.cmd_line                   | -nolibco   |
| 7     | C:\TestBed\rtv\apm\common\conf\rtv\apm | sl.rtvview.stylesheet                 | rtv_darkstyles.rtv_flat.rtv_html5                  |
| 8     | C:\TestBed\rtv\apm\common\conf\rtv\apm | sl.rtvview.sql.dbretry                | 40000  |
| 9     | C:\TestBed\rtv\apm\common\conf\rtv\apm | sl.rtvview.global                     | rtv_global_vars.rtv                                |
| 10    | C:\TestBed\rtv\apm\common\conf\rtv\apm | sl.rtvview.global                     | rtv_global_trendrange.rtv                          |
| 11    | C:\TestBed\rtv\apm\common\conf\rtv\apm | sl.rtvview.xml.xmlsource              | rtv_constants.xml 0 rtv_constants.xml 0 1          |
| 12    | C:\TestBed\rtv\apm\common\conf\rtv\apm | sl.rtvview.jmx.jmxconn                | local -- 'URL_local' - - false                     |
| 13    | C:\TestBed\rtv\apm\common\conf\rtv\apm | sl.rtvview.dsenable                   | jmx  |
| 14    | C:\TestBed\rtv\apm\common\conf\rtv\apm | sl.rtvview.jmx.jmx_metrics_period     | 10000  |
| 15    | C:\TestBed\rtv\apm\common\conf\rtv\apm | sl.rtvview.jmx.jmx_minreconnecttime   | 30   |
| 16    | C:\TestBed\rtv\apm\common\conf\rtv\apm | sl.rtvview.jmx.jmx_mbeans_change_dyn  | false  |
| 17    | C:\TestBed\rtv\apm\common\conf\rtv\apm | sl.rtvview.jmx.jmxdsShowConnectionOnl | true   |
| 18    | C:\TestBed\rtv\apm\common\conf\rtv\apm | sl.rtvview.jvm                        | -Dcom.sl.rtvview.customRtvAppManagerClassName=com. |

### Title Bar:

Indicators and functionality might include the following:

- Open the previous and upper display. and navigate to displays commonly accessed from this display.
- The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
- The number of items in the display.

- The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

|                               |  |
|-------------------------------|--|
| <b>Order</b>                  | The order in which this property was read. For properties that support a single value that are specified multiple times, the one with the highest Order value will be applied. |
| <b>File Name</b>              | The source of this property. It will be database for properties read from a database.  |
| <b>Property Name</b>          | The name of the property after the property filter has been applied.   |
| <b>Property Value</b>         | The value of the property.   |
| <b>Original Property Name</b> | The name of the property before the property filter was applied. This will match the literal property string in your properties file.  |

**Filter By:**

- Source:** Select the **Source** of the connection to the RTView process for which you want to see property information.
- Connection:** Select the **Connection** to the RTView process for which you want to see property information.

**Fields and Data**

This display includes:

|                               |  |  |
|-------------------------------|--|--|
| <b>Update Props</b>           | Click to have the RTView process specified by the selected Connection re-read all properties files and database properties. Note that most non-connection properties do NOT support updates. Use the <a href="#">"Properties Descriptions"</a> display to see if a specific property supports updates. |  |
| <b>Filter Column:</b>         | Select a column to filter the <b>Applied Properties</b> table.   |  |
| <b>Filter Value:</b>          | Enter a string to filter the <b>Applied Properties</b> table.  |  |
| <b>Clear Filter</b>           | Clears the filter.   |  |
| <b>All Properties (table)</b> | <b>Order</b>   | The order in which this property was read. For properties that support a single value that are specified multiple times, the one with the highest Order value will be applied. |
|                               | <b>File Name</b>   | The source of this property. It will be database for properties read from a database.  |
|                               | <b>Property Name</b>   | The name of the property after the property filter has been applied.   |
|                               | <b>Property Value</b>  | The value of the property.   |
|                               | <b>Original Property Name</b>  | The name of the property before the property filter was applied. This will match the literal property string in your properties file.  |

**Properties Descriptions**

This display shows one row for each property that is supported for the RTView process specified by the selected Connection.

Select the **Source** of the connection to the RTView process for which you want to see property information. Options are:

- **Data Server:** If the RTView process is a Data Server and the Thin Client has a defined Data Server connection for it, choose this option and select the name of the Data Server in the Connection field.
- **Local JMX Connection:** Select this option if the Thin Client has a defined JMX Connection to the RTView process.
- **RTVMGR JMX Connection:** Select this option if the RTVMGR has a defined JMX Connection to the RTView process.

Select the **Connection** to the RTView process for which you want to see property information. Options available depend on your setup. For example, **RTVMGR** is only visible when the **Source** is **RTVMGR JMX Connection** and you have multiple RTVMGRs. You can then select an RTVMGR that has a defined JMX Connection to the RTView process for which you want to see property information.

| Property                                     | Multi                               | Updates                  | Handler           | Deprecated               |
|--|-------------------------------------|--------------------------|-------------------|--------------------------|
| sl.rview.alert.actionauditdataserver         | <input type="checkbox"/>            | <input type="checkbox"/> | Alert Data Source | <input type="checkbox"/> |
| sl.rview.alert.actionauditdb                 | <input type="checkbox"/>            | <input type="checkbox"/> | Alert Data Source | <input type="checkbox"/> |
| sl.rview.alert.actionaudittable              | <input type="checkbox"/>            | <input type="checkbox"/> | Alert Data Source | <input type="checkbox"/> |
| sl.rview.alert.alertclearedcommand           | <input type="checkbox"/>            | <input type="checkbox"/> | Alert Data Source | <input type="checkbox"/> |
| sl.rview.alert.alertcleartime                | <input type="checkbox"/>            | <input type="checkbox"/> | Alert Data Source | <input type="checkbox"/> |
| sl.rview.alert.alertcommand                  | <input type="checkbox"/>            | <input type="checkbox"/> | Alert Data Source | <input type="checkbox"/> |
| sl.rview.alert.alertinitdelay                | <input type="checkbox"/>            | <input type="checkbox"/> | Alert Data Source | <input type="checkbox"/> |
| sl.rview.alert.cleansettingstable            | <input type="checkbox"/>            | <input type="checkbox"/> | Alert Data Source | <input type="checkbox"/> |
| sl.rview.alert.commentcommand                | <input type="checkbox"/>            | <input type="checkbox"/> | Alert Data Source | <input type="checkbox"/> |
| sl.rview.alert.commentlimit                  | <input type="checkbox"/>            | <input type="checkbox"/> | Alert Data Source | <input type="checkbox"/> |
| sl.rview.alert.config                        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Alert Data Source | <input type="checkbox"/> |
| sl.rview.alert.createDbTables                | <input type="checkbox"/>            | <input type="checkbox"/> | Alert Data Source | <input type="checkbox"/> |
| sl.rview.alert.customAlertActionHandlerClass | <input type="checkbox"/>            | <input type="checkbox"/> | Alert Data Source | <input type="checkbox"/> |
| sl.rview.alert.custom_alertdef_prop          | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Alert Data Source | <input type="checkbox"/> |
| sl.rview.alert.custom_event_attr             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Alert Data Source | <input type="checkbox"/> |
| sl.rview.alert.enableactionaudit             | <input type="checkbox"/>            | <input type="checkbox"/> | Alert Data Source | <input type="checkbox"/> |
| sl.rview.alert.enablebuffer                  | <input type="checkbox"/>            | <input type="checkbox"/> | Alert Data Source | <input type="checkbox"/> |
| sl.rview.alert.enabled                       | <input type="checkbox"/>            | <input type="checkbox"/> | Alert Data Source | <input type="checkbox"/> |
| sl.rview.alert.enablessa                     | <input type="checkbox"/>            | <input type="checkbox"/> | Alert Data Source | <input type="checkbox"/> |
| sl.rview.alert.exitOnPersistInitFailed       | <input type="checkbox"/>            | <input type="checkbox"/> | Alert Data Source | <input type="checkbox"/> |
| sl.rview.alert.history                       | <input type="checkbox"/>            | <input type="checkbox"/> | Alert Data Source | <input type="checkbox"/> |
| sl.rview.alert.lutupdatesnewdata             | <input type="checkbox"/>            | <input type="checkbox"/> | Alert Data Source | <input type="checkbox"/> |

### Title Bar:

Indicators and functionality might include the following:

← ↑ Open the previous and upper display.

CMDB and Table navigate to displays commonly accessed from this display.

19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Cts: 3,047 The number of items in the display.

Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

⚠ Open the **Alert Views - RTView Alerts Table** display.

⊕ Open an instance of this display in a new window.

❓ Open the online help page for this display.

### Filter By:

**Source:** Select the **Source** of the connection to the RTView process for which you want to see property information.

**Connection:** Select the **Connection** to the RTView process for which you want to see property information.

### Fields and Data

This display includes:

**Update Props** Click to have the RTView process specified by the selected Connection re-read all properties files and database properties. Note that most non-connection properties do NOT support updates. Use the ["Properties Descriptions"](#) display to see if a specific property supports updates.

|                               |                         |  |
|-------------------------------|-------------------------|--|
| <b>All Properties (table)</b> | <b>Property</b>         | The name of the property   |
|                               | <b>Multi</b>            | Box is checked if this property supports multiple values.                                  |
|                               | <b>Updates</b>          | Box is checked if this property supports updates.  |
|                               | <b>Handler</b>          | The name of the RTView Handler that uses this property.                                    |
|                               | <b>Deprecated</b>       | Box is checked if this property is deprecated.   |
|                               | <b>Deprecation Info</b> | If the property is deprecated, this lists the currently supported property to use instead. |

## Diagram Views

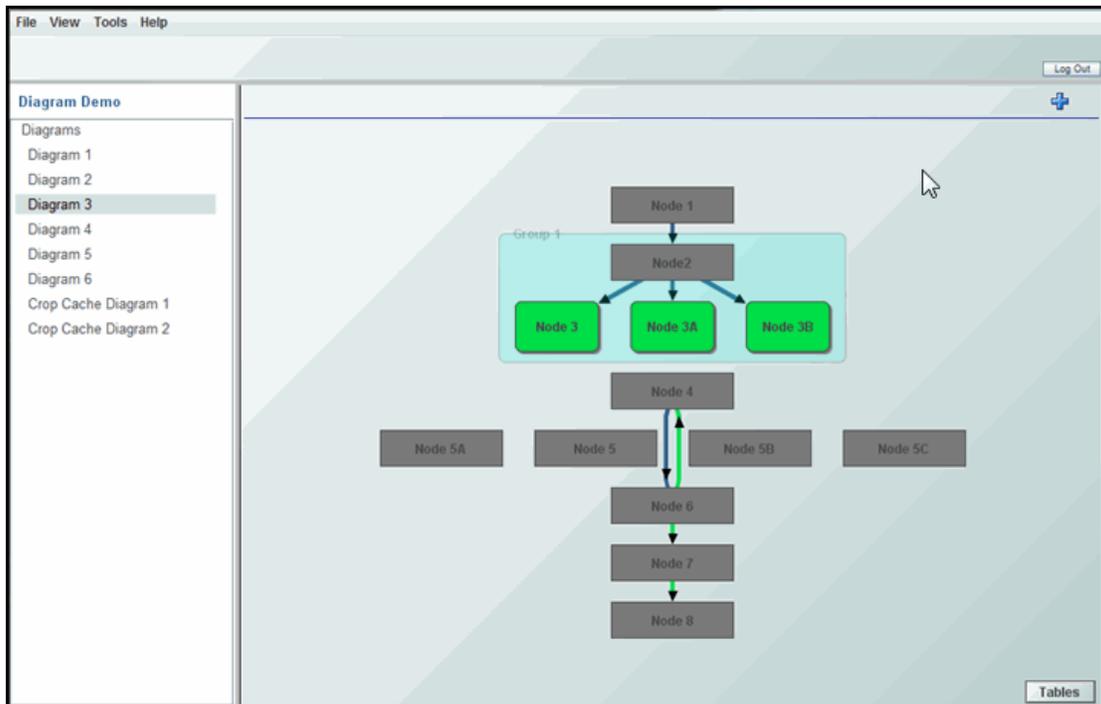
The RTView Enterprise Monitor comes with the Diagram Generator, a feature that auto-creates diagram displays which mirror your system components and hierarchy.

When you monitor applications with complex architectures, it is often very beneficial to visualize the health of individual components within the context of the application hierarchy. This allows you to understand the complete architecture which is supporting the application as well as understand how individual components may affect the behavior of other components. RTView Enterprise Monitor allows you to manually construct such views, but at times this might become too time consuming to maintain if there are many applications to model or the architecture is constantly changing. The Diagram Generator is a feature which allows for the automatic generation of these application diagrams using application meta-data, without having to manually construct them.

The Diagram Generator, located under **CUSTOM Tab/Diagram Views**, is comprised of several displays which you use to create your diagram displays.

This section includes the following Diagram Generator instructions and displays:

- “Steps to Create a Diagram Display” on page 258
- “Create an Object Template Display” on page 259
- “Node Administration Display” on page 260
- “Link Admin Display” on page 262
- “Diagram Properties Admin Display” on page 263
- “Add Diagrams to your Project” on page 265
- “View Diagram Displays” on page 265
- “Optional Diagram Display Customizations” on page 265



The Diagram Generator feature uses a database table of your nodes and database table of your links to create the diagrams. For example, the diagram below was generated from the tables shown next to it. The order of the nodes in the table controls the order of the nodes in the diagram.

The screenshot shows the RTView Enterprise Monitor interface. The top navigation bar includes 'SERVICE TREE', 'SERVICE VIEWS', 'COMPONENTS', 'ALERTS', 'ADMIN', and 'CUSTOM'. The 'CUSTOM' tab is active, showing a 'Sample Diagram' view. The diagram consists of five nodes: Node 1, Node 2, Node 3A, Node 3B, and Node 3C. Node 1 is at the top, connected to Node 2. Node 2 is connected to Node 3A, Node 3B, and Node 3C. Node 3A and Node 3C are connected to Node 3B. Node 3B is connected to Node 4, which is connected to Node 5. Node 3A, Node 3B, and Node 3C are grouped together in a box labeled 'Group 1'.

Below the diagram are three tables: 'Nodes', 'Links', and 'Diagram Props'.

| Nodes |                    |   |                    |
|-------|--------------------|---|--------------------|
| ID    | Type               | Properties  | Layout             |
| G1    | Group DefaultGroup | label=Group 1   |                    |
| N1    | DefaultNode        | label=Node 1~dd=rtv_diagram_test2.rtv-mouseOverText=dd to diagram |                    |
| N2    | DefaultNode        | label=Node2   | group=G1           |
| N3    | GreenNode          | label=Node 3  | tier=SL_1~group=G1 |
| N3A   | GreenNode          | label=Node 3A   | tier=SL_1~group=G1 |
| N3B   | GreenNode          | label=Node 3B   | tier=SL_1~group=G1 |
| N4    | DefaultNode        | label=Node 4  |                    |
| N5A   | DefaultNode        | label=Node 5A   | tier=SL_2          |

| Links |             |            |            |          |
|-------|-------------|------------|------------|----------|
| ID    | Type        | Properties | Start Node | End Node |
| L1    | DefaultLink |            | N1         | N2       |
| L2    | DefaultLink |            | N2         | N3       |
| L3    | DefaultLink |            | N2         | N3A      |
| L4    | DefaultLink |            | N2         | N3B      |
| L5    | DefaultLink |            | N4         | N6       |
| L6    | GreenLink   |            | N6         | N4       |
| L7    | GreenLink   |            | N6         | N7       |
| L8    | GreenLink   |            | N7         | N8       |

| Diagram Props         |                       |
|-----------------------|-----------------------|
| Name                  | Value                 |
| hGap                  | 30                    |
| objectTemplateDisplay | test_clone_source.rtv |
| orientation           | VERTICAL              |
| hAlignment            | CENTER                |
| vAlignment            | CENTER                |
| margins               | 40,10,10,10           |
| wrapDiagram           | false                 |
| wrapSpacing           | 20                    |

### Diagram Generator Demo

You can view a demo of the Diagram Generator, located under **CUSTOM/Sample Diagram**. This demo shows a simple diagram as well as the UI used to construct diagrams. The icons in the sample diagram come from a sample object template display. When creating diagrams for your project, you will create an object template display with icons that are appropriate for the process you are diagramming.

### Steps to Create a Diagram Display

To create a custom diagram display using the Diagram Generator:

1. If you are using EM 3.4 or earlier, see [“Upgrading the Monitor” on page 9](#). If you are using EM 3.5, the **emsample** project is already configured to include the Diagram Generator and no setup is required.
2. [“Create an Object Template Display”](#) using the Display Builder. This step is optional. The object template display serves as your palette of objects (icons, links, shapes, and so forth) for building your diagrams. A sample object template display is built-in that can be used for simple diagrams and to demo the Diagram Generator. When creating diagrams for your project, you should create an object template display with icons that are appropriate for the process you are diagraming. If you are going to create a custom object template display, you must create it and add it to the Diagram Properties before defining nodes and links for your diagrams.
3. In the RTView Enterprise Monitor, open the [“Node Administration Display”](#) display, located under **CUSTOM Tab/Diagram Views/Diagram Admin** and add nodes to your diagram.
4. Open the [“Link Admin Display”](#) display and add links to your diagram.
5. Open the [“Diagram Properties Admin Display”](#) display and format the layout of your diagram display.
6. [“Add Diagrams to your Project”](#) to publish the diagram display.
7. [“View Diagram Displays”](#) to confirm settings.
8. [“Optional Diagram Display Customizations”](#): These customizations are not required.

## Create an Object Template Display

This section describes how to create an object template display using the Display Builder. The object template display serves as your palette of objects (icons, links, shapes, and so forth) that you use to build your diagrams.

### Assumptions:

- You have familiarized yourself with the [“Diagram Generator Demo”](#).
  - You are familiar with using the Display Builder.
1. Create a display in the Display Builder that contains all the icons you want to use for the nodes, links and icons in your diagram displays.
  2. For each object, specify a user friendly name in the **objName** field (it must be alphanumeric but can contain under-bar). The **objName** field will be referenced in the **Type** field when you add nodes and links to your diagram. You will be able to override any of the properties by specifying them in the **Properties** field.
  3. Save this file to your project directory.
  4. Use the [“Diagram Properties Admin Display”](#) to set the **objectTemplateDisplay** property to the name of this file.

For assistance, contact Technical Support.

Proceed to [“Node Administration Display”](#).

## Node Administration Display

Use this Diagram Generator display to create new diagrams and add or edit nodes in existing diagrams. Diagram definitions are stored in the DIAGRAMS database.

To define a new diagram, enter a new diagram name in the **Diagram** field, then fill in the fields in the **Enter Values** section to define the first node in the diagram.

To add a new node to a diagram, enter the name of the diagram to which you want to add the node, then fill in the fields in the **Enter Values** section, described below, and click **Add Node**.

To edit an existing node, select it in the table to populate the **Enter Values** fields at the bottom of the display, make your changes and click **Update Node**.

The screenshot shows the 'Node Table Administration' interface in RTView Enterprise Monitor. The top navigation bar includes 'SERVICE TREE', 'SERVICE VIEWS', 'COMPONENTS', 'ALERTS', 'ADMIN', and 'CUSTOM'. The main content area features a 'Nodes' dropdown menu and a 'Diagram Filter' set to 'All'. A table lists nodes with the following data:

| Order | Diagram        | ID | Type               | Layout   | Properties    |
|-------|----------------|----|--------------------|----------|---------------|
| 0     | sample_diagram | N1 | DefaultNode        |          | label=Node 1  |
| 1     | sample_diagram | N2 | DefaultNode        |          | label=Node 2  |
| 2     | sample_diagram | N3 | GreenNode          | tier=3   | label=Node 3A |
| 3     | sample_diagram | N4 | GreenNode          | tier=3   | label=Node 3B |
| 4     | sample_diagram | N5 | GreenNode          | tier=3   | label=Node 3C |
| 5     | sample_diagram | N6 | DefaultNode        | group=G1 | label=Node 4  |
| 6     | sample_diagram | N7 | DefaultNode        | group=G1 | label=Node 5  |
| 7     | sample_diagram | G1 | Group DefaultGroup |          | label=Group 1 |

Below the table is the 'Enter Values' section with the following fields and buttons:

- Diagram: sample\_diagram
- ID: N1
- Layout: (empty)
- Type: DefaultNode
- Is Group: (checkbox)
- Properties: label=Node 1
- Buttons: Update Node, Insert Node, Delete Node, Cancel, Move Node Up, Move Node Down, Preview

For each node in your diagram display, fill in the following fields:

- Diagram** Required. The name of the diagram. NOTE: The diagram name GLOBAL is reserved for global properties in Diagram Props. The value in this column will be used to identify this diagram when you add this diagram to the navigation tree.
- ID** Required. Must be unique within the diagram across nodes and links. Use this value in the Link Node1 and Node2 fields to refer to this node. The value must be alpha-numeric but may contain underbars (  ).
- Layout** Optional. One or more layout options for the icon. All icons with the same tier=value will be positioned in a single tier (row if the diagram property orientation=VERTICAL, column if orientation=HORIZONTAL). Each tier is centered along the diagram's centerline unless only one node in a tier has a link to another tier. In that case the node with the link is centered on the diagram's centerline.
- All icons with the same group=value will have a group object drawn behind them. The group value must be the ID of a node whose type is defined as a Group.
- To specify both a tier and a group, separate them with a ~. For example:  
**tier=T1~group=G1**

|                   |  |
|-------------------|--|
| <b>Type</b>       | Required. The name of the object in the objectTemplateDisplay file to use as the icon for this node. When you select a type from the list, you will see a preview of it to the right of the Type field.  |
| <b>Is Group</b>   | Optional. Check to specify that this node is a Group. Groups are only drawn if at least one node references them in their Layout field. They are drawn behind the nodes that reference them and their extent is set to the combined extent of all nodes that reference them. In wrapped diagrams, if the nodes in the group break across multiple tiers, the group object will be broken across the tiers as well.   |
| <b>Properties</b> | <p>Optional. One or more properties to set on the node icon delimited by ~. Syntax is <b>propName=propVal~propName2=otherPropVal</b>.</p> <p>Note that property values must be specified as they are saved in <b>.rtv</b> files, which is not necessarily the same as they are shown in the <b>Object Properties</b> dialog in the Display Builder.</p> <p>In addition to properties on the RTView object, you can also specify hGap or vGap to override the diagram property hGap or vGap for this object. The hGap is applied to the left of an object and the vGap is applied above an object.</p> <p>For example, you must specify the font index instead of the font name for font properties, and the color index instead of the color for color properties.</p> |

Use the following buttons to save changes to the database and to preview the diagram display (after the changes have been saved to the database):

|                       |   |
|-----------------------|---|
| <b>Update Node</b>    | Save changes to the selected node to the database. This is only enabled if the selected node is already in the database.  |
| <b>Insert Node</b>    | Insert a new node to the database. This is only enabled if the selected node is not in the database.  |
| <b>Delete Node</b>    | Delete the selected node from the database. This is only enabled if the selected node is already in the database.   |
| <b>Cancel</b>         | Clear the Enter Values fields.  |
| <b>Move Node Up</b>   | Move the selected node up in the diagram. Nodes are laid out in the diagram according to their order.   |
| <b>Move Node Down</b> | Move the selected node down in the diagram. Nodes are laid out in the diagram according to their order.   |
| <b>Preview</b>        | Open a window showing the selected diagram as it is saved in the database. Changes to the diagram will not update an open preview window. To update the diagram in the preview window, close and reopen the window. |

## Link Admin Display

Use this display to add or edit links in your diagrams. To add a link, enter the name of the diagram containing the nodes you want to link, then fill in the fields below for each link you want to add. To edit an existing link, select it in the table.

The screenshot shows the 'Link Table Administration' window. At the top, there is a navigation bar with tabs: SERVICE TREE, SERVICE VIEWS, COMPONENTS, ALERTS, ADMIN, and CUSTOM. The 'ADMIN' tab is selected. Below the navigation bar, there is a 'Custom Views' sidebar on the left with a tree structure: Custom Views, Diagram Views, Sample Diagram, Diagram Admin, Node Admin, Link Admin (selected), and Diagram Prop Admin. The main area is titled 'Link Table Administration' and contains a 'Diagram Filter' dropdown set to 'All'. Below the filter is a table with the following data:

| Diagram     | ID | Type        | Node 1 | Node 2 |                 |
|-------------|----|-------------|--------|--------|-----------------|
| sample_diag | L1 | DefaultLink | N1     | N2     |                 |
| sample_diag | L2 | DefaultLink | N2     | N4     |                 |
| sample_diag | L3 | DefaultLink | N4     | N6     |                 |
| sample_diag | L4 | GreenLink   | N3     | N4     | arrow1VisFlag=1 |
| sample_diag | L5 | GreenLink   | N4     | N5     | arrow1VisFlag=1 |

Below the table is a form titled 'Enter Values' with the following fields:

- Diagram:
- ID:
- Type:
- Node 1:
- Node 2:
- Properties:

At the bottom of the form are four buttons: Update Link, Insert Link, Delete Link, and Cancel. A 'Preview' button is located at the bottom right of the window.

- Diagram** Required. The name of the diagram. NOTE: The diagram name GLOBAL is reserved for global properties in Diagram Props.
- ID** Required. Must be unique within the diagram across the node and link tables. Value must be alpha-numeric but may contain under-bars (\_).
- Type** Required. The name of the link object in the objectTemplateDisplay to use for this link.
- Node 1** Required. The ID of the start node for the link.
- Node 2** Required. The ID of the end node for the link.
- Properties** Optional. One or more properties to set on the icon delimited by ~. Syntax is propName=propVal~propName2=otherPropVal

Use the following buttons to save link changes to the database and to preview the diagram display (after the changes have been applied to the database):

- Update Link** Save changes to the selected link to the database. This is only enabled if the selected link is already in the database.
- Insert Link** Insert a new link to the database. This is only enabled if the selected link is not in the database.
- Delete Link** Delete the selected link from the database. This is only enabled if the selected link is already in the database.

**Cancel** Clear the **Enter Values** fields.

**Preview** Opens a window showing the selected diagram as it is saved in the database. Changes to the diagram will not update the preview window. To update the preview, close and reopen it.

## Diagram Properties Admin Display

Use this Diagram Generator display to configure “Diagram Properties” for your diagrams. Diagram properties are settings that are applied to the diagrams as a whole, such as orientation, alignment and spacing. Properties that use GLOBAL for the diagram name are applied to all diagrams. You can override a diagram property for a single diagram by using the name of that diagram in the **Diagram** field.

The screenshot shows the 'Diagram Properties Administration' window in RTView Enterprise Monitor. The window has a navigation bar with tabs: SERVICE TREE, SERVICE VIEWS, COMPONENTS, ALERTS, ADMIN, and CUSTOM. The 'CUSTOM' tab is active. The main area displays a table of properties for diagrams. The table has columns for Diagram, Property Name, and Property Value. Below the table is an 'Enter Values' section with input fields for Diagram, Property, and Value, and buttons for Update Property, Insert Property, Delete Property, and Cancel.

| Diagram | Property Name | Property Value |
|---------|---------------|----------------|
| GLOBAL  | hAlignment    | CENTER         |
| GLOBAL  | orientation   | VERTICAL       |
| GLOBAL  | vAlignment    | CENTER         |

Enter Values

Diagram: GLOBAL

Property: vAlignment

Value: CENTER

Buttons: Update Property, Insert Property, Delete Property, Cancel

**Diagram** Required. The name of the diagram or GLOBAL if it should be applied to all diagrams.

**Property** Required. The name of the property.

**Value** Required. The value of the property.

Use the following buttons to save diagram property changes to the database:

**Update Property** Save changes to the selected property to the database. This is only enabled if the selected property is already in the database.

**Insert Property** Insert a new property to the database. This is only enabled if the selected property is not in the database.

**Delete Property** Delete the selected property from the database. This is only enabled if the selected link is already in the database.

**Cancel** Clear the Enter Values fields.

## Diagram Properties

Use the following properties in the **Property/Value** fields in the [“Diagram Properties Admin Display”](#) display to configure diagram display.

| Property Name                  | Description  |
|--------------------------------|--|
| <b>hGap</b>                    | Horizontal space between nodes in pixels. This can be overridden per-node in the node properties. Default is 28.   |
| <b>vGap</b>                    | Vertical space between nodes in pixels. This can be overridden per-node in the node properties. Default is 22.   |
| <b>objectTemplateDisplay</b>   | The name of the file containing the nodes and links to use for the diagrams. The name of each node and link in this file corresponds to the name in the Type field of the node and link tables.  |
| <b>orientation</b>             | The orientation of the diagram. Default is VERTICAL which lays the nodes out in the order specified from the top of the display to the bottom with nodes in the same tier laid out left to right. HORIZONTAL lays out the nodes in the order specified from left to right with nodes in the same tier laid out top to bottom.  |
| <b>hAlignment</b>              | Controls the horizontal alignment of the diagram in the available space. Default is CENTER which centers the diagram in the available space. Options are:<br>LEFT – Position the diagram at the left of the available space.<br>CENTER – Position the diagram in the center of the available space.<br>CENTERLINE – Position the centerline of the diagram in the center of the available space. This option is only valid if orientation=VERTICAL and wrapDiagram=false. If orientation=HORIZONTAL or wrapDiagram=true, CENTER will be used instead.<br>RIGHT – Position the diagram at the right of the available space. |
| <b>vAlignment</b>              | Controls the vertical alignment of the diagram in the available space. Default is CENTER which centers the diagram in the available space. Options are:<br>TOP – Position the diagram at the top of the available space.<br>CENTER – Position the diagram in the center of the available space.<br>CENTERLINE – Position the centerline of the diagram in the center of the available space. This option is only valid if orientation=HORIZONTAL and wrapDiagram=false. If orientation=VERTICAL or wrapDiagram=true, CENTER will be used instead.<br>Bottom – Position the diagram at the bottom of the available space.   |
| <b>wrapDiagram</b>             | If true, the diagram wraps into columns if orientation=VERTICAL or rows if orientation=HORIZONTAL. Default is false.   |
| <b>wrapSpacing</b>             | The number of pixels between columns/rows if wrapDiagram = true. Default is 20.  |
| <b>margins</b>                 | Sets the minimum amount of space between the edge of the display and the diagram in pixels. You can either specify one value that will be used for all 4 margins or a comma separated list of 4 values in this order: top, left, bottom, right. Default is 40,10,10,10 which sets the top margin to 40 pixels and the left, bottom and right margins to 10 pixels.   |
| <b>deleteSavedDiagramNodes</b> | This option applies to diagrams that were manually edited as described in <a href="#">“Edit Diagrams in the Display Builder”</a> . If true, delete any diagram nodes that were saved to the display in the Display Builder. Default is false.  |

Proceed to [“Add Diagrams to your Project”](#) to publish your displays.

## Add Diagrams to your Project

This section describes how to add diagrams to your EM project. After you define one or more diagrams as described in [“Node Administration Display”](#), you can add a display for each diagram to the EM navigation tree. The navigation tree entry for each diagram should look like this:

```
<node label="Diagram 1" display="rtv_diagram_cache" subs="$diagramName:diagram1
$diagramTitle:'Diagram 1'"/>
```

The value for **label** is the label to use in the navigation tree. The value for **display** is **rtv\_diagram\_cache** unless you have a custom diagram background as described in [“Customize the Diagram Background Display”](#), in which case you should use the name of that display instead.

The **subs** values are as follows:

- **\$diagramName** – Set this to the name of your diagram. This corresponds to the value in the DIAGRAM column in the database.
- **\$diagramTitle** – Set this to the value to use for the title label in the diagram display.

**Note:** You must use single quotes around any substitution values that contain spaces.

Proceed to [“View Diagram Displays”](#).

## View Diagram Displays

After you add one or more diagram displays to your EM project as described in the [“Add Diagrams to your Project”](#), open them in the navigation tree. Note that:

- Diagram definitions are only read when the display is opened. If you edit the diagram definition for an open diagram display, you must re-open the diagram display to see the changes.
- When you resize the window, the diagram display auto-resizes to fill the available space, and also positions the diagram in the available space according to the **margin** and **alignment** Diagram Properties. If you resize the window smaller than 800x576 or the area required to display the diagram (whichever is larger) scrollbars auto-appear.
- Diagrams with the **wrapDiagram** Diagram Property set to true reposition nodes to use the available space when the window is resized.

## Optional Diagram Display Customizations

This section includes:

- [“Edit Diagrams in the Display Builder”](#):
- [“Customize the Diagram Background Display”](#):
- [“Customize the Diagram Database”](#):

### Edit Diagrams in the Display Builder

To manually edit your generated diagram, use the Display Builder to open the diagram in your project directory.

NOTE: If you created a custom diagram background display as described in [“Customize the Diagram Background Display”](#), use the name of that file instead of **rtv\_diagram\_cache** in the instructions below. Run the Display Builder in your project directory as follows (where **diagramName** is the name of the diagram you want to modify):

```
runb_appmon -sub:$diagramName:diagramName rtv_diagram_cache
```

Edit the diagram and save the display as **rtv\_diagram\_cache\_diagramName**, replacing the **diagramName** with the name of your diagram. Update the corresponding navigation tree entry to use the new display name.

**Important:** Do NOT to save these changes to **rtv\_diagram\_cache.rtv** or these nodes will show up in all of your diagrams.

When you view this diagram, any saved diagram nodes and links that are no longer in the diagram definition will be removed and any new nodes in the diagram definition will be added to the bottom left corner. You need to position those new nodes by hand in the Display Builder. The Properties from the database will be applied to diagram nodes that were saved in the Display Builder. The diagram will still be positioned in the Display Viewer according to the **alignment** and **margin** Diagram Properties when the window is resized. However, for diagrams where **wrapDiagram** is set to true, the diagram will not be re-wrapped to fit the available space.

### Customize the Diagram Background Display

To create a custom version of the diagram background display, open **rtv\_diagram\_cache.rtv** in the Display Builder from the **central** directory of your EM project as follows:

```
runb_appmon rtv_diagram_cache
```

Modify the display and save it under a new name in the **central** directory. The name must start with **rtv\_diagram**. When adding diagram displays to the navigation tree as described in [“Add Diagrams to your Project”](#), use the name of this file instead of **rtv\_diagram\_cache**.

When modifying the display, use the following guidelines:

- Do not change the **Resize Mode**. It must be set to **Crop**.
- When you resize this display in the viewer or thin client, objects will be positioned according to their anchor properties.
- Do not remove the **dg\_include\_cache.rtv** entry from the list of included files. This file reads the diagram data and creates the data structures required to generate the diagrams.

### Customize the Diagram Database

Diagram definitions are stored in the DIAGRAM database. By default, an HSQLDB database is used. Schemas for all supported databases are provided in **RTVAPM\_HOME\dg\dbconfig**. To change to another supported database, use the schema for your database to create the diagram tables and add this property to the central properties file for your project (**central.properties** in **emsample**) replacing the user name, password, URL and driver with the appropriate information for your database:

```
ConfigCollector.sl.rtvview.sql.sqldb=DIAGRAMS sa - jdbc:hsqldb:hsq://localhost:9099/
rtvdiagram org.hsqldb.jdbcDriver - false true
```

## Additional Displays

These displays present additional performance data.

This section includes:

- [“All Hosts Heatmap” on page 267](#)
- [“All Hosts Table” on page 268](#)
- [“All Hosts Grid” on page 271](#)

- “All Processes Table” on page 273
- “All Network Table” on page 275
- “All Storage Table” on page 277
- “Host Summary” on page 278
- “RTView Metrics Administration” on page 281

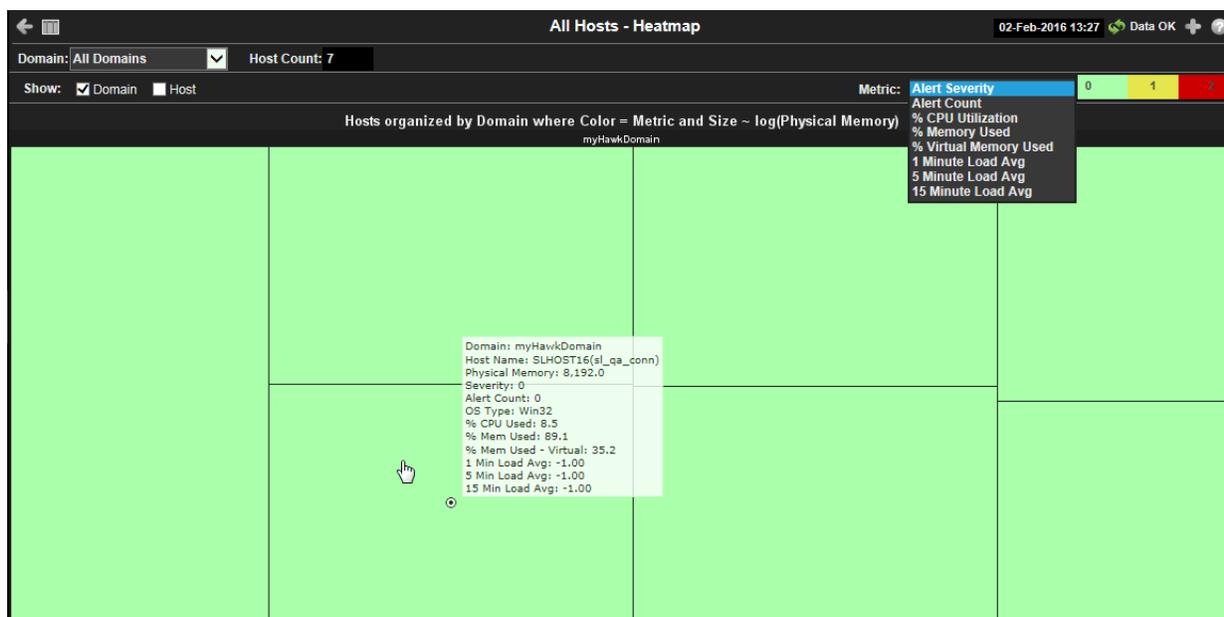
## All Hosts Heatmap

View the most critical alert states pertaining to your hosts. Use this display to quickly identify hosts with critical alerts.

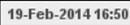
Each rectangle in the heatmap represents a host. The rectangle color indicates the most critical alert state associated with the host for the selected **Metric**. The rectangle size represents the amount of physical memory present on the host; a larger size is a larger value.

Choose a domain or **All Domains** from the **Domain** drop-down menu to filter data shown in the display. Choose a different metric to display from the **Metric** drop-down menu. Mouse over a rectangle to see additional metrics. By default, this display shows **Alert Severity**.

Drill-down and investigate a host by clicking a rectangle in the heatmap to view details in the “Host Summary” display.



**Title Bar:** Indicators and functionality might include the following:


 Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

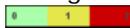
 Open the online help page for this display.

**Filter By:**

The display might include these filtering options:

**Domain:** Choose a domain to show data for in the display. Domain names are specified when your administrator configures your Data Server to collect Hawk data, and applies to all host data collected from Hawk by that Data Server.

**Fields and Data:**

|                              |  |
|------------------------------|--|
| <b>Host Count:</b>           | The total number of hosts currently shown in the display.  |
| <b>Show:</b>                 | <p><b>Domain</b> When selected, includes the Domain name in the display.</p> <p><b>Host</b> When selected, includes the Host name in the display.</p>  |
| <b>Metric</b>                | Choose a metric to view in the display.  |
| <b>Alert Severity</b>        | <p>The maximum level of alerts in the heatmap rectangle. Values range from <b>0</b> - <b>2</b>, as indicated in the color gradient  bar, where <b>2</b> is the highest Alert Severity:</p> <ul style="list-style-type: none"> <li> Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.</li> <li> Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.</li> <li> Green indicates that no metrics have exceeded their alert thresholds.</li> </ul> |
| <b>Alert Count</b>           | The total number of critical and warning alerts in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average alert count.  |
| <b>% CPU Utilization</b>     | The percent of CPU used in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.   |
| <b>% Memory Used</b>         | The percent of memory used in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.  |
| <b>% Virtual Memory Used</b> | The percent of virtual memory used in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.  |
| <b>1 Minute Load Avg</b>     | The average number of processes running over 1 minute.   |
| <b>5 Minute Load Avg</b>     | The average number of processes running over 5 minutes.  |
| <b>15 Minute Load Avg</b>    | The average number of processes running over 15 minutes.   |

**All Hosts Table**

View host utilization data in a tabular format. Use this display to see all available data for this View.

Each row in the table is a different host. Choose a domain or **All Domains** from the **Domain** drop-down menu. Click a column header to sort column data in numerical or alphabetical order. Drill-down and investigate by clicking a row to view details for the selected application in the “[Host Summary](#)” display.

| All Hosts - Table View |                      |                          |                                      |             |            |            |              |            |             |              |               |           |            |             |            |
|------------------------|----------------------|--------------------------|--------------------------------------|-------------|------------|------------|--------------|------------|-------------|--------------|---------------|-----------|------------|-------------|------------|
| Domain: All Domains    |                      |                          |                                      |             |            |            |              |            |             |              |               |           |            |             |            |
| Host Count: 7          |                      |                          |                                      |             |            |            |              |            |             |              |               |           |            |             |            |
| Host CPU Stats         |                      |                          |                                      |             |            |            |              |            |             |              |               |           |            |             |            |
| Domain                 | Host Name            | Expired                  | Severity                             | Alert Count | Uptime     | % CPU User | % CPU System | % CPU Idle | Memory Used | Memory Total | Memory Used % | Swap Used | Swap Total | Swap Used % | Virtual Us |
| myHawkDomain           | SLHOST16(sl_amx)     | <input type="checkbox"/> | <span style="color: green;">●</span> | 0           | 120d 02:24 | 8.27       | -1.00        | 91.73      | 7,309       | 8,192        | 89.2          | 1,581     | 8,192      | 19.3        |            |
| myHawkDomain           | SLHOST16(sl_qa_conn) | <input type="checkbox"/> | <span style="color: green;">●</span> | 0           | 120d 02:21 | 8.37       | -1.00        | 91.63      | 7,306       | 8,192        | 89.2          | 1,581     | 8,192      | 19.3        |            |
| myHawkDomain           | SLHOST17(sl_amx)     | <input type="checkbox"/> | <span style="color: green;">●</span> | 0           | 120d 02:17 | 0.71       | -1.00        | 99.29      | 4,875       | 8,192        | 59.5          | 180       | 8,192      | 2.2         |            |
| myHawkDomain           | SLHOST21(dev)        | <input type="checkbox"/> | <span style="color: green;">●</span> | 0           | 120d 04:40 | 3.03       | -1.00        | 96.97      | 14,339      | 16,384       | 87.5          | 2,975     | 16,384     | 18.2        |            |
| myHawkDomain           | SLHOST22(sl_qa_conn) | <input type="checkbox"/> | <span style="color: green;">●</span> | 0           | 54d 02:41  | 0.00       | 0.00         | 100.00     | 2,578       | 7,824        | 32.9          | 0         | 9,999      | 0.0         |            |
| myHawkDomain           | SLHOST5(domain5)     | <input type="checkbox"/> | <span style="color: green;">●</span> | 0           | 0d 13:34   | 17.19      | -1.00        | 82.81      | 2,313       | 4,096        | 56.5          | 26        | 4,096      | 0.6         |            |
| myHawkDomain           | SLHOST6(domain6)     | <input type="checkbox"/> | <span style="color: green;">●</span> | 0           | 0d 13:36   | 1.87       | -1.00        | 98.13      | 2,137       | 3,072        | 69.6          | 27        | 3,072      | 0.9         |            |

**Title Bar:** Indicators and functionality might include the following:

Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.  
 Open the **Alert Views - RTView Alerts Table** display.  
 Open an instance of this display in a new window.  
 Open the online help page for this display.

### Filter By:

The display might include these filtering options:

**Domain:** Choose a domain to show data for in the display.

### Fields and Data:

**Host Count:** The total number of hosts in the table.

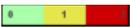
### Table:

Each row in the table is a different host.

**Domain** The domain in which the host resides. Domain names are specified when your administrator configures your Data Server to collect Hawk data, and applies to all host data collected from Hawk by that Data Server.

**Host Name** The name of the host.

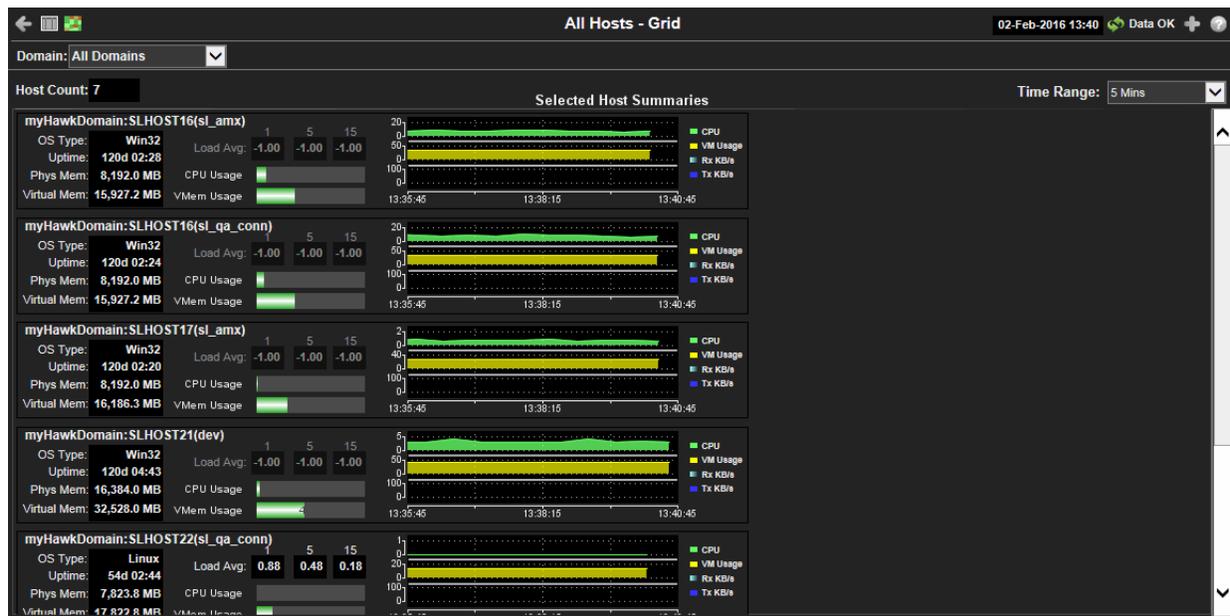
**Expired** When checked, data has not been received from this host in the specified amount of time. The host will be removed from the Monitor in the specified amount of time. The default setting is **60** seconds.

|                               |  |
|-------------------------------|--|
| <b>Severity</b>               | The maximum level of alerts in the row. Values range from <b>0</b> - <b>2</b> , as indicated in the color gradient  bar, where <b>2</b> is the highest Alert Severity:<br><ul style="list-style-type: none"> <li><span style="color: red;">●</span> Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.</li> <li><span style="color: yellow;">●</span> Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.</li> <li><span style="color: green;">●</span> Green indicates that no metrics exceeded their alert thresholds.</li> </ul> |
| <b>Alert Count</b>            | The total number of active alerts associated with the host.  |
| <b>Uptime</b>                 | The amount of time the application has been running, in the following format:<br><b>0d 00:00 &lt;days&gt;d &lt;hours&gt;:&lt;minutes&gt;:&lt;seconds&gt;</b><br>For example: <b>10d 08:41:38</b>   |
| <b>% CPU Used</b>             | The amount of CPU used, in percent.  |
| <b>% CPU System</b>           | The amount of CPU used, in percent.  |
| <b>% CPU Idle</b>             | The amount of CPU not used, in percent.  |
| <b>Memory Used</b>            | The amount of memory, in megabytes, currently used.  |
| <b>Memory Total</b>           | The total amount of memory, in megabytes.  |
| <b>Memory Used%</b>           | The amount of memory used, in percent.   |
| <b>Swap Used</b>              | The amount of swap space, in megabytes, currently used.  |
| <b>Swap Total</b>             | The total amount of swap space, in megabytes.  |
| <b>Swap Used %</b>            | The amount of swap space used, in percent.   |
| <b>Virtual Mem(ory) Used</b>  | The amount of virtual memory currently used, in megabytes.   |
| <b>Virtual Mem(ory) Total</b> | The total amount of virtual memory, in megabytes.  |
| <b>Virtual Mem(ory) Used%</b> | The amount of virtual memory used, in percent.   |
| <b>Load Avg 1 Minute</b>      | The average number of processes running over 1 minute.   |
| <b>Load Avg 5 Minute</b>      | The average number of processes running over 5 minutes.  |
| <b>Load Avg 15 Minute</b>     | The average number of processes running over 15 minutes.   |
| <b>OS Type</b>                | The type of operating system (for example, Linux, HP-UX, Windows 2003).  |
| <b>OS Description</b>         | The name of the operating system.  |
| <b>OS Version</b>             | The operating system version.  |
| <b>CPU Model</b>              | The CPU model.   |
| <b># CPUs</b>                 | The number of node connections.  |

|                    |  |
|--------------------|--|
| <b>Agent Type</b>  | The type of agent from which the data was collected: <b>HOSTMON</b> (a SL Host Agent), <b>Hawk</b> , <b>WMI</b> or <b>SNMP</b> . |
| <b>Agent Class</b> | The specific version of the agent software.  |
| <b>Source</b>      | The name of the SL Data Server where the host data was collected.  |
| <b>Timestamp</b>   | The date and time the data was last updated.   |

## All Hosts Grid

This grid View provides a list view of utilization metrics for all hosts being monitored. Use this display to track and view in parallel the general performance of your hosts. Drill down and investigate by clicking a host to view details in the “Host Summary” display.



**Title Bar:** Indicators and functionality might include the following:

- Open the previous and upper display.
- Navigate to displays commonly accessed from this display.
- 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

- Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

### Filter By:

The display might include these filtering options:

|                   |   |
|-------------------|---|
| <b>Domain:</b>    | Choose a domain to show data for in the display. Domain names are specified when your administrator configures your Data Server to collect Hawk data, and applies to all host data collected from Hawk by that Data Server. |
| <b>Host Count</b> | Displays the number of hosts (including expired hosts) listed in the display.   |

**Time Range:** Choose a time range to show data for in the display. Options are: **All Data, 2 Mins, 5 Mins, 20 Mins, 1 Hour, 2 Hours, 4 Hours, 8 Hours, 24 Hours, 2 Days and 7 Days.**

### Grid

Utilization data shown for hosts in the selected domain.

|                    |  |  |
|--------------------|--|--|
| <b>Host Name</b>   | The name of the host.  |  |
| <b>OS Type</b>     | The name of the operating system.  |  |
| <b>Uptime</b>      | The amount of time (days, hours, seconds) the operating system has been running. |  |
| <b>Phys Mem</b>    | The amount of physical memory used, in megabytes.                                |  |
| <b>Virtual Mem</b> | The amount of virtual memory used, in megabytes.                                 |  |
| <b>Load Avg</b>    | <b>1</b>   | The average number of processes running over 1 minute.   |
|                    | <b>5</b>   | The average number of processes running over 5 minutes.  |
|                    | <b>15</b>  | The average number of processes running over 15 minutes. |
| <b>CPU Usage</b>   | The bar graph shows the amount of CPU currently used.                            |  |
| <b>VMem Usage</b>  | The bar graph shows the amount of virtual memory currently used.                 |  |

### Trend Graphs

|                 |  |
|-----------------|--|
| <b>CPU</b>      | Traces the amount of CPU currently used.                       |
| <b>VM Usage</b> | Traces the amount of virtual memory currently used.            |
| <b>Rx KB/s</b>  | Traces the amount data currently being received per second.    |
| <b>Tx KB/s</b>  | Traces the amount data currently being transmitted per second. |

## All Processes Table

View host utilization data in a tabular format. Use this display to see all available data for this View. Each row in the table is a different host. Choose a domain or **All Domains** and a host or **All Hosts** from the drop-down menus. Click a column header to sort column data in numerical or alphabetical order. Drill-down and investigate by clicking a row to view details for the selected application in the “Host Summary” display.

| Domain    | Host Name        | Expired | PID  | User          | Process Name         | CPU % | Start Time           | Memory Used | Memory Resident | Memory Shared | Page Fault |
|-----------|------------------|---------|------|---------------|----------------------|-------|----------------------|-------------|-----------------|---------------|------------|
| myHawkDon | SLHOST16(sl_axm) |         | 4    | <ACCESS DENIE | System               | 0.02  | 01-May-2014 23:18:11 | 17,056      | -1              | -1            | 465,4      |
| myHawkDon | SLHOST16(sl_axm) |         | 376  | NT AUTHORITY\ | smss.exe             | 0.00  | 01-May-2014 23:18:11 | 504         | -1              | -1            | 1,3        |
| myHawkDon | SLHOST16(sl_axm) |         | 540  | NT AUTHORITY\ | csrss.exe            | 0.00  | 01-May-2014 23:18:16 | 2,472       | -1              | -1            | 12,089     |
| myHawkDon | SLHOST16(sl_axm) |         | 628  | NT AUTHORITY\ | wininit.exe          | 0.00  | 01-May-2014 23:18:17 | 172         | -1              | -1            | 1,9        |
| myHawkDon | SLHOST16(sl_axm) |         | 648  | NT AUTHORITY\ | csrss.exe            | 0.00  | 01-May-2014 23:18:17 | 216         | -1              | -1            | 11,3       |
| myHawkDon | SLHOST16(sl_axm) |         | 692  | NT AUTHORITY\ | services.exe         | 0.01  | 01-May-2014 23:18:17 | 5,736       | -1              | -1            | 14,404     |
| myHawkDon | SLHOST16(sl_axm) |         | 708  | NT AUTHORITY\ | lsass.exe            | 0.02  | 01-May-2014 23:18:17 | 9,576       | -1              | -1            | 1,273,1    |
| myHawkDon | SLHOST16(sl_axm) |         | 716  | NT AUTHORITY\ | lsm.exe              | 0.00  | 01-May-2014 23:18:17 | 3,500       | -1              | -1            | 1,030,1    |
| myHawkDon | SLHOST16(sl_axm) |         | 800  | NT AUTHORITY\ | winlogon.exe         | 0.00  | 01-May-2014 23:18:17 | 172         | -1              | -1            | 3,6        |
| myHawkDon | SLHOST16(sl_axm) |         | 864  | <ACCESS DENIE | svchost.exe          | 0.00  | 01-May-2014 23:18:20 | 3,660       | -1              | -1            | 1,496,1    |
| myHawkDon | SLHOST16(sl_axm) |         | 416  | <ACCESS DENIE | svchost.exe          | 0.00  | 01-May-2014 23:18:20 | 4,376       | -1              | -1            | 2,872,1    |
| myHawkDon | SLHOST16(sl_axm) |         | 472  | NT AUTHORITY\ | LagomUI.exe          | 0.00  | 01-May-2014 23:18:21 | 2,960       | -1              | -1            | 164,7      |
| myHawkDon | SLHOST16(sl_axm) |         | 640  | <ACCESS DENIE | svchost.exe          | 0.00  | 01-May-2014 23:18:21 | 13,756      | -1              | -1            | 1,111,64   |
| myHawkDon | SLHOST16(sl_axm) |         | 548  | NT AUTHORITY\ | svchost.exe          | 0.05  | 01-May-2014 23:18:21 | 121,608     | -1              | -1            | 1,111,2    |
| myHawkDon | SLHOST16(sl_axm) |         | 1048 | NT AUTHORITY\ | svchost.exe          | 0.28  | 01-May-2014 23:18:21 | 26,108      | -1              | -1            | 1,605,1    |
| myHawkDon | SLHOST16(sl_axm) |         | 1220 | <ACCESS DENIE | svchost.exe          | 0.00  | 01-May-2014 23:18:22 | 7,336       | -1              | -1            | 2,716,1    |
| myHawkDon | SLHOST16(sl_axm) |         | 1316 | <ACCESS DENIE | svchost.exe          | 0.00  | 01-May-2014 23:18:22 | 13,452      | -1              | -1            | 4,123,1    |
| myHawkDon | SLHOST16(sl_axm) |         | 1548 | <ACCESS DENIE | spoolsv.exe          | 0.00  | 01-May-2014 23:18:23 | 3,336       | -1              | -1            | 434,0      |
| myHawkDon | SLHOST16(sl_axm) |         | 1576 | <ACCESS DENIE | svchost.exe          | 0.00  | 01-May-2014 23:18:23 | 4,268       | -1              | -1            | 3,881,1    |
| myHawkDon | SLHOST16(sl_axm) |         | 1796 | NT AUTHORITY\ | HeciServer.exe       | 0.00  | 01-May-2014 23:18:24 | 776         | -1              | -1            | 12,6       |
| myHawkDon | SLHOST16(sl_axm) |         | 1820 | NT AUTHORITY\ | IProsetMonitor.exe   | 0.00  | 01-May-2014 23:18:24 | 756         | -1              | -1            | 10,3       |
| myHawkDon | SLHOST16(sl_axm) |         | 2700 | <ACCESS DENIE | svchost.exe          | 0.00  | 01-May-2014 23:19:05 | 780         | -1              | -1            | 8,8        |
| myHawkDon | SLHOST16(sl_axm) |         | 684  | <ACCESS DENIE | svchost.exe          | 0.00  | 01-May-2014 23:21:06 | 2,468       | -1              | -1            | 2,909,1    |
| myHawkDon | SLHOST16(sl_axm) |         | 2944 | NT AUTHORITY\ | IAStorDataMgrSvc.exe | 0.00  | 01-May-2014 23:21:08 | 5,836       | -1              | -1            | 1,102,1    |
| myHawkDon | SLHOST16(sl_axm) |         | 2680 | NT AUTHORITY\ | jhi_service.exe      | 0.00  | 01-May-2014 23:21:19 | 980         | -1              | -1            | 16,6       |
| myHawkDon | SLHOST16(sl_axm) |         | 4248 | NT AUTHORITY\ | LSM.exe              | 0.00  | 01-May-2014 23:21:21 | 1,724       | -1              | -1            | 1,52,0     |

**Title Bar:** Indicators and functionality might include the following:

Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

Open the online help page for this display.

### Filter By:

The display might include these filtering options:

**Domain:** Choose a domain to show data for in the display. Domain names are specified when your administrator configures your Data Server to collect Hawk data, and applies to all host data collected from Hawk by that Data Server.

**Host:** Choose a host to show data for in the display.

### Fields and Data:

**Process Count:** The total number of processes in the table.

**Table:** Each row in the table is a different host.

**Domain** The domain in which the host resides.

|                         |  |
|-------------------------|--|
| <b>Host Name</b>        | The name of the host.  |
| <b>Expired</b>          | When checked, data has not been received from this host in the specified amount of time. The host will be removed from the Monitor in the specified amount of time. The default setting is 60 seconds.     |
| <b>PID</b>              | The process ID.  |
| <b>User</b>             | The user name.   |
| <b>Process Name</b>     | The name of the process.   |
| <b>CPU%</b>             | The amount of CPU used, in percent.  |
| <b>Start Time</b>       | The host start time, in the following format:<br><b>0d 00:00 &lt;days&gt;d &lt;hours&gt;:&lt;minutes&gt;:&lt;seconds&gt;</b><br>For example: <b>10d 08:41:38</b>   |
| <b>Memory Used</b>      | The amount of memory currently used, in megabytes.   |
| <b>Memory Resident</b>  | The amount of memory currently used by the process that resides in physical memory and is not paged out. Set to <b>-1</b> when the data is not available from an agent. (Hawk does not provide this data.) |
| <b>Memory Shared</b>    | The amount of physical memory that is shared with other processes. Set to <b>-1</b> when the data is not available from an agent. (Hawk does not provide this data.)                                       |
| <b>Page Faults</b>      | The number of page faults.   |
| <b>Page Faults /sec</b> | The number of page faults per second.  |
| <b>Timestamp</b>        | The date and time the data was last updated.   |

## All Network Table

View network interface data in a tabular format. Each row in the table is a different network interface card (NIC). Choose a domain or **All Domains** and a host or **All Hosts** from the drop-down menus. Click a column header to sort column data in numerical or alphabetical order.

| Interface Count:4 |            | Host Network Interfaces  |         |                |               |                  |
|-------------------|------------|--------------------------|---------|----------------|---------------|------------------|
| Domain            | Host Name  | Expired                  | if Name | Inet Addr      | Mask          | Flag             |
| QATB              | TESTBED-26 | <input type="checkbox"/> | lo      | 127.0.0.1      | 255.0.0.0     | UP LOOPBACK RUNN |
| QATB              | TESTBED-26 | <input type="checkbox"/> | enp0s3  | 192.168.200.76 | 255.255.255.0 | UP BROADCAST RUN |
| QATB              | TESTBED-34 | <input type="checkbox"/> | lo      | 127.0.0.1      | 255.0.0.0     | UP LOOPBACK RUNN |
| QATB              | TESTBED-34 | <input type="checkbox"/> | ens32   | 192.168.200.34 | 255.255.255.0 | UP BROADCAST RUN |

**Title Bar:** Indicators and functionality might include the following:

Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

Open the online help page for this display.

### Filter By:

The display might include these filtering options:

**Domain:** Choose a domain for which to show NIC data. Domain names are specified when your administrator configures your Data Server.

**Host:** Choose a host for which to show NIC data.

### Fields and Data:

**Interface Count:** The total number of NICs in the table.

**Table:**

Each row in the table is a different NIC.

|                       |  |
|-----------------------|--|
| <b>Domain</b>         | The domain in which the NIC resides.   |
| <b>Host Name</b>      | The name of the NIC in which the network interface resides.  |
| <b>Expired</b>        | When checked, data has not been received from this NIC in the specified amount of time. The NIC will be removed from the Monitor in the specified amount of time. The default setting is 60 seconds. |
| <b>if Name</b>        | The name of the NIC.   |
| <b>Inet Addr</b>      | The NIC IP address.  |
| <b>Mask</b>           | The NIC subnet mask IP address.  |
| <b>Flags</b>          | Descriptive text for NIC flag.   |
| <b>MTU</b>            | The the largest size packet or frame for the NIC.  |
| <b>Metric</b>         | Indicates...   |
| <b>Point To Point</b> | Indicates whether the NIC is a point to point configuration.   |
| <b>Broadcast</b>      | Indicates whether the NIC is a broadcast configuration.  |
| <b>rxKBytes</b>       | The total number of kilobytes received by the NIC.   |
| <b>rxPackets</b>      | The total number of packets received by the NIC.   |
| <b>rxDropped</b>      | The total number of received packets that were dropped by the NIC.   |
| <b>rxErrors</b>       | The total number of received errors on the NIC.  |
| <b>rxOverruns</b>     | The total number of received overruns on the NIC.  |
| <b>rxFrame</b>        | The total number of received frames on the NIC.  |
| <b>txKBytes</b>       | The total number of kilobytes transmitted by the NIC.  |
| <b>txPackets</b>      | The total number of packets transmitted by the NIC.  |
| <b>txDropped</b>      | The total number of transmitted packets that were dropped by the NIC.  |
| <b>txErrors</b>       | The total number of transmission errors for the NIC.   |
| <b>txOverruns</b>     | The total number of transmission overruns for the NIC.   |
| <b>txCollisions</b>   | The total number of transmission collisions for the NIC.   |
| <b>txCarrier</b>      | The total number of transmission carrier errors for the NIC.   |
| <b>MAC Address</b>    | The NIC MAC address.   |
| <b>Rx KB/s</b>        | The number of kilobytes received per second.   |
| <b>Tx KB/s</b>        | The number of kilobytes transmitted per second.  |
| <b>Rx Packets/s</b>   | The number of packets received per second.   |
| <b>Tx Packets/s</b>   | The number of packets transmitted per second.  |
| <b>Timestamp</b>      | The date and time the data was last updated.   |

## All Storage Table

View storage data in a tabular format. Each row in the table is a different storage partition. Choose a domain or **All Domains** and a host or **All Hosts** from the drop-down menus. Click a column header to sort column data in numerical or alphabetical order.

| Domain | Host Name   | Expired                  | File             | %    | Total  | Used   | Available | Mount Point | Typ    |
|--------|-------------|--------------------------|------------------|------|--------|--------|-----------|-------------|--------|
| QATB   | WIN-8-CLONE | <input type="checkbox"/> | C:\              | 86.0 | 59.90  | 51.09  | 8.81      | C:\         | NTFS/c |
| QATB   | WIN-8-CLONE | <input type="checkbox"/> | \\192.168.200.70 | 84.0 | 452.43 | 377.54 | 74.89     | Z:\         | NTFS/r |

**Title Bar:** Indicators and functionality might include the following:

Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

Open the online help page for this display.

### Filter By:

The display might include these filtering options:

**Domain:** Choose a domain or **All Domains** to show data for in the display. Domain names are specified when your administrator configures your Data Server to collect Hawk data, and applies to all host data collected from Hawk by that Data Server.

**Host:** Choose a host or **All Hosts** to show data for in the display.

### Fields and Data:

**Storage Count:** The total number of storage partitions in the table.

**Table:**  
Each row in the table is a different host.

- Domain** The domain in which the host resides.
- Host Name** The name of the host in which the storage partition resides.
- Expired** When checked, data has not been received from this host in the specified amount of time. The host will be removed from the Monitor in the specified amount of time. The default setting is 60 seconds.
- File System** The storage partition location.
- % Used** The amount of storage partition used, in percent.
- Total Size (GB)** The storage partition size, in gigabytes.
- Used (GB)** The amount of storage partition used, in gigabytes.
- Available (GB)** The amount of storage partition available, in gigabytes.
- Mount Point** The storage partition parent directory.
- Type** The file system type.
- Timestamp** The date and time the data was last updated.

## Host Summary

This table provides a list view of utilization metrics for a single server.



**Title Bar:** Indicators and functionality might include the following:

  Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

### Filter By:

The display might include these filtering options:

|                    |   |
|--------------------|---|
| <b>Domain:</b>     | Choose a domain to show data for in the display. Domain names are specified when your administrator configures your Data Server to collect Hawk data, and applies to all host data collected from Hawk by that Data Server. |
| <b>Host:</b>       | Choose a host to show data for in the display.  |
| <b>Expired</b>     | When checked, data has not been received from this host in the specified amount of time. The host will be removed from the Monitor in the specified amount of time. The default setting is <b>60</b> seconds.               |
| <b>Last Update</b> | The time the display was last updated.  |

### Fields and Data:

Data describes the selected host except where noted.

|                        |  |  |
|------------------------|--|--|
| <b>OS:</b>             | The operating system.                                |  |
| <b>Version:</b>        | The operating system version.                        |  |
| <b>Uptime:</b>         | The number of days, hours and minutes since started. |  |
|                        | <b>#CPUs</b>   | The number of node connections.                        |
| <b>CPU Type:</b>       | The type of CPU.                                     |  |
| <b>%CPU</b>            | <b>User</b>  | The amount of CPU used by the user, in percent.        |
|                        | <b>System</b>  | The amount of CPU used by the system, in percent.      |
|                        | <b>Idle</b>  | The amount of CPU that is not used, in percent.        |
| <b>Physical Memory</b> | <b>Used</b>  | The amount of physical memory used, in kilobytes.      |
|                        | <b>Total(MB)</b>                                     | The amount of physical memory available, in kilobytes. |
|                        | <b>%Used</b>   | The amount of physical memory used, in percent.        |
| <b>Virtual Memory</b>  | <b>Used</b>  | The amount of virtual memory used, in kilobytes.       |
|                        | <b>Total(MB)</b>                                     | The amount of virtual memory available, in kilobytes.  |
|                        | <b>%Used</b>   | The amount of virtual memory used, in percent.         |
| <b>Processes</b>       | The number of processes running.                     |  |
| <b>Load Avg:</b>       | <b>1 Min</b>   | The average number of processes running over 1 minute. |

|                |                    |   |
|----------------|--------------------|---|
|                | <b>5 Min</b>       | The average number of processes running over 5 minutes.   |
|                | <b>15 Min</b>      | The average number of processes running over 15 minutes.  |
| <b>Storage</b> | <b>File System</b> | The amount of storage space used for the file system, in kilobytes.                                 |
|                | <b>Mount Point</b> | The name used by the operating system to mount and provide an entry point to other storage volumes. |
|                | <b>%Used</b>       | The amount of storage space used, in percent.   |
| <b>Network</b> | <b>ifName</b>      | The name assigned to the network interface by the operating system.                                 |
|                | <b>RxKB/s</b>      | The amount of network data received per second, in kilobytes.                                       |
|                | <b>TxKB/s</b>      | The amount of network data transmitted per second, in kilobytes.                                    |

### Trend Graphs

Traces metrics for the selected host.

- **CPU% Used:** The amount of CPU used, in percent.
- **Mem Total:** The amount of available memory, in kilobytes.
- **Mem Used:** The amount of memory used, in kilobytes.
- **Net Rx KB/s:** The amount of network data received per second, in kilobytes.
- **Net Tx KB/s:** The amount of network data transmitted per second, in kilobytes.

**Log Scale** Select to enable a logarithmic scale. Use **Log Scale** to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. **Log Scale** makes data on both scales visible by applying logarithmic values rather than actual values to the data.

**Base at Zero** Select to use zero (0) as the Y axis minimum for all graph traces.

**Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar

By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

## RTView Metrics Administration

Verify when agent metrics were last queried by the Monitor. The data in this display is predominantly used for debugging by Technical Support.

| AgentName | AgentClass       | Client ID | Total Rows Rcvd | Delta Rows rcvd | Rows Rcvd / sec | Last Receive Time    |
|-----------|------------------|-----------|-----------------|-----------------|-----------------|----------------------|
| slapm     | SL-RTVMGR-Agent  | 30002     | 43,412          | 0               | 0.0             | 10-Nov-2014 16:31:42 |
| slapm     | SL-HOSTMON-Agent | 30017     | 53,750          | 35              | 8.6             | 10-Nov-2014 16:31:43 |
| slapm     | SL-BWMON-Agent   | 30018     | 423,741         | 8               | 4.0             | 10-Nov-2014 16:31:43 |
| slsl4-64  | SL-HOSTMON-Agent | 30005     | 68,536          | 0               | 0.0             | 10-Nov-2014 16:31:37 |
| slsl4-64  | SL-BWMON-Agent   | 30006     | 91,694          | 0               | 0.0             | 10-Nov-2014 16:31:35 |
| slsl4-64  | SL-RTVMGR-Agent  | 30003     | 41,913          | 4               | 1.9             | 10-Nov-2014 16:31:43 |
| slhost6   | SL-HOSTMON-Agent | 30026     | 23,418          | 0               | 0.0             | 10-Nov-2014 16:31:40 |
| slhost6   | SL-RTVMGR-Agent  | 30027     | 26,933          | 4               | 2.0             | 10-Nov-2014 16:31:42 |
| slhost6   | SL-BWMON-Agent   | 30032     | 26,321          | 14              | 2.3             | 10-Nov-2014 16:31:44 |
| slhpux11  | SL-BWMON-Agent   | 30012     | 34,363          | 0               | 0.0             | 10-Nov-2014 16:31:42 |
| slhpux11  | SL-HOSTMON-Agent | 30010     | 64,394          | 0               | 0.0             | 10-Nov-2014 16:31:42 |
| slhpux11  | SL-RTVMGR-Agent  | 30011     | 41,820          | 64              | 15.4            | 10-Nov-2014 16:31:44 |
| slvmrh2   | SL-BWMON-Agent   | 30004     | 7,874           | 0               | 0.0             | 10-Nov-2014 16:31:38 |
| slvmrh2   | SL-RTVMGR-Agent  | 30001     | 45,352          | 0               | 0.0             | 10-Nov-2014 16:31:40 |
| slvmrh2   | SL-HOSTMON-Agent | 30009     | 46,787          | 1               | 0.2             | 10-Nov-2014 16:31:44 |
| slvmware  | SL-BWMON-Agent   | 30013     | 6,085           | 0               | 0.0             | 10-Nov-2014 16:31:31 |
| slvmware  | SL-RTVMGR-Agent  | 30016     | 43,399          | 2               | 1.0             | 10-Nov-2014 16:31:43 |
| slvmware  | SL-HOSTMON-Agent | 30015     | 33,434          | 0               | 0.0             | 10-Nov-2014 16:31:31 |

**Title Bar:** Indicators and functionality might include the following:

Open the previous and upper display.

Navigate to displays commonly accessed from this display.

19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

Open the online help page for this display.

### Data Received from Remote Agents Table

|                          |   |
|--------------------------|---|
| <b>AgentName</b>         | Name of the agent.                          |
| <b>AgentClass</b>        | Class of the agent.                         |
| <b>Client ID</b>         | Unique client identifier.                   |
| <b>Total Rows Rcvd</b>   | Total number of rows of data received.      |
| <b>Rows Rcvd/sec</b>     | Number of rows of data received per second. |
| <b>Last Receive Time</b> | Last time data was received from the agent. |



## CHAPTER 6 Connector for Oracle Enterprise Manager

RTView Enterprise Monitor® uses Solution Packages to gather and process performance metrics from a wide variety of different technologies, including Oracle Enterprise Manager (OEM).

The Connector for Oracle Enterprise Manager (OEM) allows RTView Enterprise Monitor® to connect to existing deployments of OEM and collect performance data for databases and hosts (physical servers) that have been designated as OEM targets.

When paired with our Oracle Database and Host Monitor Solution Packages, these performance metrics are then stored in the RTView Enterprise Monitor caches and available for summary views detailing the health of your OEM managed hosts and databases, including drill down views, correlation with services and other technologies, historical analysis, capacity planning and alert management.

### **Extend OEM Value to Operations and Application Support Teams**

While OEM is most often used by Database and Oracle support teams for managing database deployments and monitoring, RTView Enterprise Monitor is used for Operations and Application Support teams, providing an end-to-end view of heterogeneous environments and how the health of multiple resources and supporting technologies affect the performance and availability of services and applications.

### **View Aggregated Host Information from OEM Managed Hosts**

RTView Enterprise Monitor can incorporate and normalize the host data, such as CPU and memory consumption, coming from disparate host monitoring solutions, including OEM for Oracle deployments, so that the physical resources of your entire organization can be viewed together and show how the health of these resources are affecting the performance of services or supporting technologies.

### **Display Database Alerts Most Useful to Operations and Application Support Teams**

RTView Enterprise Monitor allows Operations and Application Support staff to eliminate much of the “noise” found in most OEM environments by choosing only the alert events that indicate a situation that would directly affect the availability or performance of their services. For example, read or write rates that are too high, connection failures, deadlocks, or high space usage, which might immediately affect or endanger the performance of their services.

Once a situation has been identified within RTView Enterprise Monitor, users can then immediately see the associated services that soon may be affected and drill down to correlation and historical analysis screens which can identify the trends and potential failure points for the database..

See the **README.txt** file, located in the Connector root directory, for instructions.

See **README\_sysreq.txt** for the full system requirements for RTView®.



## CHAPTER 7 Solution Package for Amazon Web Services

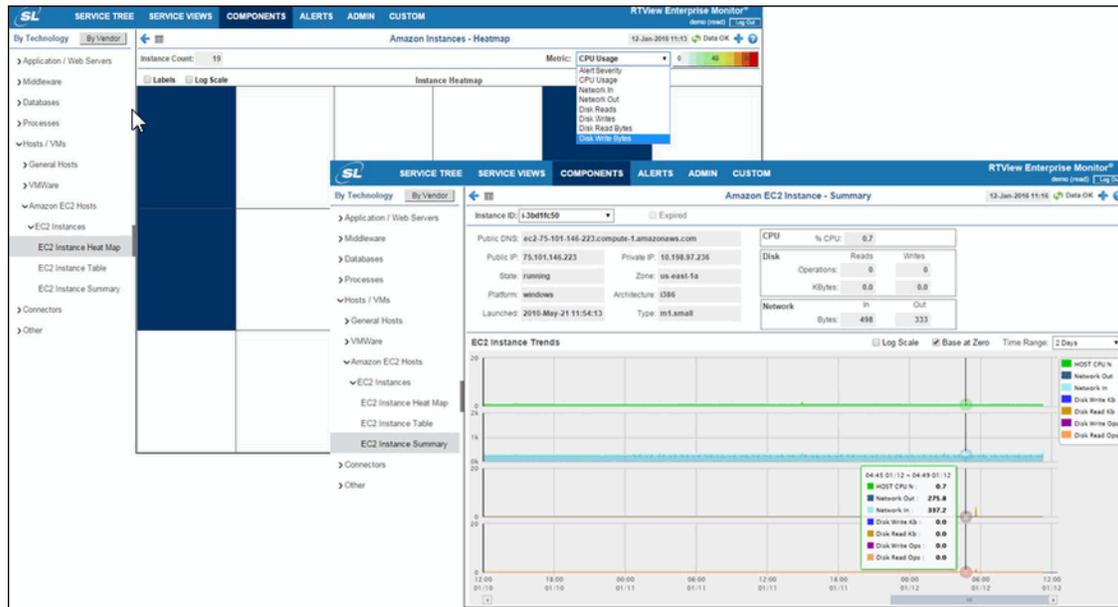
RTView Enterprise Monitor® is an end-to-end monitoring platform that uses Solution Packages to gather and process performance metrics from a wide variety of different technologies, including Amazon AWS (Amazon Web Services), to provide you with a holistic view of your Application Health State.

If you depend on applications and services that have components running on AWS, you are now able to monitor those AWS resources in real-time, automatically providing metrics such as CPU utilization, latency, and request counts. SL's RTView Enterprise Monitor is able to incorporate these metrics along with application performance data obtained from other sources, such as an application server or a message bus, into holistic, single-pane-of-glass views via a highly scalable and customizable platform.

Using the RTView Historian, Amazon AWS metrics are persisted to a relational database for trend analysis. Historical trends are then used to help define alert thresholds against Amazon AWS data which, when correlated with alerts from other application components through RTView's alert management system, can help users identify the source of performance problems more quickly.

With the Solution Package for Amazon AWS, you are able to drill down from a high level alert on a business service or application into the supporting Amazon AWS infrastructure to determine what is causing the alert and take corrective action. This service-centric approach makes it easy for application support teams to prioritize incidents based on the impact to the business.

Solution Packages include a data adapter, real-time memory cache, alert rule engine, pre-configured displays, and a data historian for persisting of real-time performance metrics.



See the **README.txt** file, located in the Solution Package root directory, for instructions about configuring and using the Solution Package.

See **README\_sysreq.txt** for the full system requirements for RTView®.

## CHAPTER 8 Solution Package for Docker

The Solution Package for Docker is an easy to configure and use monitoring system that gives you extensive visibility into the health and performance of your Docker Engines, Docker Containers, and the applications that rely on them.

The Monitor enables Docker users to continually assess and analyze the health and performance of their infrastructure and gain early warning of issues with historical context. It does so by aggregating and analyzing key performance metrics across all engines and containers and presents the results, in real time, through meaningful dashboards as data is collected.

Users also benefit from predefined dashboards and alerts that pin-point critical areas to monitor in most environments, and allow for customization of thresholds to let users fine-tune when alert events should be activated.

The Monitor also contains alert management features so that the life cycle of an alert event can be managed to proper resolution. All of these features allow you to know exactly what is going on at any given point, analyze the historical trends of the key metrics, and respond to issues before they can degrade service levels in high-volume, high-transaction environments.

This section describes how to install, configure, deploy, start the Solution Package for Docker, and read and use the Solution Package for Docker displays. See **README\_sysreq.txt** for the full system requirements for RTView®.

The Solution Package for Docker requires RTView Enterprise Monitor 3.5.

For Linux, these instructions require a Bourne-compatible shell.

The following instructions assume you are familiar with the start/stop scripts for RTView Enterprise Monitor.

As a general rule, SL recommends creating a top-level directory named **RTView** and installing RTView Enterprise Monitor under this directory. The following sections assume that you have created an **RTView** directory and installed RTView Enterprise Monitor under the **RTView** directory, thus resulting in the **RTView/rtvapm** directory structure.

This section assumes you created a project directory, **rtvapm\_projects**, when you installed RTView Enterprise Monitor. All examples (of configurations, property settings, command execution, and so forth) refer to the project directory. The Solution Package for Docker configuration is located in the **rtvapm\_projects/emsample/servers/miscmon**.

This section includes:

- [“Getting Started”](#)
- [“Docker Monitor Views/Displays”](#)

---

**Note:** See [“Configuration and Deployment”](#) for additional information on configuring RTView Enterprise Monitor and its Solution Packages.

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## Getting Started

Perform these instructions if you downloaded, installed and configured the *standard* RTView Enterprise Monitor (**rtvapm\_std\_<version>.zip**), rather than the *full* RTView Enterprise Monitor, and now wish to install the Solution Package for Solace.

**Note:** If you downloaded and installed the *full* RTView Enterprise Monitor (**rtvapm\_full\_<version>.zip**), refer to [Chapter 2, “Configuration and Deployment”](#) .

This section includes:

- [“Install & Setup”](#)
- [“Installing the Agent”](#)
- [“Set Up Your Data Connection”](#)
- [“Start the Monitor”](#)
- [“Stop the Monitor”](#)
- [“Troubleshooting”](#)

## Install & Setup

Prerequisite: RTView Enterprise Monitor 3.5 must be installed on your system.

1. Download the **rtvapm\_dockermon\_<version>.zip** archive to your local Windows/UNIX/Linux server.
2. Extract the files:
  - Windows:**  
Type `unzip rtvapm_dockermon_<version>.zip` and save the files to the **C:\RTView** directory.
  - UNIX/Linux:**  
Type `unzip -a rtvapm_dockermon_<version>.zip` and save the files to the **/opt/RTView** directory.
3. Verify that the **dockermon** directory was created under **rtvapm** and extracted correctly.
4. Verify you do not have an extra **rtvapm** directory containing **dockermon**. If you do, move these directories under the first **rtvapm** directory and delete the nested **rtvapm**.
5. Set **JAVA\_HOME** to the location of your Java installation and include the **bin** directory under **JAVA\_HOME** in the path.
  - Important:** This environment variable must be defined in UNIX/Linux systems for Tomcat to start successfully.

## Installing the Agent

RTView Docker Monitor relies on a customized version of the cAdvisor (Container Advisor) daemon that sends formatted JSON to an RTView data server. This daemon is provided as a Docker image. For more information on loading this image into Docker, see the **README** file in the **C:/RTView/rtvapm/dockermon/agents/cadvisor-rtview** directory.

Proceed to [“Set Up Your Data Connection,”](#) next.

## Set Up Your Data Connection

The default port used for data collection is defined in the **sample.properties** file. To modify the default, perform the following:

1. Open the **RTView/rtvapm\_projects/emsample/servers/miscmon/sample.properties** file and find the following section:

```
#####
# DOCKERMON sample properties
#####

#####
# DATA COLLECTOR PROPERTIES

# Configure your data connections here ...
# The examples shown below should be tailored to your environment.

# RTVHTTP OPTIONS SETTINGS
#
# Configure the listening port for the rtvhttp data adapter
#
# If multiple solution packs use the rtvhttp data adapter and are included the
# same data server (e.g. MISCMON)
# then be aware this property may occur multiple times in the same properties
# file,
# with the last occurrence to set the value taking precedence.

collector.sl.rtvview.rtvhttp.port=3275
```

2. Edit the following line and specify the Docker rtvhttp data adapter port to which you want to connect (to enable the Monitor to collect data):

```
collector.sl.rtvview.rtvhttp.port=3275
```

Proceed to [“Start the Monitor,”](#) next.

## Start the Monitor

Use the configuration defined in the **rtvservers.dat** file, which is located in the **RTView/rtvapm\_projects/emsample/servers** directory.

1. Initialize a command line window by executing the **rtvapm\_init** script. For example:  
**Windows**

Go to your RTView Enterprise Monitor installation directory and type:

**rtvapm\_init**

**UNIX**

Go to your Enterprise Monitor installation directory and type:

**./rtvapm\_init.sh**

2. Initialize the user project directory by executing the **rtvapm\_user\_init** script. For example:

**Windows**

Change directory (**cd**) to **RTView\rtvapm\_projects\emsample** and type:

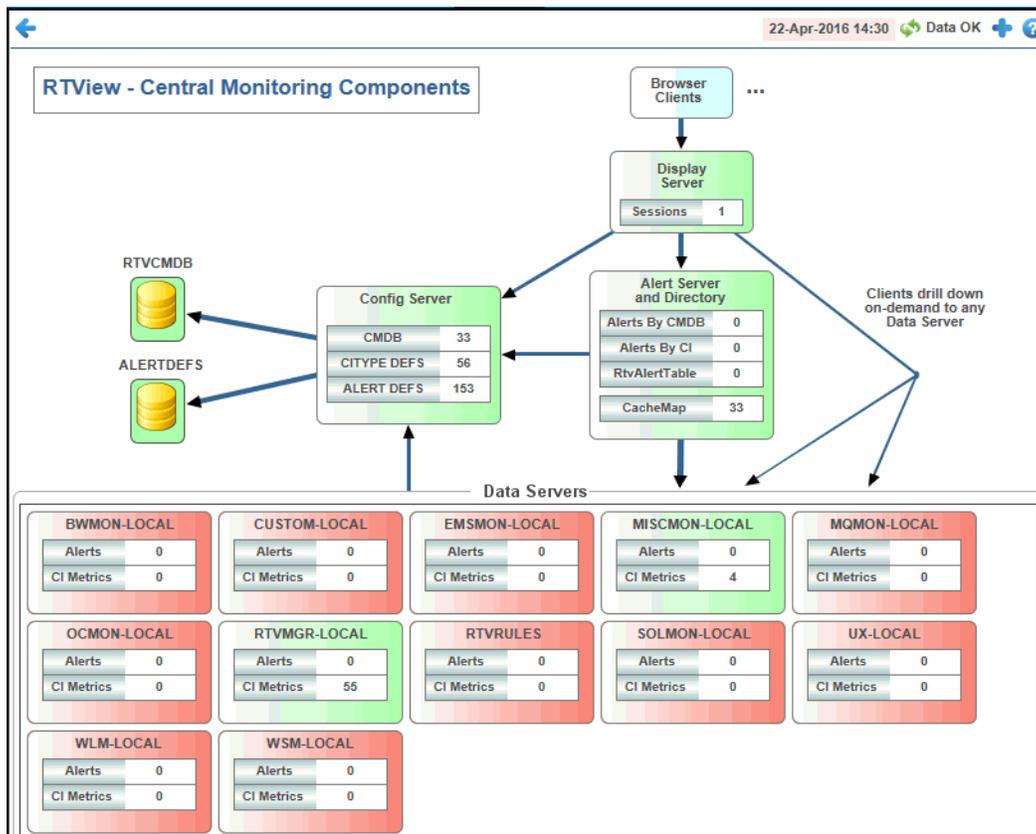
**rtvapm\_user\_init**

**UNIX**

Change directory (**cd**) to **RTView/rtvapm\_projects/emsample** and type:

**./rtvapm\_user\_init.sh**

3. Change directory (**cd**) to **rtvapm\_projects/emsample/servers**.
4. Execute **start\_rtv.sh central** (**start\_rtv central** for Windows) to start the RTView Enterprise Monitor main processes.
5. Execute **start\_rtv.sh rtmgr** (**start\_rtv rtmgr** for Windows) to start the RTView Manager.
6. Execute **start\_rtv.sh miscmon -properties:sample** (or **start\_rtv miscmon -properties:sample** for Windows) to start all components of the Solution Package for Docker.  
**Note:** Make sure that you have deployed the **emsample.war** file to your application server prior to attempting the next step. See the "Configure Central Servers" section in the RTView Enterprise Monitor document for more information.
7. Open a browser and go to your RTView Enterprise Monitor deployment.
8. Verify that the Data Server is collecting data by navigating to the **Admin** tab and clicking **Architecture->System Overview** in the navigation tree. The **RTView - Central Monitoring Components** display should open and the Data Server, named **MISCMON-LOCAL** (by default), should be green and the **CI Metrics** value should be greater than zero (**0**). For example:



You have completed the Quick Start.

For information about configuring RTView Enterprise Monitor and Solution Packages for your production environment, see the *RTView Enterprise Monitor® User's Guide* available at <http://www.sl.com/support/documentation/>.

You have completed the Quick Start.

## Stop the Monitor

**To stop the Solution Package for Docker (in RTView Enterprise Monitor):**

1. Change directory (**cd**) to **RTView/rtvapm\_projects/emsample/servers**.
2. Execute **stop\_rtv.sh miscmon** (or **stop\_rtv miscmon** for Windows) to stop all components of the Solution Package for Docker.

## Troubleshooting

This section includes:

- “Log Files” on page 292
- “JAVA\_HOME” on page 292
- “Permissions” on page 292
- “Network/DNS” on page 292
- “Verify Data Received from Data Server” on page 292
- “Verify Port Assignments” on page 292

### Log Files

When a Monitor component encounters an error, it outputs an error message to the console and/or to the corresponding log file. If you encounter issues, look for errors in the following log files:

- **dataserver.log**
- **historian.log**

which are located in the **rtvapm\_projects/emsample/servers/miscmon/logs** directory.

Logging is enabled by default. If you encounter issues with log files, verify the **logs** directory exists in the **rtvapm\_projects/emsample/servers/miscmon** directory.

### JAVA\_HOME

If the terminal window closes after executing the **start\_rtv** command, verify that **JAVA\_HOME** is set correctly.

### Permissions

If there are permissions-related errors in the response from the **start\_rtv** command, check ownership of the directory structure.

### Network/DNS

If any log file shows reference to an invalid URL, check your system's hosts file and confirm with your Network Administrator whether your access to the remote system is being blocked.

### Verify Data Received from Data Server

If you encounter problems collecting data, restart the Data Server, start the Monitor, and go to the **Admin** tab and select **Architecture > RTView Cache Tables** in the navigation tree. Select **MISCMON-LOCAL** from the **Data Server** drop down list, and search for all caches that start with “Doc.” Make sure these caches are populated (the number of **Rows** and **Columns** in the table should be greater than 0). If not, there might be a problem with the connection to the Data Server.

### Verify Port Assignments

If the Viewer, display server, or Historian fail to connect to the Data Server or they receive no data, verify the ports are assigned correctly in your properties files and restart the Data Server.

---

## Docker Monitor Views/Displays

The following Docker Monitor Views (and their associated displays) can be found under **Components** tab > **Processes** > **Docker Engines** once the Solution Package for Docker is installed.

This section contains the following:

- **“Engine View”**: The displays in this View allow you to view the current and historical metrics for all engines in a heatmap or tabular format for one or all hosts, or view the current and historical metrics for a single engine.
- **“Container View”**: The displays in this View allow you to view the current and historical metrics for all containers in a heatmap or tabular format for one or all hosts, or view the current and historical metrics for a single container.

### Engine View

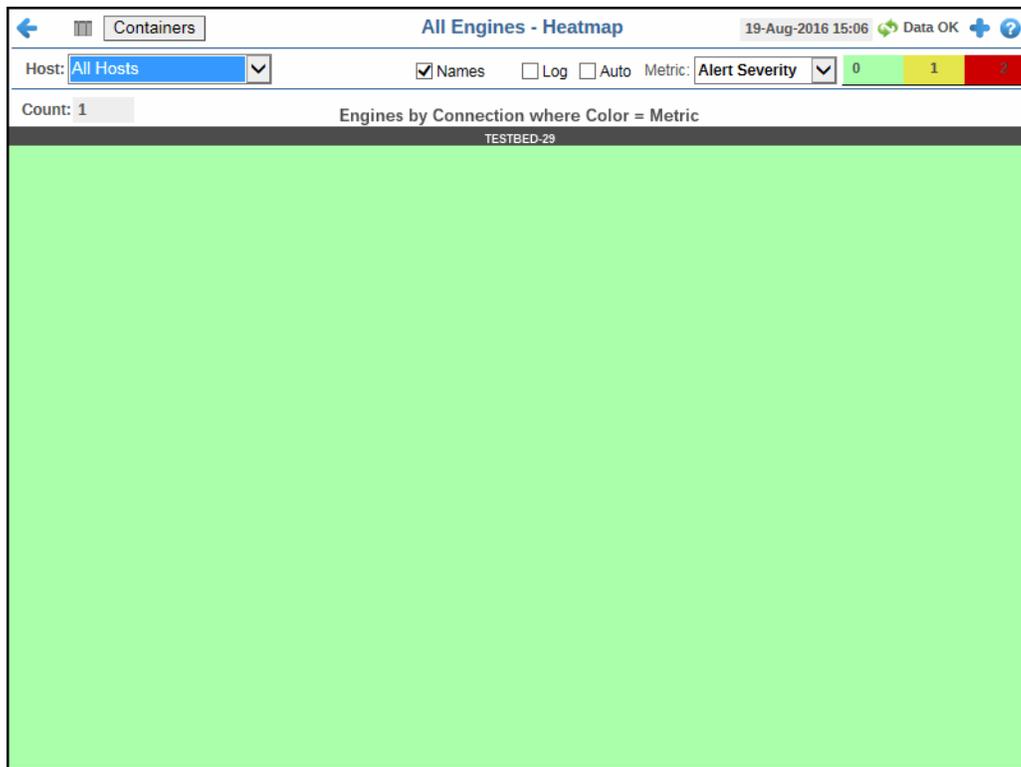
These displays provide detailed data for all engines or for a particular engine. Displays in this View are:

- **“Engines Heatmap”**: A heatmap view of all engines and their associated metrics.
- **“Engines Table”**: A tabular view of your engines and their associated metrics.
- **“Engine Summary”**: Provides additional details and a way to view trending data for a single engine.

### Engines Heatmap

This heatmap display provides an easy-to-view interface that allows you to quickly identify the current status of each of your engines for each available metric. You can view the engines in the heatmap based on the following metrics: the current alert severity, the current alert count, the percentage of CPU used, the amount of memory used, the total incoming bytes, and the total outgoing bytes. By default, this display shows the heatmap based on the **Alert Severity** metric.

You can use the **Names** check-box  to include or exclude labels in the heatmap, and you can mouse over a rectangle to see additional metrics for an engine. Clicking one of the rectangles in the heatmap opens the **“Engine Summary”** display, which allows you to see additional details for the selected engine.



**Title Bar:** Indicators and functionality might include the following:

Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

Open the online help page for this display.

### Fields and Data:

- |              |  |
|--------------|--|
| <b>Host</b>  | Select the host for which you want to show data in the display.  |
| <b>Count</b> | Lists the total number of engines found using the search parameters.   |
| <b>Names</b> | Select this check box to display the names of the engines at the top of each rectangle in the heatmap.   |
| <b>Log</b>   | Select to this check box to enable a logarithmic scale. Use <b>Log Scale</b> to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. <b>Log Scale</b> makes data on both scales visible by applying logarithmic values rather than actual values to the data. |
| <b>Auto</b>  | Select to enable auto-scaling. When auto-scaling is activated, the color gradient bar's maximum range displays the highest value.<br><b>Note:</b> Some metrics auto-scale automatically, even when <b>Auto</b> is not selected.  |

**Metric**

Choose a metric to view in the display.

**Alert Severity** The current alert severity. Values range from **0** - **2**, as indicated in the color gradient  bar, where **2** is the highest Alert Severity:

-  Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.
-  Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.
-  Green indicates that no metrics have exceeded their alert thresholds.

**Alert Count** The total number of critical and warning unacknowledged alerts in the engine. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average alert count.

**CPU Usage** The percentage of CPU used by the engine. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the defined alert threshold of **DocEngineCpuUsageHigh**. The middle value in the gradient bar indicates the middle value of the range.

When **Auto** is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.

**Memory** The current memory usage by the engine, in kilobytes, which includes all memory regardless of when it was accessed. The color gradient bar  shows the range of the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of connections in the heatmap. The middle value in the gradient bar indicates the middle value of the range.

The **Auto** option does not impact this metric.

**Net Bytes In** The total number of incoming bytes. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the defined alert threshold of **DocEngineNetBytesInHigh**. The middle value in the gradient bar indicates the middle value of the range.

When **Auto** is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.

**Net Bytes Out** The total number of outgoing bytes. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the defined alert threshold of **DocEngineNetBytesOutHigh**. The middle value in the gradient bar indicates the middle value of the range.

When **Auto** is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.

## Engines Table

This table provides a view of all of your engines and their associated metric data including host, alert severity, alert count, and the current value of each gathered metric. You can click a column header to sort column data in numerical or alphabetical order, and drill-down and investigate by clicking a row to view details for the selected engine in the “[Engine Summary](#)” display

| Host       | Alert Level | Alert Count | CPU Usage | Memory Available (KB) | Memory Usage (KB) | Memory WS (KB) | Memory RSS (KB) | Memory Limited                      | Net Bytes In avg |
|------------|-------------|-------------|-----------|-----------------------|-------------------|----------------|-----------------|-------------------------------------|------------------|
| TESTBED-29 |             | 0           | 11.39     | 3,782,232             | 3,373,604         | 1,602,908      | 58,564          | <input checked="" type="checkbox"/> | 81,200           |

**Title Bar:** Indicators and functionality might include the following:

Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.  
 Open the **Alert Views - RTView Alerts Table** display.  
 Open an instance of this display in a new window.  
 Open the online help page for this display.

**Note:** The **Containers** button takes you to “[Containers Table](#)”.

**Fields and Data:**

- Host** Select the name of the host (or **All Hosts**) containing the engines for which you want to view data.
- Count** The total number of engines being monitored based on your search criteria.

**All Engines Table:**

- Host** The name of the host.
- Alert Level** The current alert severity.
  - Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.
  - Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.
  - Green indicates that no metrics have exceeded their alert thresholds.
- Alert Count** The total number of alerts for the host.
- CPU Usage** The percentage of CPU used by the engine.
- Memory Available (KB)** The amount of memory, in kilobytes, that is available to the engine.
- Memory Usage (KB)** The current memory usage by the engine, in kilobytes, which includes all memory regardless of when it was accessed.
- Memory WS (KB)** The amount of memory (in kilobytes) in the working set, which includes recently accessed memory, dirty memory, and kernel memory.
- Memory RSS (KB)** The amount of anonymous and swap cache memory (including transparent/hugepages), in kilobytes.
- Memory Limited** When checked, the amount of memory available to the engine is limited.
- Net Bytes In avg** The average number of incoming bytes per second.
- Net Bytes Out avg** The average number of outgoing bytes per second.
- Net Packets In avg** The average number of incoming packets per second.
- Net Packets Out avg** The average number of outgoing packets per second.
- Docker Version** The Docker software version of the Docker Engine.
- Container OS Version** The version of the container's operating system on which the docker engine is running.
- Container Kernal Version** The version of the container's Kernal in which the docker engine is running.

**Expired**

When checked, performance data about the engine has not been received within the time specified (in seconds) in the **\$docRowExpirationTime** field in the **conf\rtvadm\_dockermon.properties** file. The **\$docRowExpirationTimeForDelete** field allows you to define the amount of time (in seconds) in which the row will be removed from the table if there is no response from the cadvisor-rtview agent. To view/edit the current values, modify the following lines in the **.properties** file:

```
#####
# CACHE / HISTORIAN SETTINGS
#
# Cache history settings
#
sl.rtvview.sub=$docRowExpirationTime:120
sl.rtvview.sub=$docRowExpirationTimeForDelete:0
```

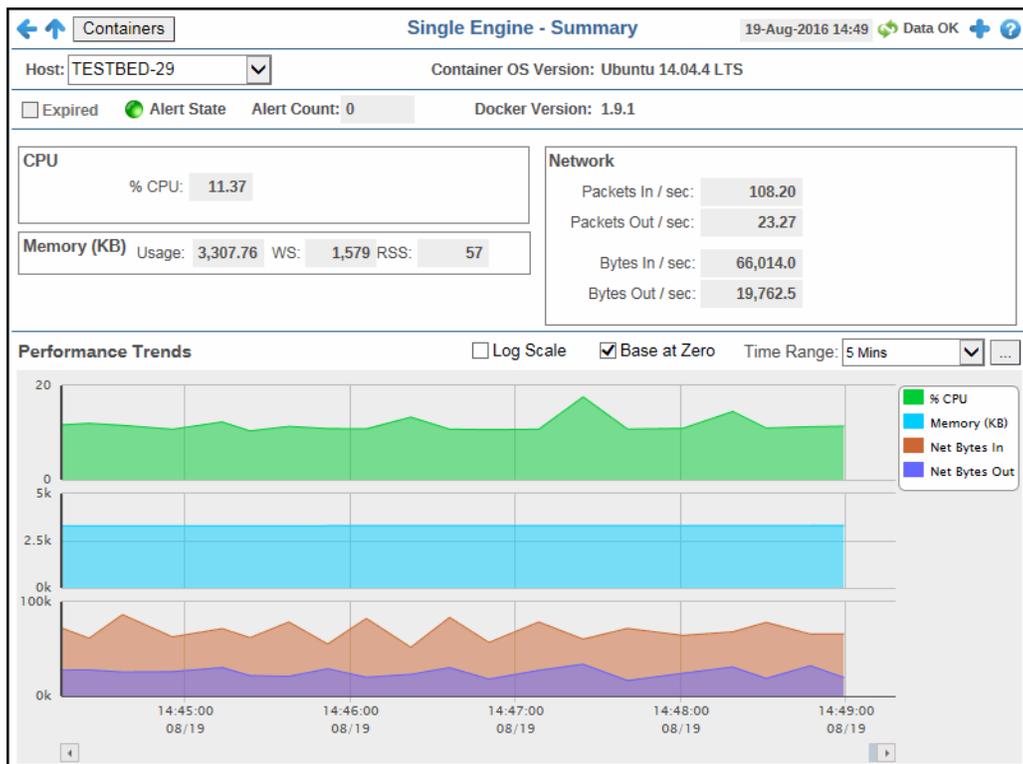
In the example above, the **Expired** check box would be checked after 120 seconds, and the row would never be deleted. If **\$docRowExpirationTimeForDelete** was set to 3600, then the row would be removed from the table after 3600 seconds.

**Timestamp**

The date and time the row data was last updated.

**Engine Summary**

This display allows you to view current as well as trending data for the percentage of CPU used by the engine, memory usage details, and network data details.



**Title Bar:** Indicators and functionality might include the following:

-  Open the previous and upper display.
-  Navigate to displays commonly accessed from this display.
-  The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
-  **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
-  Open the **Alert Views - RTView Alerts Table** display.
-  Open an instance of this display in a new window.
-  Open the online help page for this display.

**Note:** The **Containers** button takes you to “Containers Table”.

**Filter By:**

- Host** Select the host for which you want to show data in the display.
- Container OS Version** The version of the container’s operating system on which the docker engine is running.

**Fields and Data:**

**Expired** When checked, performance data about the engine has not been received within the time specified (in seconds) in the **\$docRowExpirationTime** field in the **conf\rtvapm\_dockermon.properties** file. The **\$docRowExpirationTimeForDelete** field allows you to define the amount of time (in seconds) in which the row will be removed from the table if there is no response from the cadvisor-rtview agent. To view/edit the current values, modify the following lines in the **.properties** file:

```
#####
# CACHE / HISTORIAN SETTINGS
#
# Cache history settings
#
sl.rtvview.sub=$docRowExpirationTime:120
sl.rtvview.sub=$docRowExpirationTimeForDelete:0
```

In the example above, the **Expired** check box would be checked after 120 seconds, and the row would never be deleted. If **\$docRowExpirationTimeForDelete** was set to 3600, then the row would be removed from the table after 3600 seconds.

- Alert State** The current alert severity.
  -  Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.
  -  Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.
  -  Green indicates that no metrics have exceeded their alert thresholds.
- Alert Count** The total number of current alerts.
- Docker Version** The Docker software version of the Docker Engine.
- CPU**
  - % CPU** The percentage of CPU used by the engine.
- Memory (KB)**
  - Usage** The current memory usage by the engine, in kilobytes, which includes all memory regardless of when it was accessed.

- WS** The amount of memory (in kilobytes) in the working set, which includes recently accessed memory, dirty memory, and kernel memory.
- RSS** The Resident Set Size, which is the amount of anonymous and swap cache memory (including transparent/hugepages), in kilobytes.

### Network

- Packets In/sec** The average number of incoming packets per second..
- Packets Out/sec** The average number of outgoing packets per second.
- Bytes In/sec** The average number of incoming bytes per second.
- Bytes Out/sec** The average number of outgoing bytes per second.

### Performance Trends Graph

Traces the following:

- % CPU** -- traces the percentage of CPU being used on the engine.
  - Memory (KB)** -- traces the amount of memory, in kilobytes, used by the engine.
  - Net Bytes In** -- traces the average number of incoming bytes per second.
  - Net Bytes Out** -- traces the average number of outgoing bytes per second.
- Log Scale** Select to enable a logarithmic scale. Use **Log Scale** to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. **Log Scale** makes data on both scales visible by applying logarithmic values rather than actual values to the data.
- Base at Zero** Select to use zero (**0**) as the Y axis minimum for all graph traces.
- Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .

By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

## Container View

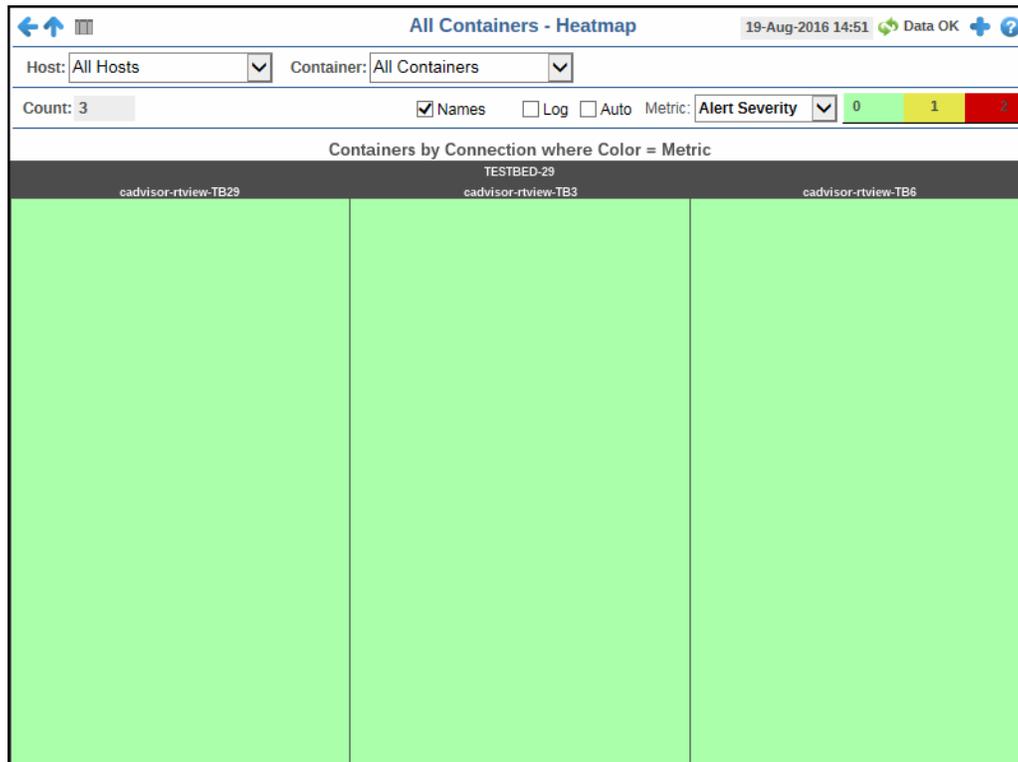
These displays allow you to view the current and historical metrics for all containers in a heatmap or tabular format for one or all hosts, or view the current and historical metrics for a single container. Displays in this View are:

- **“Containers Heatmap”**: A color-coded heatmap view of data for all containers for a particular host.
- **“Containers Table”**: A tabular view of data for all containers for a particular host.
- **“Container Summary”**: This display allows you to view current and trending data for a single container for a particular host.

## Containers Heatmap

This heatmap display provides an easy-to-view interface that allows you to quickly identify the current status of each of your containers for each available metric. You can view the containers in the heatmap based on the following metrics: the current alert severity, the current alert count, the percentage of CPU used, and the percentage of memory used. By default, this display shows the heatmap based on the **Alert Severity** metric.

You can use the **Names** check-box  to include or exclude labels in the heatmap, and you can mouse over a rectangle to see additional metrics for a container. Clicking one of the rectangles in the heatmap opens the **“Container Summary”** display, which allows you to see additional details for the selected container.



**Title Bar:** Indicators and functionality might include the following:

  Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

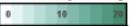
 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

## Fields and Data:

|                  |  |
|------------------|--|
| <b>Host</b>      | Select the host (or <b>All Hosts</b> ) for which you want to show data in the heatmap.   |
| <b>Container</b> | Select the container (or <b>All Containers</b> ) for which you want to show data in the heatmap..  |
| <b>Count</b>     | Lists the total number of containers (rows) found using the search parameters.   |
| <b>Names</b>     | Select this check box to display the names of the containers at the top of each rectangle in the heatmap.  |
| <b>Log</b>       | Select to this check box to enable a logarithmic scale. Use <b>Log Scale</b> to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. <b>Log Scale</b> makes data on both scales visible by applying logarithmic values rather than actual values to the data.   |
| <b>Auto</b>      | Select to enable auto-scaling. When auto-scaling is activated, the color gradient bar's maximum range displays the highest value.<br><b>Note:</b> Some metrics auto-scale automatically, even when <b>Auto</b> is not selected.  |
| <b>Metric</b>    | Choose a metric to view in the display. <ul style="list-style-type: none"> <li><b>Alert Severity</b> The current alert severity. Values range from <b>0</b> - <b>2</b>, as indicated in the color gradient  bar, where <b>2</b> is the highest Alert Severity: <ul style="list-style-type: none"> <li> Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.</li> <li> Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.</li> <li> Green indicates that no metrics have exceeded their alert thresholds.</li> </ul> </li> <li><b>Alert Count</b> The total number of critical and warning unacknowledged alerts in the instance. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average alert count.</li> <li><b>CPU Usage</b> The percentage of CPU used by the container. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the defined alert threshold of <b>DocContainerCpuUsageHigh</b>. The middle value in the gradient bar indicates the middle value of the range.<br/>When <b>Auto</b> is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.</li> </ul> |

- Memory** The current memory usage by the container, in kilobytes, which includes all memory regardless of when it was accessed. The color gradient bar  shows the range of the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of connections in the heatmap. The middle value in the gradient bar indicates the middle value of the range. The **Auto** option does not impact this metric.
- Net Bytes In** The number of incoming bytes per second. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the defined alert threshold of **DocContainerNetBytesInHigh**. The middle value in the gradient bar indicates the middle value of the range. When **Auto** is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.
- Net Bytes Out** The number of outgoing bytes per second. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the defined alert threshold of **DocContainerNetBytesOutHigh**. The middle value in the gradient bar indicates the middle value of the range. When **Auto** is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.

## Containers Table

This display allows you to view details in a table format for one container on a particular host, for all containers on a particular host, for a particular container on all hosts, or for all containers on all hosts. You can drill-down and view the details for a particular container in the “[Container Summary](#)” display by clicking on a row in the resulting table.

| Host       | Container Name       | Container ID | Alert Level | Alert Count | CPU Usage | Memory Available (KB) | Memory Usage (KB) | Memory WS (KB) |
|------------|----------------------|--------------|-------------|-------------|-----------|-----------------------|-------------------|----------------|
| TESTBED-29 | cadvisor-rtview-TB29 | 4c58c59ae430 | Green       | 0           | 0.46      | 3,782,232             | 53,704            | 3              |
| TESTBED-29 | cadvisor-rtview-TB3  | 822a5c6601a8 | Green       | 0           | 0.36      | 3,782,232             | 24,968            | 11             |
| TESTBED-29 | cadvisor-rtview-TB6  | 8fac67ccf6d0 | Green       | 0           | 0.43      | 3,782,232             | 22,168            | 11             |

**Title Bar:** Indicators and functionality might include the following:

Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

Open the online help page for this display.

### Filter By:

The display includes these filtering options:

**Host** Select the host for which you want to show data in the display.

**Container** Select the container (or **All Containers**) for which you want to view data..

**Count** Lists the total number of containers (rows) found using the search parameters.

### All Containers Table

|                              |  |
|------------------------------|--|
| <b>Host</b>                  | The name of the host.  |
| <b>Container Name</b>        | The name of the container.   |
| <b>Container ID</b>          | The absolute container name.   |
| <b>Alert Level</b>           | <p>The current alert status.</p> <ul style="list-style-type: none"> <li><span style="color: red;">●</span> Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.</li> <li><span style="color: yellow;">●</span> Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.</li> <li><span style="color: green;">●</span> Green indicates that no metrics have exceeded their alert thresholds.</li> </ul>                                  |
| <b>Alert Count</b>           | Total number of alerts for the process.  |
| <b>CPU Usage</b>             | The percentage of CPU used by the container.   |
| <b>Memory Available (KB)</b> | The amount of memory, in kilobytes, that is available to the container.  |
| <b>Memory Usage (KB)</b>     | Current memory usage by the container, in kilobytes, which includes all memory regardless of when it was accessed.   |
| <b>Memory WS (KB)</b>        | The amount of memory (in kilobytes) in the working set, which includes recently accessed memory, dirty memory, and kernel memory.  |
| <b>Memory RSS (KB)</b>       | The Resident Set Size, which is the amount of anonymous and swap cache memory (including transparent/hugepages), in kilobytes.   |
| <b>Memory Limited</b>        | When checked, the amount of memory available to the container is limited. If not checked, then the amount of memory available to the container is unlimited, which means the amount of memory available to the container is the same as the memory available to the engine.  |
| <b>Net Bytes In avg</b>      | The average number of incoming bytes per second.   |
| <b>Net Bytes Out avg</b>     | The average number of outgoing bytes per second.   |
| <b>Net Packets In avg</b>    | The average number of incoming packets per second.   |
| <b>Net Packets Out avg</b>   | The average number of outgoing packets per second.   |
| <b>Uptime</b>                | The amount of time (in seconds) that the container has been up and running.  |
| <b>Running</b>               | When checked, this check box indicates that the container is running.  |
| <b>Status</b>                | <p>The current status of the container. Values are:</p> <p><b>Up</b> - indicates that the container is up and running, and lists the amount of time the container has been up and running (<b>Uptime</b>).</p> <p><b>Created</b> - indicates that the container has been created but is currently not in use.</p> <p><b>Exited</b> - indicates that the container has been stopped, and lists the error code as well as the amount of time since the container was stopped.</p>          |
| <b>Starts</b>                | <p>The number of times the container (re)started within the time specified (in seconds) in the <b>\$docEventCacheTimeRange</b> field in the <b>conf\rtvapm_dockermon.properties</b> file. The default is 3600 seconds (1 hour). For example, by default, this row column lists the number of times the container has (re)started in the past hour. This number provides a good indication of the stability of the container; the higher the number, the more unstable the container.</p> |

**Expired**

When checked, performance data about the engine has not been received within the time specified (in seconds) in the **\$docRowExpirationTime** field in the **conf\rtvadm\_dockermon.properties** file. The **\$docRowExpirationTimeForDelete** field allows you to define the amount of time (in seconds) in which the row will be removed from the table if there is no response from the cadvisor-rtview agent. To view/edit the current values, modify the following lines in the **.properties** file:

```
#####
# CACHE / HISTORIAN SETTINGS
#
# Cache history settings
#
sl.rtvview.sub=$docRowExpirationTime:120
sl.rtvview.sub=$docRowExpirationTimeForDelete:0
```

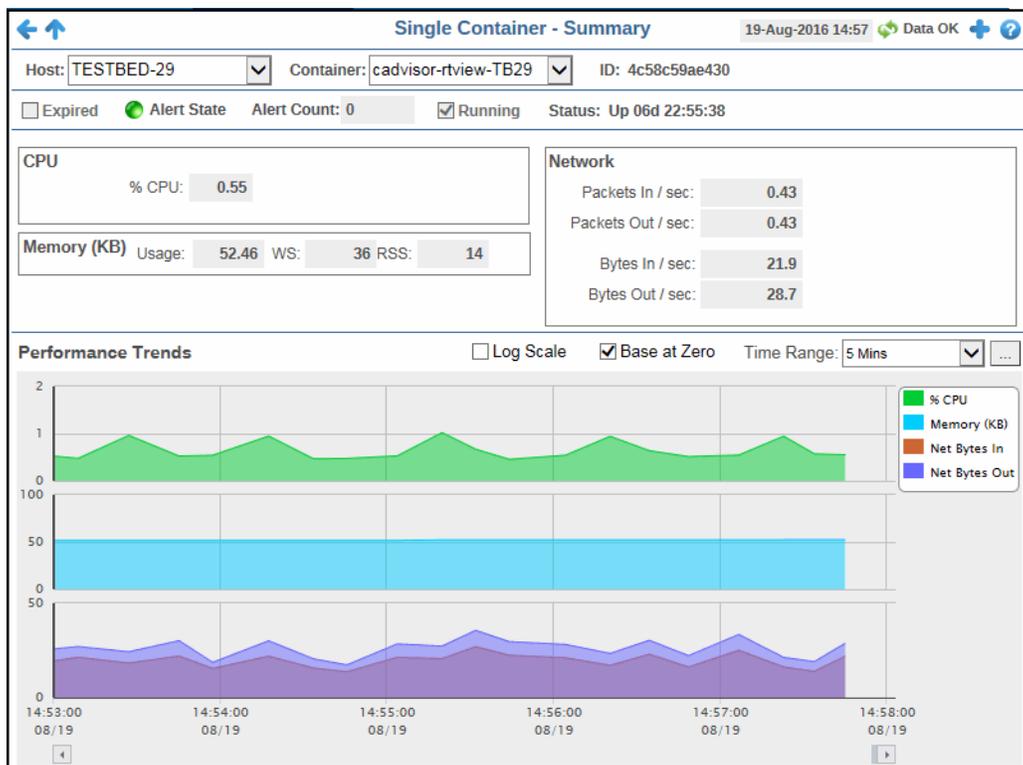
In the example above, the **Expired** check box would be checked after 120 seconds, and the row would never be deleted. If **\$docRowExpirationTimeForDelete** was set to 3600, then the row would be removed from the table after 3600 seconds.

**Timestamp**

The date and time the row data was last updated.

**Container Summary**

This display provides a view of the current and historical metrics for a single container. You can view the current information pertaining to CPU usage percentage, Memory details, Disk read and write details, and network data details in the upper portion of the display. The trend graph in the bottom half of the display traces the current and historical CPU usage, the average memory used, and the number of incoming and outgoing network bytes.



**Title Bar:** Indicators and functionality might include the following:

  Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.  
 Open the **Alert Views - RTView Alerts Table** display.  
 Open an instance of this display in a new window.  
 Open the online help page for this display.

**Filter By:**

The display might include these filtering options:

- Host** Select the host for which you want to show data in the display.
- Container** Select the container for which you want to show data in the display.
- ID** The absolute container name.

**Fields and Data:**

**Expired** When checked, performance data about the engine has not been received within the time specified (in seconds) in the **\$docRowExpirationTime** field in the **conf\rtvapm\_dockermon.properties** file. The **\$docRowExpirationTimeForDelete** field allows you to define the amount of time (in seconds) in which the row will be removed from the table if there is no response from the cadvisor-rtview agent. To view/edit the current values, modify the following lines in the **.properties** file:

```
#####
# CACHE / HISTORIAN SETTINGS
#
# Cache history settings
#
sl.rtvapm.sub=$docRowExpirationTime:120
sl.rtvapm.sub=$docRowExpirationTimeForDelete:0
```

In the example above, the **Expired** check box would be checked after 120 seconds, and the row would never be deleted. If **\$docRowExpirationTimeForDelete** was set to 3600, then the row would be removed from the table after 3600 seconds.

- Alert State** The current alert severity.
  -  Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.
  -  Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.
  -  Green indicates that no metrics have exceeded their alert thresholds.
- Alert Count** The total number of current alerts.
- Running** When checked, this check box indicates that the container is running.
- Status** The current status of the container. Values are:
  - Up** - indicates that the container is up and running, and lists the amount of time the container has been up and running (**Uptime**).
  - Created** - indicates that the container has been created but is currently not in use.
  - Exited** - indicates that the container has been stopped, and lists the error code as well as the amount of time since the container was stopped.

**CPU**

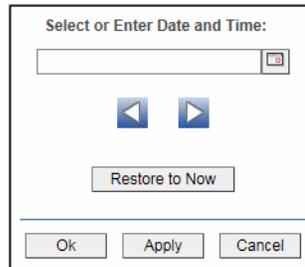
|                                 |                        |  |
|---------------------------------|------------------------|--|
|                                 | <b>% CPU</b>           | The percentage of CPU used by the container.   |
| <b>Memory (KB)</b>              |                        |  |
|                                 | <b>Usage</b>           | The current memory usage by the container, in kilobytes, which includes all memory regardless of when it was accessed.   |
|                                 | <b>WS</b>              | The amount of memory (in kilobytes) in the working set, which includes recently accessed memory, dirty memory, and kernel memory.  |
|                                 | <b>RSS</b>             | The Resident Set Size, which is the amount of anonymous and swap cache memory (including transparent/hugepages), in kilobytes.   |
| <b>Network</b>                  |                        |  |
|                                 | <b>Packets In/sec</b>  | The average number of incoming packets per second.   |
|                                 | <b>Packets Out/sec</b> | The average number of outgoing packets per second.   |
|                                 | <b>Bytes In/sec</b>    | The average number of incoming bytes per second.   |
|                                 | <b>Bytes Out/sec</b>   | The average number of outgoing bytes per second.   |
| <b>Performance Trends Graph</b> | Traces the following:  |  |
|                                 | <b>% CPU</b>           | -- traces percentage of CPU used by the container.   |
|                                 | <b>Memory (KB)</b>     | -- traces the current memory usage by the container, in kilobytes, which includes all memory regardless of when it was accessed.   |
|                                 | <b>Net Bytes In</b>    | -- traces the average number of incoming bytes per second.   |
|                                 | <b>Net Bytes Out</b>   | -- traces the average number of outgoing bytes per second.   |
|                                 | <b>Log Scale</b>       | Select to enable a logarithmic scale. Use <b>Log Scale</b> to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. <b>Log Scale</b> makes data on both scales visible by applying logarithmic values rather than actual values to the data. |

**Base at Zero**

Select to use zero (0) as the Y axis minimum for all graph traces.

**Time Range**

Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar [...].



By default, the time range end point is the current time. To change the time range end point, click Calendar [...] and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows ◀ ▶ to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

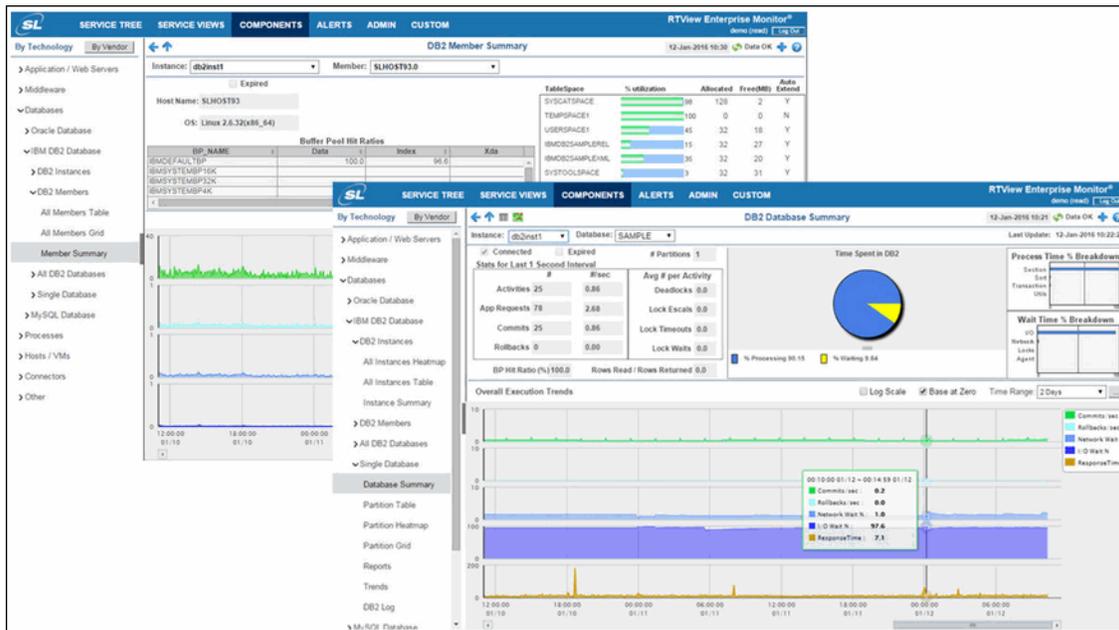
Click **Restore to Now** to reset the time range end point to the current time.



## CHAPTER 9 Solution Package for IBM DB2

RTView Enterprise Monitor® uses Solution Packages to gather and process performance metrics from a wide variety of different technologies, including IBM DB2 Databases.

The Solution Package for IBM® DB2 includes high level heatmap and tabular displays as well as drilldown views to access real-time and historical performance metrics for each DB2 Database in your monitored services and applications.



With the Solution Package for IBM DB2, you are able to drill down from a high level alert at a business service or application health level into the supporting database infrastructure, to determine what is causing the alert and to take corrective action. This service-centric approach makes it easy for application support teams and IBM DBAs to prioritize incidents based on the impact to the business.

Solution Packages include a data adapter, real-time memory cache, alert rule engine, pre-configured displays, and a data historian for persisting of real-time performance metrics.

See the **README.txt** file, located in the root directory of each Solution Package, for instructions about configuring and working with the Solution Package.

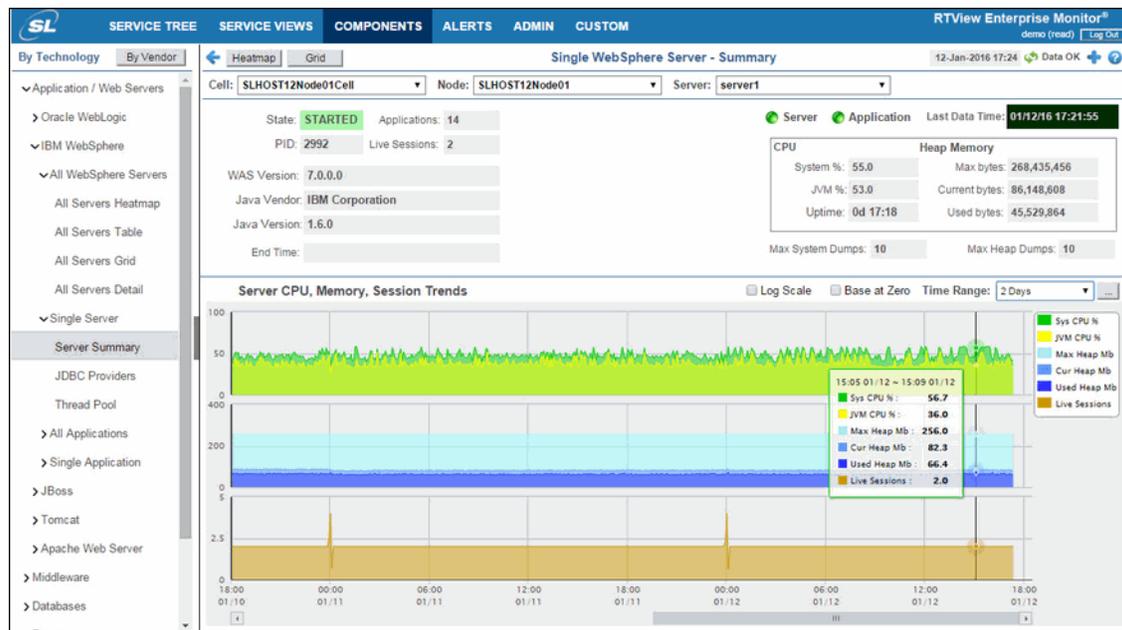
See **README\_sysreq.txt** for the full system requirements for RTView®.



## CHAPTER 10 Solution Package for IBM WebSphere

Gain real-time visibility into the health and performance of WebSphere Application Server and deployed applications.

RTView Enterprise Monitor® and the Solution Package for IBM® WebSphere provide out of box performance and availability monitoring for support teams and WebSphere administrators. It enables users to ensure effective resource allocation by providing access to a wide variety of current and historical metrics.



Configuration options enable both consolidated views across the enterprise as well as views configured for specific support teams. As part of an end to end monitoring solution, users can view WebSphere performance in the context of an application or service. This provides visibility into how WebSphere performance is impacting adjacent technologies and the resulting business impact. Typical installations of RTView Enterprise Monitor and its Solution Packages take only a few hours, while developing custom views for a variety of IT and development roles can be achieved in just days.

## Key Features

- Monitor real-time performance for early warning
- Analyze historical performance to differentiate trends and spikes
- Out of the box discovery and monitoring of key metrics and resources
- Ensure effective resource allocation
- Powerful diagnostics and correlations for complex performance analysis
- View WebSphere performance in an application context

## Metrics for WebSphere Server

- System CPU Usage & Process CPU Usage
- Uptime
- Max Memory
- Heap Size & Max Heap Dumps on Disks
- Java Vendor & Version
- Used Memory, Free Memory & Used Memory Percent
- JVM Memory
- Max Heap, Current Heap, Used Heap
- Live Sessions
- JDBC Providers: Open Count, Created, Pool Size, Used Pool, Use Time
- Thread Pools: Pool Size, Active Count, Growable indication, Inactivity Timeout & Max size
- Server Applications Sessions/Requests: Number of Sessions, Servlets, Total Requests, Current Requests, Avg. Response Time
- JSP Requests, JSP Response Time, Servlet Requests, Servlet Response Time, EJB Method Calls, EJB Response Time
- Component Detail
- Module Detail Totals for Charts & Tables

## End-to-End Context for WebSphere

- Custom flow diagrams help visualize complex applications and WebSphere's place in that architecture
- Provides an Intuitive View of How WebSphere Interacts with other Enterprise PaaS Components
- Designed and Developed for Large Scale, Mission Critical Environments

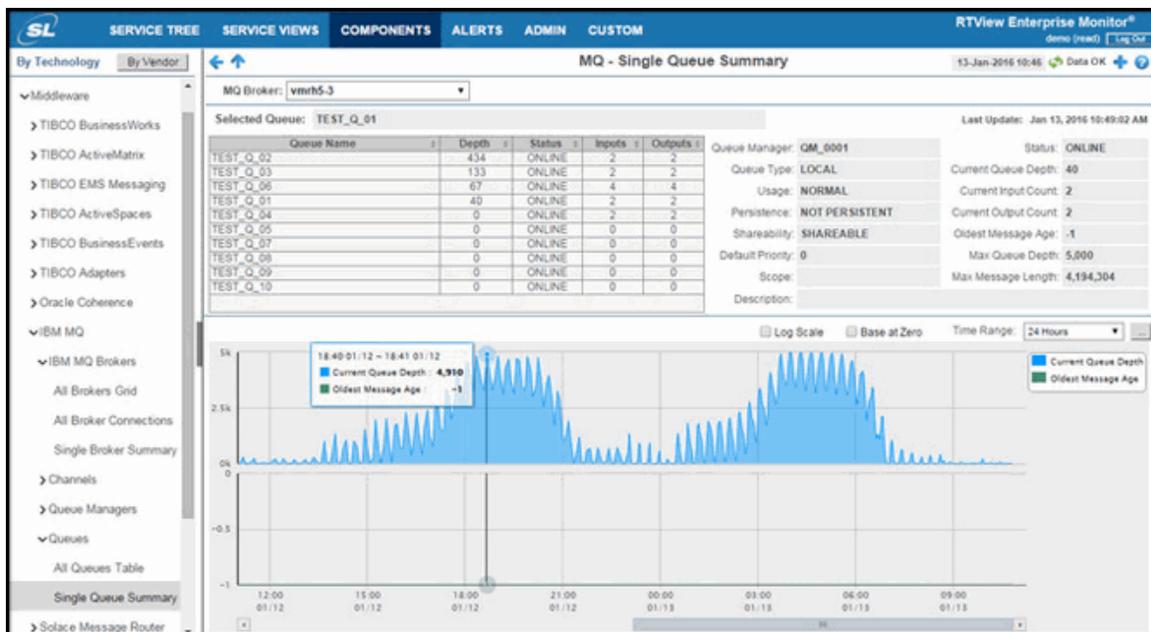
See the **README.txt** file, located in the root directory of each Solution Package, for instructions about configuring and working with the Solution Package.

See **README\_sysreq.txt** for the full system requirements for RTView®.

# CHAPTER 11 Solution Package for IBM WebSphere MQ

Gain real-time visibility into the health and performance of WebSphere MQ objects including brokers, queues, channels and queue managers.

RTView Enterprise Monitor® and the Solution Package for IBM® WebSphere MQ provide out of box performance and availability monitoring for support teams and WebSphere MQ administrators. Configuration options enable both consolidated views across the enterprise or views configured for specific support teams. As part of an end to end monitoring solution, users can view WebSphere performance in the context of an application or service. This provides visibility into how WebSphere performance is impacting adjacent technologies and the resulting business impact. Typical installations of RTView Enterprise Monitor and its Solution Packages take only a few hours, while developing custom views for a variety of IT and development roles can be achieved in just days.



## Key Features

- Monitor real-time performance for early warning
- Analyze historical performance to differentiate trends and spikes
- Out of the box discovery and monitoring of key metrics
- Powerful diagnostics and correlations for complex performance analysis
- View WebSphere MQ in an application context for Application Support teams and Operations
- Minimal training, highly configurable by business and technical users

## Metrics for WebSphere MQ

- **All MQ Brokers:**  
Queue Manager Status, Number of Channels, Number of Queues, Total Queue Depth
- **MQ Broker Summary:**  
Current Queue Depth, Max Queue Depth, Max Message Length  
Overall Health State: Queue Manager, Channel, Queue Depth High, Queue Full
- **MQ Broker Connections:**  
Connection Status, Alert Status, Channel, Model Queue Name, Max Retries, Retry Interval, Wait Interval, Connection, Time Stamp
- **All Queue Detail:**  
Queue Manager, Queue type, Status, Alert State, Outputs, Inputs, Depth, Max Depth, Persistence State, Description, Max Message Length, Host, Default Priority, Get Messages, Put Messages, Scope, Shareability, Usage, Connection, Expired State
- **Prebuilt Displays:**  
All Brokers Grid, Single Broker Summary, All Brokers detail table  
All Channels table, Single Channel Summary, Single Channel Detail  
All Queue Managers Detail table  
All Queues Table, Single Queue Summary  
All Trend Graphs show Historical Data

## End-to-End Context for WebSphere MQ

- Custom flow diagrams help visualize complex applications and WebSphere MQ's place in that architecture
- Provides an Intuitive View of How WebSphere MQ Interacts with other Enterprise PaaS Components
- Designed and Developed for Large Scale, Mission Critical Environments

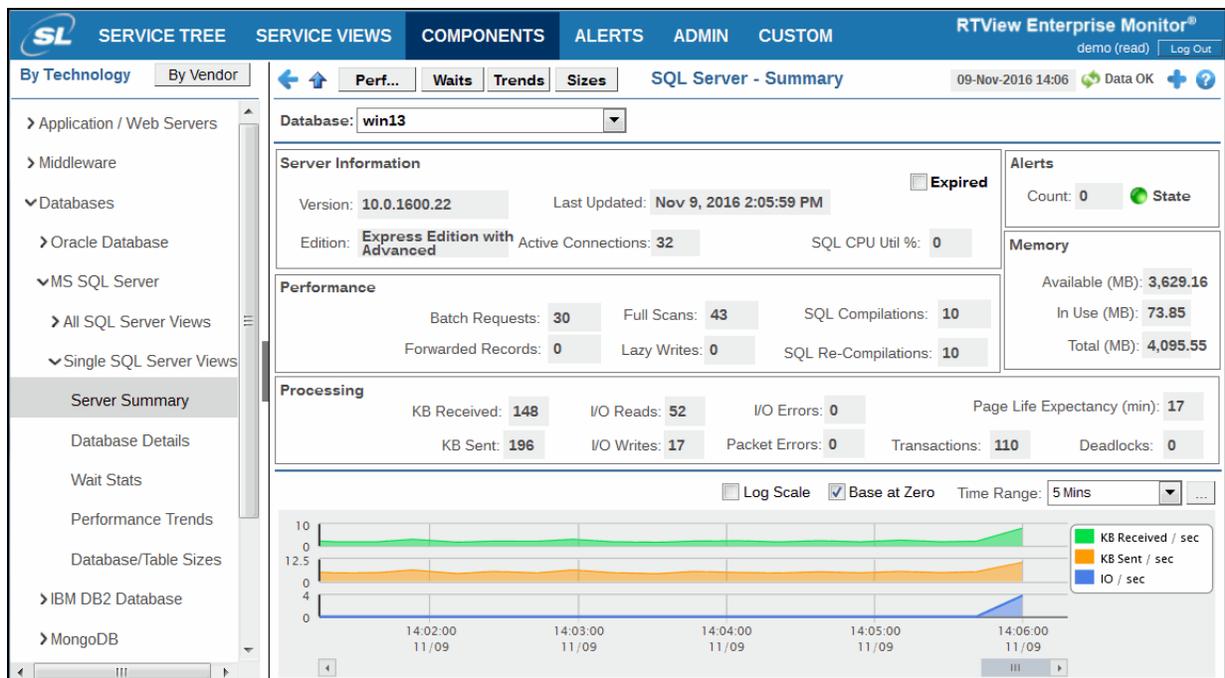
See the **README.txt** file, located in the root directory of each Solution Package, for instructions about configuring and working with the Solution Package.

See **README\_sysreq.txt** for the full system requirements for RTView®.

## CHAPTER 12 Solution Package for Microsoft SQL Server

RTView Enterprise Monitor® uses Solution Packages to gather and process performance metrics from a wide variety of different technologies, including Microsoft SQL Server.

The Solution Package for Microsoft® SQL Server® includes high level heatmap and tabular displays as well as drilldown views to access real-time and historical performance metrics for each Microsoft SQL Server in your monitored services and applications.



With the Solution Package for Microsoft SQL Server, you are able to drill down from a high level alert at a business service or application health level into the supporting database infrastructure, to determine what is causing the alert and to take corrective action. This service-centric approach makes it easy for application support teams and Microsoft DBAs to prioritize incidents based on the impact to the business.

Solution Packages include a data adapter, real-time memory cache, alert rule engine, pre-configured displays, and a data historian for persisting of real-time performance metrics.

See the **README.txt** file, located in the root directory of each Solution Package, for instructions about configuring and working with the Solution Package.

See **README\_sysreq.txt** for the full system requirements for RTView®.



## CHAPTER 13 Solution Package for MongoDB

The Solution Package for MongoDB is an easy to configure and use monitoring system that gives you extensive visibility into the health and performance of your MongoDB instances, databases, and collections.

The Monitor enables MongoDB users to continually assess and analyze the health and performance of their infrastructure, gain early warning of issues with historical context, and effectively plan for capacity of their messaging system. It does so by aggregating and analyzing key performance metrics across all instances, databases, and collections, and presents the results, in real time, through meaningful dashboards as data is collected.

Users also benefit from predefined dashboards and alerts that pin-point critical areas to monitor in most environments, and allow for customization of thresholds to let users fine-tune when alert events should be activated.

The Monitor also contains alert management features so that the life cycle of an alert event can be managed to proper resolution. All of these features allow you to know exactly what is going on at any given point, analyze the historical trends of the key metrics, and respond to issues before they can degrade service levels in high-volume, high-transaction environments.

This section describes how to install, configure, deploy, start the Solution Package for MongoDB, and read and use the Solution Package for MongoDB displays. See **README\_sysreq.txt** for the full system requirements for RTView®.

The Solution Package for MongoDB requires RTView Enterprise Monitor 3.5.

For Linux, these instructions require a Bourne-compatible shell.

The following instructions assume you are familiar with the start/stop scripts for RTView Enterprise Monitor.

As a general rule, SL recommends creating a top-level directory named **RTView** and installing RTView Enterprise Monitor under this directory. The following sections assume that you have created an **RTView** directory and installed RTView Enterprise Monitor under the **RTView** directory, thus resulting in the **RTView/rtvapm** directory structure.

This section assumes you created a project directory, **rtvapm\_projects**, when you installed RTView Enterprise Monitor. All examples (of configurations, property settings, command execution, and so forth) refer to the project directory. The Solution Package for MongoDB configuration is located in the **rtvapm\_projects/emsample/servers/miscmon**.

This section includes:

- “Getting Started”
- “MongoDB Monitor Views/Displays”

## Getting Started

Perform these instructions if you downloaded, installed and configured the *standard* RTView Enterprise Monitor (**rtvapm\_std\_<version>.zip**), rather than the *full* RTView Enterprise Monitor, and now wish to install the Solution Package for Solace.

**Note:** If you downloaded and installed the *full* RTView Enterprise Monitor (**rtvapm\_full\_<version>.zip**), refer to [Chapter 2, “Configuration and Deployment”](#) .

This section includes:

- [“Install & Setup”](#)
- [“Connect Your Databases”](#)
- [“Start the Monitor”](#)
- [“Stop the Monitor”](#)
- [“Troubleshooting”](#)

## Install & Setup

Prerequisite: RTView Enterprise Monitor 3.5 must be installed on your system. You also need to copy the **mongo-java-driver-3.2.1.jar** file into a subdirectory under **C:\RTView** (see step 5 for more information).

1. Download the **rtvapm\_mongomon\_<version>.zip** archive to your local Windows/UNIX/Linux server.
2. Extract the files:
 

**Windows:**

Type **unzip rtvapm\_mongomon\_<version>.zip** and save the files to the **C:\RTView** directory.

**UNIX/Linux:**

Type **unzip -a rtvapm\_mongomon\_<version>.zip** and save the files to the **/opt/RTView** directory.
3. Verify that the **mongomon** directory was created under **rtvapm** and extracted correctly.
4. Verify you do not have an extra **rtvapm** directory containing **mongomon**. If you do, move these directories under the first **rtvapm** directory and delete the nested **rtvapm**.
5. Create an additional directory under the **RTView** directory, **ext** for example (**C:/RTView/ext**), which should contain third party libraries and supporting files. Under this directory, create a **mongodb** directory (**C:/RTView/ext/mongodb**) and copy the **mongo-java-driver-3.2.1.jar** file into the directory.

Once the file is copied to this directory, go to the mongomon section in the **sample.properties** file in **C:/RTView/rtvapm\_projects/emsample/servers/miscmon** and uncomment the following line:

```
#collector.sl.rtvview.cp=%RTVAPM_HOME%/../ext/mongodb/mongo-java-driver-3.2.1.jar
```

- Set **JAVA\_HOME** to the location of your Java installation and include the **bin** directory under **JAVA\_HOME** in the path.

**Important:** This environment variable must be defined in UNIX/Linux systems for Tomcat to start successfully.

Proceed to ["Connect Your Databases,"](#) next.

## Connect Your Databases

Connect your own databases and enable for data collection.

- Open the **RTView/rtvapm\_projects/emsample/servers/miscmon/sample.properties** file and find the following section:

```
# MONGO SERVER STATUS DS CONNECTION Settings
#
# Copy and paste the following line, assign a name to the connection, and provide the
URL and port to your Mongo DB
#collector.sl.rtvview.mongoserverstatusds.conn=__name=ConnectionName url=mongodb://
myUserAdmin:abc123@MongoDbUrl:MongoDbPort/admin
```

- Uncomment and add/edit the following lines for each MongoDB database to which you want to connect (to enable the Monitor to collect data from them):

```
#collector.sl.rtvview.mongoserverstatusds.conn=__name=ConnectionName url=mongodb://
myUserAdmin:abc123@MongoDbUrl:MongoDbPort/admin
```

The connection string should use the following format:

```
mongodb://[username:password@]host1[:port1][,host2[:port2],...[,hostN[:portN]]][/  
[database][?options]]
```

- **mongodb://** is a required prefix to identify that this is a string in the standard connection format.
- **username:password@** are optional. If given, the driver will attempt to login to a database after connecting to a database server. For some authentication mechanisms, only the username is specified and the password is not, in which case the ":" after the username is left off.
- **host1** is the only required part of the URI. It identifies a server address to which to connect.
- **:portX** is optional and defaults to **:27017** if not provided.
- **/database** is the name of the database to login to and thus is only relevant if the **username:password@** syntax is used. If not specified, the **admin** database will be used by default.
- **?options** are connection options. Note that if the database is absent, there is still a **/** required between the last host and the **?** introducing the options. Options are name=value pairs and the pairs are separated by **&**. For backwards compatibility, **;** is accepted as a separator in addition to **&**, but should be considered as deprecated.

### Example for two database connections:

```
collector.sl.rtvview.mongoserverstatusds.conn=__name=Mongo-1 url=mongodb://
myUserAdmin:abc123@123.4.567.890:27017
```

```
collector.sl.rtvview.mongoserverstatusds.conn=__name=Mongo-2 url=mongodb://  
123.456.789.012:27027
```

Proceed to “[Start the Monitor](#),” next.

## Start the Monitor

Use the configuration defined in the **rtvservers.dat** file, which is located in the **RTView/rtvapm\_projects/emsample/servers** directory.

1. Initialize a command line window by executing the **rtvapm\_init** script. For example:

### Windows

Go to your RTView Enterprise Monitor installation directory and type:

```
rtvapm_init
```

### UNIX

Go to your Enterprise Monitor installation directory and type:

```
./rtvapm_init.sh
```

2. Initialize the user project directory by executing the **rtvapm\_user\_init** script. For example:

### Windows

Change directory (**cd**) to **RTView\rtvapm\_projects\emsample** and type:

```
rtvapm_user_init
```

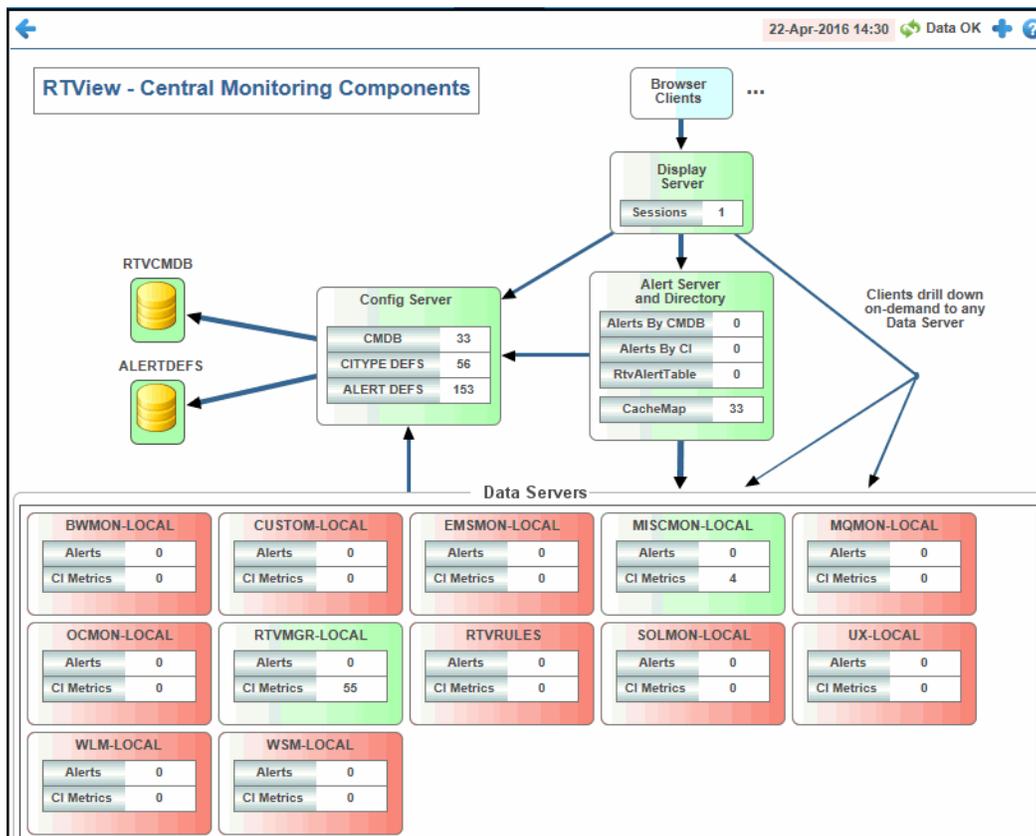
### UNIX

Change directory (**cd**) to **RTView/rtvapm\_projects/emsample** and type:

```
./rtvapm_user_init.sh
```

3. Change directory (**cd**) to **rtvapm\_projects/emsample/servers**.
4. Execute **start\_rtv.sh central** (**start\_rtv central** for Windows) to start the RTView Enterprise Monitor main processes.
5. Execute **start\_rtv.sh rtvmgr** (**start\_rtv rtvmgr** for Windows) to start the RTView Manager.
6. Execute **start\_rtv.sh miscmon -properties:sample** (or **start\_rtv miscmon -properties:sample** for Windows) to start all components of the Solution Package for MongoDB.  
**Note:** Make sure that you have deployed the **emsample.war** file to your application server prior to attempting the next step. See the “Configure Central Servers” section in the RTView Enterprise Monitor document for more information.
7. Open a browser and go to your RTView Enterprise Monitor deployment.
8. Verify that the Data Server is collecting data by navigating to the **Admin** tab and clicking **Architecture->System Overview** in the navigation tree. The **RTView - Central Monitoring Components** display should open and the Data Server, named **MISCOMN-**

**LOCAL** (by default), should be green and the **CI Metrics** value should be greater than zero (**0**). For example:



You have completed the Quick Start.

For information about configuring RTView Enterprise Monitor and Solution Packages for your production environment, see the *RTView Enterprise Monitor® User's Guide* available at <http://www.sl.com/support/documentation/>.

You have completed the Quick Start.

## Stop the Monitor

### To stop the Solution Package for MongoDB (in RTView Enterprise Monitor):

1. Change directory (**cd**) to **RTView/rtvapm\_projects/emsample/servers**.
2. Execute **stop\_rtv.sh miscmon** (or **stop\_rtv miscmon** for Windows) to stop all components of the Solution Package for MongoDB.

## Troubleshooting

This section includes:

- [“Log Files,”](#) next
- [“JAVA\\_HOME”](#)
- [“Permissions”](#)
- [“Network/DNS”](#)
- [“Verify Data Received from Data Server”](#)
- [“Verify Port Assignments”](#)

### Log Files

When a Monitor component encounters an error, it outputs an error message to the console and/or to the corresponding log file. If you encounter issues, look for errors in the following log files:

- **dataserver.log**
- **historian.log**

which are located in the **rtvapm\_projects/emsample/servers/miscmon/logs** directory.

Logging is enabled by default. If you encounter issues with log files, verify the **logs** directory exists in the **rtvapm\_projects/emsample/servers/miscmon** directory.

### JAVA\_HOME

If the terminal window closes after executing the **start\_rtv** command, verify that JAVA\_HOME is set correctly.

### Permissions

If there are permissions-related errors in the response from the **start\_rtv** command, check ownership of the directory structure.

### Network/DNS

If any log file shows reference to an invalid URL, check your system's hosts file and confirm with your Network Administrator whether your access to the remote system is being blocked.

### Verify Data Received from Data Server

If you encounter problems collecting data, restart the Data Server, start the Monitor, and go to the **Admin** tab and select **Architecture > RTView Cache Tables** in the navigation tree. Select **MISCMON-LOCAL** from the **Data Server** drop down list, and search for all caches that start with “Mongo.” Make sure these caches are populated (the number of **Rows** and **Columns** in the table should be greater than 0). If not, there might be a problem with the connection to the Data Server.

You should also make sure that the **mongo-java-driver-3.2.1.jar** file has been copied to the **C:\RTView\ext** directory and that the `#collector.sl.rtvview.cp=%RTVAPM_HOME%../ext/mongodb/mongo-java-driver-3.2.1.jar` property in the **rtvapm\_projects/emsample/servers/miscmon/sample.properties** file has been uncommented. See [“Install and Setup”](#) for more information.

## Verify Port Assignments

If the Viewer, display server, or Historian fail to connect to the Data Server or they receive no data, verify the ports are assigned correctly in your properties files and restart the Data Server.

---

## MongoDB Monitor Views/Displays

The following MongoDB Monitor Views (and their associated displays) can be found under **Components** tab > **Databases** > **MongoDB** once MongoDB Monitor is installed:

- ["Mongo Instance View"](#)
- ["Mongo Database View"](#)
- ["Mongo Collection View"](#)

## Mongo Instance View

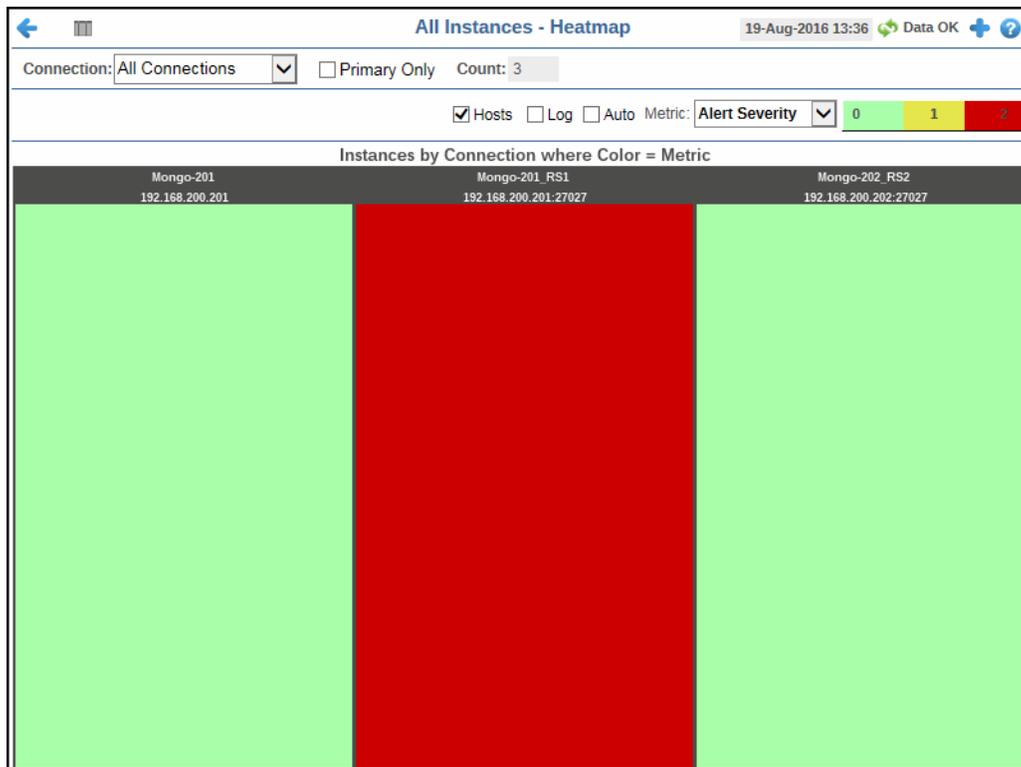
These displays present performance metrics and alert statuses for all MongoDB instances. The first two displays show different views of the same data:

- ["All Instances Heatmap"](#): This heatmap shows status and alerts for all MongoDB instances.
- ["All Instances Table"](#): This table shows all available utilization metrics for all MongoDB instances.
- ["Single Instance Summary"](#): This summary enables you to view available utilization metrics for a single MongoDB instance.

## All Instances Heatmap

View status and alerts of all MongoDB Instances. Use the **Metric** drop-down menu to view the **Alert Severity**, **Alert Count**, **Physical Memory**, **Open Cursors**, **Connections**, or **Databases**.

The heatmap is organized by host, each rectangle representing a connection. The rectangle color indicates the most critical alert state. Click on a node to drill-down to the ["Single Instance Summary"](#) display and view metrics for a particular connection. You can toggle between the commonly accessed **Table** and **Heatmap** displays by clicking the icon in the upper left-hand corner. Mouse-over rectangles to view more details about host performance and status.



**Title Bar:** Indicators and functionality might include the following:

  Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

### Fields and Data

This display includes:

**Connection** Select the connection from the drop down list for which you want to view data.

**Primary Only** Selecting this check box displays connections in the heatmap that have **Designation in Set** (within a replica set) defined as **Primary**, as well as those connections that are not part of a replica set (do not have a defined **Designation in Set**). Those connections with **Designation in Set** defined as **Secondary** will not be displayed.

**Count** The total number of active, inactive, and standby connections.

**Hosts** Select this check box to display the IP address of the host for each rectangle.

**Log** This option enables visualization on a logarithmic scale, and should be used when the range in your data is very broad. For example, if you have data that ranges from the tens to the thousands, then data in the range of tens will be neglected visually if you do not check this option. This option makes data on both extreme ranges visible by using the logarithmic of the values rather than the actual values.

**Auto** When checked, the values of the selected metric are auto-scaled to its highest defined value. When unchecked, the values of the selected metric display based on the threshold defined for the alert associated with the selected metric. Selecting Auto helps to visualize the range of the values currently present for the selected metric instead of the threshold of the alert that has been associated with the metric. All metrics that have not been associated in the heatmap defaults with alerts use a monochromatic color gradient bar (whites and greens). All metrics that have been associated in the heatmap defaults with alerts use a multi-chromatic color gradient bar (reds, yellows, white, and greens).

**Metric** Select the metric driving the heatmap display. The default is Alert Severity. Each **Metric** has a color gradient bar that maps values to colors. The heatmap organizes the instances by host, where each rectangle represents an instance. Mouse-over any rectangle to display the current values of the metrics for the instance. Click on a rectangle to drill-down to the associated ["Single Instance Summary"](#) display for a detailed view of metrics for that particular instance.

**Alert Severity** The maximum alert level in the item (index) associated with the rectangle. Values range from **0** to **2**, as indicated in the color gradient bar , where **2** is the greatest **Alert Severity**.

**2** -- Metrics that have exceeded their specified **ALARMLEVEL** threshold and have an Alert Severity value of **2** are shown in red. For a given rectangle, this indicates that one or more metrics have exceeded their alarm threshold.

**1** -- Metrics that have exceeded their specified **WARNINGLEVEL** threshold and have an Alert Severity value of **1** are shown in yellow. For a given rectangle, this indicates that one or more metrics have exceeded their warning threshold.

**0** -- Metrics that have not exceeded either specified threshold have an Alert Severity value of **0** and are shown in green. For a given rectangle, this indicates that no metrics have exceeded a specified alert threshold.

**Alert Count** The total number of alarm and warning alerts in a given item (index) associated with the rectangle.

The color gradient bar  shows the range of the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the middle value of the range.

**Physical Memory** The total amount of physical memory currently being used in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum amount of physical memory in the heatmap. The middle value in the gradient bar indicates the middle value of the range.

The **Auto** option does not impact this metric.

**Open Cursors** The total number of open cursors in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from **0** to the alert threshold of **MongoInstanceOpenCursorsHigh**, which is **2000**. The middle value in the gradient bar indicates the middle value of the range (the default is **1000**).

When **Auto** is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.

**Connections** The total number of connections in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of connections in the heatmap. The middle value in the gradient bar indicates the middle value of the range.

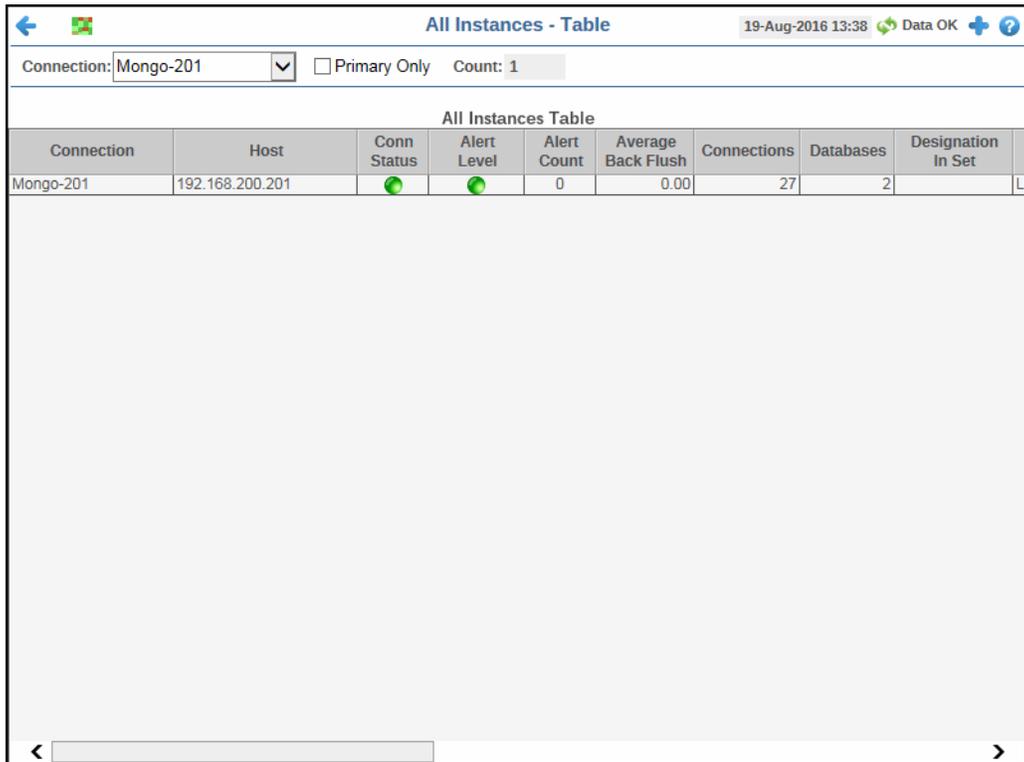
The **Auto** option does not impact this metric.

**Databases** The total number of databases in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of databases in the heatmap. The middle value in the gradient bar indicates the middle value of the range.

The **Auto** option does not impact this metric.

## All Instances Table

This display enables you to investigate detailed utilization metrics for all MongoDB Instances. The **All Instances Table** contains all metrics available for instances, including the number of current connections. Each row in the table contains data for a particular connection. Click a column header to sort column data in numerical or alphabetical order. Click on a table row to drill-down to the [“Single Instance Summary”](#) display and view metrics for that particular instance. You can click the icon in the upper left-hand corner to toggle between the commonly accessed **Table** and **Heatmap** displays.



| All Instances Table |                 |   |   |             |                    |             |           |                    |
|---------------------|-----------------|---|---|-------------|--------------------|-------------|-----------|--------------------|
| Connection          | Host            | Conn Status   | Alert Level   | Alert Count | Average Back Flush | Connections | Databases | Designation In Set |
| Mongo-201           | 192.168.200.201 |  |  | 0           | 0.00               | 27          | 2         |                    |

**Title Bar:** Indicators and functionality might include the following:

  Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

## Fields and Data

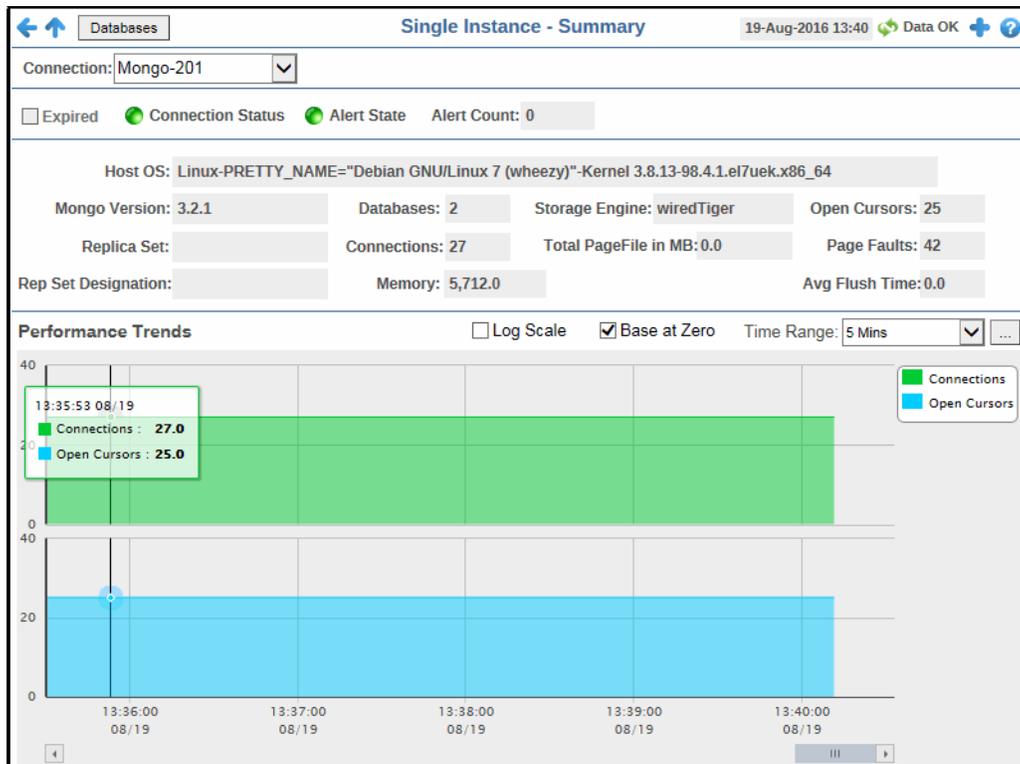
This display includes:

|                           |   |
|---------------------------|---|
| <b>Connection</b>         | Select the connection for which you want to view data, or select <b>All Connections</b> to view data for all connections.   |
| <b>Primary Only</b>       | Selecting this check box displays connections in the table that have <b>Designation in Set</b> (within a replica set) defined as <b>Primary</b> , as well as those connections that are not part of a replica set (do not have a defined <b>Designation in Set</b> ). Those connections with <b>Designation in Set</b> defined as <b>Secondary</b> will not be displayed.   |
| <b>Count</b>              | The total number of connections displayed in the table.   |
| <b>Table</b>              | This table shows information for the selected connection(s). Click on a table row to drill-down to the " <a href="#">Single Instance Summary</a> " display and view metrics for that particular server.   |
| <b>Connection</b>         | The name of the connection.   |
| <b>Host</b>               | The host name returned by MongoDB or the host provided by the user to use for connection if the host is not available.  |
| <b>Conn Status</b>        | The connection status of the Connection/Host.<br> -- The host is not connected.<br> -- The host is partially connected, which occurs when the connection has succeeded but the credentials given do not allow access to certain metrics.<br> -- The host is connected. |
| <b>Alert Level</b>        | The current alert level.<br> -- One or more alerts have exceeded their specified <b>ALARMLEVEL</b> threshold.<br> -- One or more alerts have exceeded their specified <b>WARNINGLEVEL</b> threshold.<br> -- No alerts have exceeded an alert threshold.                |
| <b>Alert Count</b>        | The total number of alerts for the connection.  |
| <b>Average Back Flush</b> | The average time, in milliseconds, for each flush to disk, calculated by dividing the total number of milliseconds by the total number of flushes.<br><b>Note:</b> Background flushing information only appears for instances using the This metric only displays when the storage engine is <b>MMAPv1</b> storage engine.  |
| <b>Connections</b>        | The number of connections coming in from the clients to the database server, including the current monitor session.   |
| <b>Databases</b>          | The number of databases being hosted by the instance.   |

|                            |  |
|----------------------------|--|
| <b>Designation In Set</b>  | The designation of this member of the replica set ( <b>primary/secondary</b> ). This column will be empty if no replica set is configured, or set to <b>unknown</b> if there is no connection.   |
| <b>Host OS Version</b>     | The version of the operating system used by the host.  |
| <b>How Long As Primary</b> | The amount of time the instance has been a primary instance. This field is only populated for primary instances.   |
| <b>MongoDB Version</b>     | The version number of the mongod instance.   |
| <b>Open Cursors</b>        | The total number of open cursors for the connection.   |
| <b>Ops Log Lag</b>         | The amount of time (in hours:minutes:seconds) in which the secondary instance is behind the primary instance. This field is only populated for secondary instances.  |
| <b>Ops Log Length</b>      | The length of the OpsLog collection, in bytes.   |
| <b>Page Faults</b>         | The number of page faults for the connection. MongoDB reports its triggered page faults as the total number of page faults in one second.  |
| <b>Physical Memory MB</b>  | The total amount of system memory (RAM), in megabytes.   |
| <b>ReplicaSet</b>          | The name of the replica set in which the mongod is a part of, if configured. This column will be empty if no replica set is configured, or set to <b>unknown</b> if there is no connection. All hosts in the replica set must have the same set name.  |
| <b>Storage Engine</b>      | The name of the current storage engine. The name can be either <b>MMAPv1</b> or <b>WiredTiger</b> . <b>WiredTiger</b> is the default as of MongoDB version 3.2.  |
| <b>Total Page File MB</b>  | The total size of pagefile defined for the connection, in megabytes. This metric only displays when the storage engine is <b>MMAPv1</b> .  |
| <b>Uptime</b>              | The amount of time since the instance was last started, shown in days, hours, and minutes (for example, 1d 23:43).   |
| <b>Expired</b>             | This check box becomes automatically checked when the data displayed in the row has exceeded the specified cache expiration time (set by default at 45 seconds) and is no longer current. Once the cache has been refreshed and is displaying current data, the check box will return to being unchecked. This check box will remain unchecked as long as the cache has been refreshed within the specified cache expiration time and the data is current. |
| <b>Time Stamp</b>          | The date and time this row of data was last updated.   |

## Single Instance Summary

Track utilization and performance metrics for specific instances.



**Title Bar:** Indicators and functionality might include the following:

Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

Open the online help page for this display.

### Fields and Data

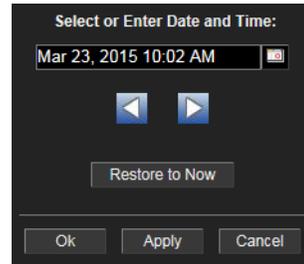
This display includes:

**Connection** Select the connection for which you want to view data.

**Expired** This check box becomes automatically checked when the data has exceeded the specified cache expiration time (set by default at 45 seconds) and is no longer current. Once the cache has been refreshed and is displaying current data, the check box will return to being unchecked. This check box will remain unchecked as long as the cache has been refreshed within the specified cache expiration time and the data is current.

|                                 |   |
|---------------------------------|---|
| <b>Connection Status</b>        | The connection status of the Connection/Host.<br> -- The host is not connected.<br> -- The host is partially connected, which occurs when the connection has succeeded but the credentials given do not allow access to certain metrics.<br> -- The host is connected. |
| <b>Alert State</b>              | The current alert level.<br> -- One or more alerts have exceeded their specified <b>ALARMLEVEL</b> threshold.<br> -- One or more alerts have exceeded their specified <b>WARNINGLEVEL</b> threshold.<br> -- No alerts have exceeded an alert threshold.                |
| <b>Alert Count</b>              | The total number of alerts for the connection.  |
| <b>Host OS</b>                  | The version of the operating system used by the host.   |
| <b>Mongo Version</b>            | The version number of the mongod instance.  |
| <b>Databases</b>                | The number of databases being hosted by the instance.   |
| <b>Storage Engine</b>           | The name of the current storage engine. The name can be either <b>MMAPv1</b> or <b>WiredTiger</b> . <b>WiredTiger</b> is the default as of MongoDB version 3.2.   |
| <b>Open Cursors</b>             | The total number of open cursors for the connection.  |
| <b>Replica Set</b>              | The name of the replica set in which the mongod is a part of, if configured. This column will be empty if no replica set is configured, or set to <b>unknown</b> if there is no connection. All hosts in the replica set must have the same set name.   |
| <b>Connections</b>              | The number of connections coming in from the clients to the database server, including the current monitor session.   |
| <b>Total PageFile in MB</b>     | The total size of pagefile defined for the connection, in megabytes. This metric only displays when the storage engine is <b>MMAPv1</b> .   |
| <b>Page Faults</b>              | The number of page faults for the connection. MongoDB reports its triggered page faults as the total number of page faults in one second.   |
| <b>Rep Set Designation</b>      | The designation of this member of the replica set ( <b>primary/secondary</b> ). This column will be empty if no replica set is configured, or set to <b>unknown</b> if there is no connection.  |
| <b>Memory</b>                   | The total amount of system memory (RAM), in megabytes.  |
| <b>Avg Flush Time</b>           | The average time, in milliseconds, for each flush to disk, calculated by dividing the total number of milliseconds by the total number of flushes.<br><br><b>Note:</b> Background flushing information only appears for instances using the <b>MMAPv1</b> storage engine.   |
| <b>Performance Trends Graph</b> | Shows connection and open cursor data for the connection.<br><b>Connections</b> -- Traces the total number of connections coming in from the clients.<br><b>Open Cursors</b> -- Traces the total number of open cursors on the connection.  |
| <b>Log Scale</b>                | This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option.  |

- Base at Zero** When this option is checked, zero is set as the Y axis minimum for all graph traces.
- Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click the  button.



By default, the time range end point is the current time. To change the time range end point, click the  button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. **Note:** The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

## Mongo Database View

These displays present detailed performance metrics and alert statuses for all databases (in a heatmap or a tabular format) or for an individual database.

- **"All Databases Heatmap"**: Displays a heatmap view of alert states for all databases.
- **"All Databases Table"**: Displays a tabular view of all databases and their associated metrics for a single connection, or of all databases and their associated metrics for all connections.
- **"Database Summary"**: Displays metrics for a specific database.

---

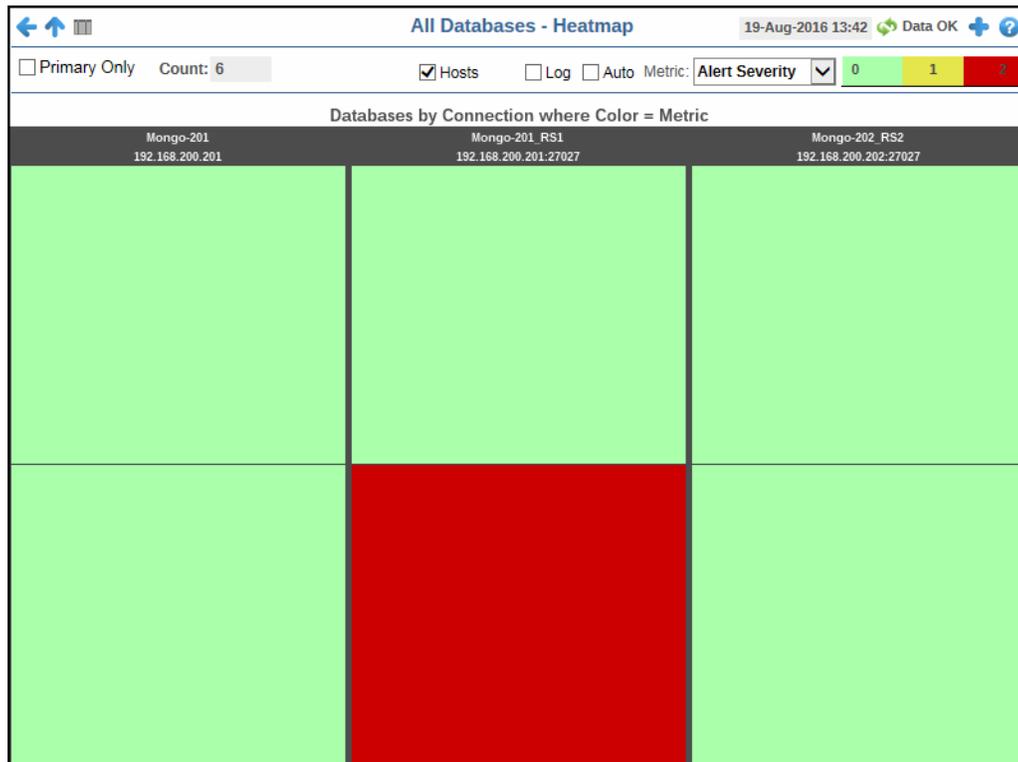
**Note:** No database information will display in the heatmap, table, or summary displays if a connection cannot be established.

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### All Databases Heatmap

Track utilization and performance metrics for all databases in a heatmap format. Use the **Metric** drop-down menu to view **Alert Severity**, **Alert Count**, **NumObjects** (number of objects), or **AvgObjectSize** (average object size).

The heatmap is organized so that each rectangle represents a database associated with a specific connection. The rectangle color indicates the value of the selected metric in the **Metric** drop down list. You can mouse-over rectangles to view more details about the performance and status of each database or click on a rectangle to drill-down to the “[Database Summary](#)” display and view metrics for that particular Table database. You can click the table icon  in this display to navigate to the “[All Databases Table](#)” display.



**Title Bar:** Indicators and functionality might include the following:

  Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

### Fields and Data

This display includes:

**Primary Only** Selecting this check box displays connections in the heatmap that have **Designation in Set** (within a replica set) defined as **Primary**, as well as those connections that are not part of a replica set (do not have a defined **Designation in Set**). Those connections with **Designation in Set** defined as **Secondary** will not be displayed.

|               |  |
|---------------|--|
| <b>Count</b>  | The total number of active and inactive databases.   |
| <b>Hosts</b>  | Select this check box to display the name/IP address of the host for each rectangle.   |
| <b>Log</b>    | This option enables visualization on a logarithmic scale, and should be used when the range in your data is very broad. For example, if you have data that ranges from the tens to the thousands, then data in the range of tens will be neglected visually if you do not check this option. This option makes data on both extreme ranges visible by using the logarithmic of the values rather than the actual values.   |
| <b>Auto</b>   | When checked, the values of the selected metric are auto-scaled to its highest defined value. When unchecked, the values of the selected metric display based on the threshold defined for the alert associated with the selected metric. Selecting <b>Auto</b> helps to visualize the range of the values currently present for the selected metric instead of the threshold of the alert that has been associated with the metric. All metrics that have not been associated in the heatmap defaults with alerts use a monochromatic color gradient bar (whites and greens). All metrics that have been associated in the heatmap defaults with alerts use a multi-chromatic color gradient bar (reds, yellows, white, and greens).  |
| <b>Metric</b> | Select the metric driving the heatmap display. The default is <b>Alert Severity</b> . Each <b>Metric</b> has a color gradient bar that maps values to colors. The heatmap organizes the databases by connection, where each rectangle represents a database. Mouse-over any rectangle to display the current values of the metrics for the database. Click on a rectangle to drill-down to the associated " <a href="#">Database Summary</a> " display for a detailed view of metrics for that particular database. <p><b>Alert Severity</b> The maximum alert level in the item (index) associated with the rectangle. Values range from <b>0</b> to <b>2</b>, as indicated in the color gradient bar , where <b>2</b> is the greatest <b>Alert Severity</b>.</p> <p><b>2</b> -- Metrics that have exceeded their specified <b>ALARMLEVEL</b> threshold and have an Alert Severity value of <b>2</b> are shown in red. For a given rectangle, this indicates that one or more metrics have exceeded their alarm threshold.</p> <p><b>1</b> -- Metrics that have exceeded their specified <b>WARNINGLEVEL</b> threshold and have an Alert Severity value of <b>1</b> are shown in yellow. For a given rectangle, this indicates that one or more metrics have exceeded their warning threshold.</p> <p><b>0</b> -- Metrics that have not exceeded either specified threshold have an Alert Severity value of <b>0</b> and are shown in green. For a given rectangle, this indicates that no metrics have exceeded a specified alert threshold.</p> <p><b>Alert Count</b> The total number of alarm and warning alerts in a given item (index) associated with the rectangle.</p> <p>The color gradient bar  shows the range of the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the middle value of the range.</p> |

**Collections**

The total number of collections in a given item (index) associated with the rectangle. The color gradient bar shows the range of the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum number of collections in the heatmap. The middle value in the gradient bar indicates the middle value of the range.

The **Auto** option does not impact this metric.

**Data Size**

The total size (in bytes) of the data in a given item (index) associated with the rectangle. The color gradient bar shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from 0 to the alert threshold of **MongoDatabaseDataSizeHigh**, which is **100,000**. The middle value in the gradient bar indicates the middle value of the range (the default is **50,000**).

When **Auto** is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.

**All Databases Table**

View details for all databases in a single connection, or view details for all databases in all connections.

The screenshot shows the 'All Databases - Table' view. At the top, there are navigation icons, a 'Back to All Databases Table' link, the title 'All Databases - Table', and a timestamp '19-Aug-2016 13:44' with a 'Data OK' indicator. Below the title, there is a 'Connection:' dropdown menu set to 'Mongo-201', a 'Primary Only' checkbox, and a 'Count: 2' display. The main table has the following data:

| Connection | Host            | Name     | Alert Level | Alert Count | Status UpDown                       | Collections | Data Size | File Size |
|------------|-----------------|----------|-------------|-------------|-------------------------------------|-------------|-----------|-----------|
| Mongo-201  | 192.168.200.201 | local    |             | 0           | <input checked="" type="checkbox"/> | 1           | 7,596     | 0         |
| Mongo-201  | 192.168.200.201 | meantest |             | 0           | <input checked="" type="checkbox"/> | 1           | 390       | 0         |

**Title Bar:** Indicators and functionality might include the following:

  Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

## Fields and Data

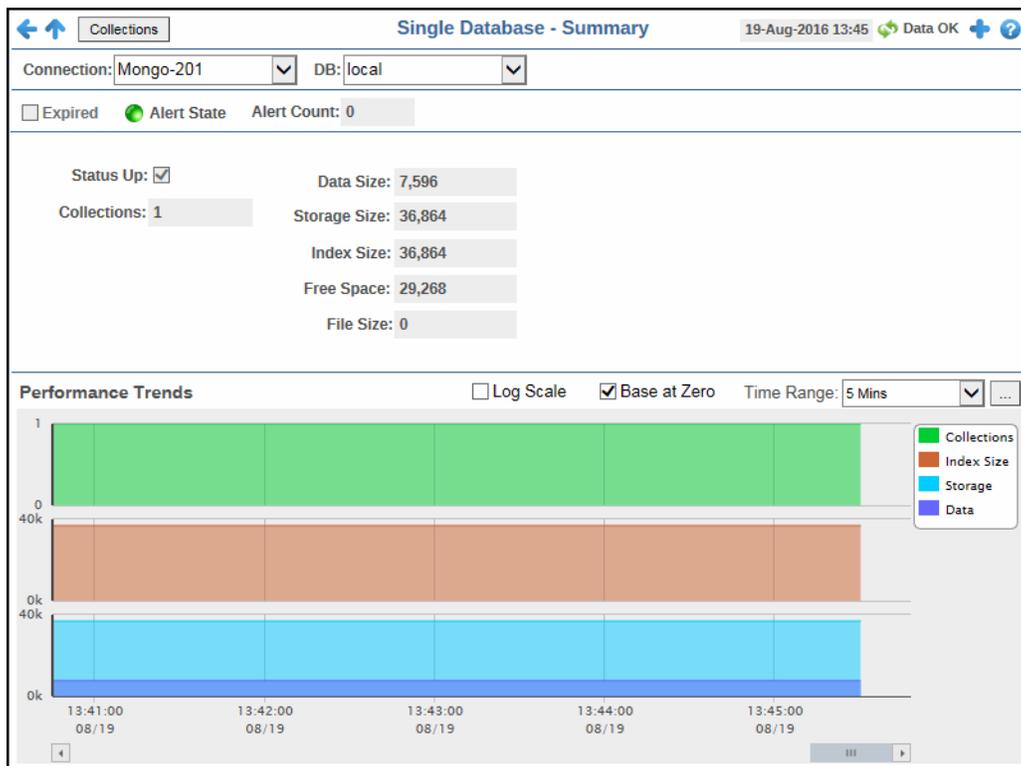
This display includes:

|                      |  |
|----------------------|--|
| <b>Connection</b>    | Select the connection for which you want to view data, or select <b>All Connections</b> to view data for all connections.  |
| <b>Primary Only</b>  | Selecting this check box displays connections in the table that have <b>Designation in Set</b> (within a replica set) defined as <b>Primary</b> , as well as those connections that are not part of a replica set (do not have a defined <b>Designation in Set</b> ). Those connections with <b>Designation in Set</b> defined as <b>Secondary</b> will not be displayed.  |
| <b>Count</b>         | The total number of databases displayed in the table.  |
| <b>Table</b>         | This table shows information for the selected connection(s). Click on a table row to drill-down to the <a href="#">"Database Summary"</a> display and view metrics for that particular server.   |
| <b>Connection</b>    | The name of the connection   |
| <b>Host</b>          | The host name returned by MongoDB or the host provided by the user to use for connection if the host is not available.   |
| <b>Name</b>          | The name of the database.  |
| <b>Alert Level</b>   | The current alert level.<br> -- One or more alerts have exceeded their specified <b>ALARMLEVEL</b> threshold.<br> -- One or more alerts have exceeded their specified <b>WARNINGLEVEL</b> threshold.<br> -- No alerts have exceeded an alert threshold. |
| <b>Alert Count</b>   | The total number of alerts for the database.   |
| <b>Status UpDown</b> | When checked, signifies that the database is up and running.   |
| <b>Collections</b>   | The number of collections in the database.   |
| <b>Data Size</b>     | The total size, in bytes, of the data held in the database including the padding factor. The <b>Data Size</b> will not decrease when the document size decreases, but will decrease when documents are removed.<br><b>Note:</b> The <b>scale</b> argument affects this value.  |
| <b>File Size</b>     | The total size, in bytes, of the data files in the database. This value includes preallocated space as well as the padding factor, and only reflects the size of the data files in the database and not the size of the namespace file.  |
| <b>Free Space</b>    | The total free space remaining on the database ( <b>Storage Size</b> minus <b>Data Size</b> ).   |

|                     |   |
|---------------------|---|
| <b>Index Size</b>   | The total size, in bytes, of all indexes created on the database.<br><b>Note:</b> The <b>scale</b> argument affects this value.   |
| <b>Storage Size</b> | The total amount of space, in bytes, allocated to collections in this database for document storage. The Storage Size does not decrease when documents are removed or the size of the documents decrease.<br><b>Note:</b> The <b>scale</b> argument affects this value. |
| <b>Expired</b>      | When checked, signifies that data has not been received from this host in the specified amount of time. The default setting is <b>35</b> seconds.   |
| <b>time_stamp</b>   | The date and time the data in this row was last updated.  |

## Database Summary

View all available utilization and performance data for a specific database.



**Title Bar:** Indicators and functionality might include the following:

← ↑ Open the previous and upper display.

Table Navigate to displays commonly accessed from this display.

19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

🚨 Open the **Alert Views - RTView Alerts Table** display.

➕ Open an instance of this display in a new window.

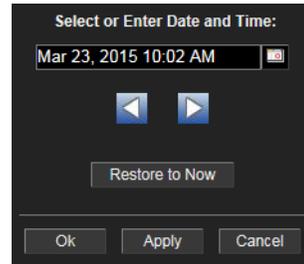
🔗 Open the online help page for this display.

## Fields and Data

This display includes:

|                                 |   |
|---------------------------------|---|
| <b>Connection</b>               | Select the connection for which you want to view data.  |
| <b>DB</b>                       | Select the database for which you want to view data.  |
| <b>Expired</b>                  | This check box becomes automatically checked when the data has exceeded the specified cache expiration time (set by default at 45 seconds) and is no longer current. Once the cache has been refreshed and is displaying current data, the check box will return to being unchecked. This check box will remain unchecked as long as the cache has been refreshed within the specified cache expiration time and the data is current.   |
| <b>Alert State</b>              | The current alert level.<br> -- One or more alerts have exceeded their specified <b>ALARMLEVEL</b> threshold.<br> -- One or more alerts have exceeded their specified <b>WARNINGLEVEL</b> threshold.<br> -- No alerts have exceeded an alert threshold.  |
| <b>Alert Count</b>              | The total number of alerts for the database.  |
| <b>Status Up</b>                | When checked, signifies that the database is up and running.  |
| <b>Collections</b>              | The total number of collections in the database.  |
| <b>Data Size</b>                | The total size, in bytes, of the data held in the database including the padding factor. The <b>Data Size</b> will not decrease when the document size decreases, but will decrease when documents are removed.<br><b>Note:</b> The <b>scale</b> argument affects this value.   |
| <b>Storage Size</b>             | The total amount of space, in bytes, allocated to collections in this database for document storage. The Storage Size does not decrease when documents are removed or the size of the documents decrease.<br><b>Note:</b> The <b>scale</b> argument affects this value.   |
| <b>Index Size</b>               | The total size, in bytes, of all indexes created on the database.<br><b>Note:</b> The <b>scale</b> argument affects this value.   |
| <b>Free Space</b>               | The total free space remaining on the database ( <b>Storage Size</b> minus <b>Data Size</b> ).  |
| <b>File Size</b>                | The total size, in bytes, of the data files in the database. This value includes preallocated space as well as the padding factor, and only reflects the size of the data files in the database and not the size of the <b>namespace</b> file.  |
| <b>Performance Trends Graph</b> | Shows connection and open cursor data for the connection.<br><b>Collections</b> -- Traces the total number of collections in the database.<br><b>Index Size</b> -- Traces the total size of indexes created on the database.<br><b>Storage</b> -- Traces the total amount of space allocated to collections in the database.<br><b>Data</b> -- Traces the total size of the data held in the database.<br><b>Log Scale</b> This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option. |

- Base at Zero** When this option is checked, zero is set as the Y axis minimum for all graph traces.
- Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click the  button.



By default, the time range end point is the current time. To change the time range end point, click the  button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. **Note:** The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

## Mongo Collection View

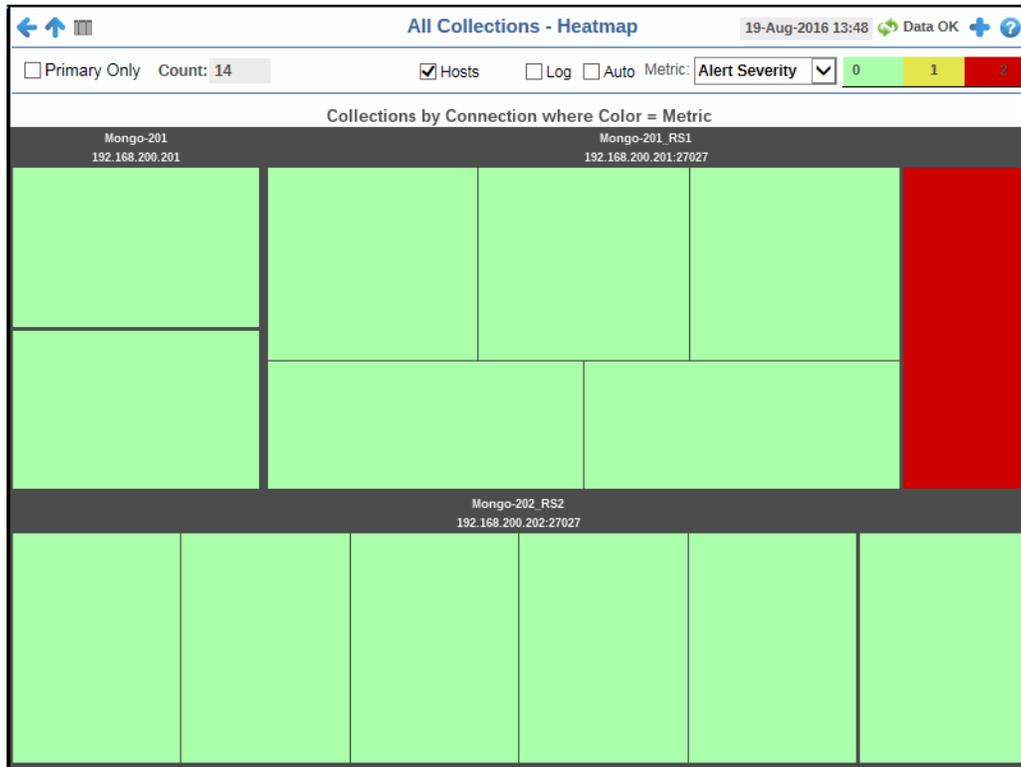
These displays present several views of performance metrics for collections. You can view heatmap or tabular views of all collections that exist in the connections in the [“All Collections Heatmap”](#) and [“All Collections Table”](#) displays, or you can view all details for a specific collection contained in a particular database in the [“Collection Summary”](#) display.

- [“All Collections Heatmap”](#): A heatmap representation that allows you to view performance and utilization metrics for all collections that exist in each of your connections.
- [“All Collections Table”](#): A tabular view that allows you to view performance and utilization metrics for all collections in a particular database, or for all collections on all databases.
- [“Collection Summary”](#): Shows detailed performance and utilization metrics and trends for a specified collection on a particular database.

### All Collections Heatmap

This display provides a heatmap view of the status and alerts of all collections within each connection. Use the **Metric** drop-down menu to view **Alert Severity**, **Alert Count**, **NumObjects** (number of objects), or **AvgObjectSize** (average object size).

The heatmap is organized so that each rectangle represents a collection contained within a specific connection. The rectangle color indicates the value of the selected metric in the **Metric** drop down list. You can mouse-over rectangles to view more details about the performance and status of each collection or click on a rectangle to drill-down to the [“Collection Summary”](#) display and view metrics for that particular collection. You can click the table icon  in this display to navigate to the [“All Collections Table”](#) display.



**Title Bar:** Indicators and functionality might include the following:



Open the previous and upper display.



Navigate to displays commonly accessed from this display.

19-Feb-2014 16:50

The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.



**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.



Open the **Alert Views - RTView Alerts Table** display.



Open an instance of this display in a new window.



Open the online help page for this display.

### Fields and Data

This display includes:

#### Primary Only

Selecting this check box displays connections in the heatmap that have **Designation in Set** (within a replica set) defined as **Primary**, as well as those connections that are not part of a replica set (do not have a defined **Designation in Set**). Those connections with **Designation in Set** defined as **Secondary** will not be displayed.

#### Count

The total number of collections.

#### Hosts

Select this check box to display the names of the hosts in the heatmap.

**Log** This option enables visualization on a logarithmic scale, and should be used when the range in your data is very broad. For example, if you have data that ranges from the tens to the thousands, then data in the range of tens will be neglected visually if you do not check this option. This option makes data on both extreme ranges visible by using the logarithmic of the values rather than the actual values.

**Auto** When checked, the values of the selected metric are auto-scaled to its highest defined value. When unchecked, the values of the selected metric display based on the threshold defined for the alert associated with the selected metric. Selecting **Auto** helps to visualize the range of the values currently present for the selected metric instead of the threshold of the alert that has been associated with the metric. All metrics that have not been associated in the heatmap defaults with alerts use a monochromatic color gradient bar (whites and greens). All metrics that have been associated in the heatmap defaults with alerts use a multi-chromatic color gradient bar (reds, yellows, white, and greens).

**Metric** Select the metric driving the heatmap display. The default is **Alert Severity**. Each **Metric** has a color gradient bar that maps values to colors. The heatmap organizes the collections by connection, where each rectangle represents a collection. Mouse-over any rectangle to display the current values of the metrics for the collection. Click on a rectangle to drill-down to the associated "[Collection Summary](#)" display for a detailed view of metrics for that particular collection.

**Alert Severity**

The maximum alert level in the item (index) associated with the rectangle. Values range from **0** to **2**, as indicated in the color gradient bar , where **2** is the greatest **Alert Severity**.

**2** -- Metrics that have exceeded their specified **ALARMLEVEL** threshold and have an Alert Severity value of **2** are shown in red. For a given rectangle, this indicates that one or more metrics have exceeded their alarm threshold.

**1** -- Metrics that have exceeded their specified **WARNINGLEVEL** threshold and have an Alert Severity value of **1** are shown in yellow. For a given rectangle, this indicates that one or more metrics have exceeded their warning threshold.

**0** -- Metrics that have not exceeded either specified threshold have an Alert Severity value of **0** and are shown in green. For a given rectangle, this indicates that no metrics have exceeded a specified alert threshold.

**Alert Count**

The total number of alarm and warning alerts in a given item (index) associated with the rectangle.

The color gradient bar , shows the range of the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the middle value of the range.

**NumObjects**

The total number of objects or documents in a given item (index) associated with the rectangle. The color gradient bar shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from **0** to the alert threshold of **MongoCollectionNumObjectsHigh**, which is **2000**. The middle value in the gradient bar indicates the middle value of the range (the default is **1000**).

When **Auto** is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.

**AvgObjectSize**

The average size (in bytes) of an object in a given item (index) associated with the rectangle. The color gradient bar shows the range of the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of objects in the heatmap. The middle value in the gradient bar indicates the middle value of the range.

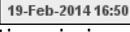
**All Collections Table**

Track performance and utilization metrics for all collections on a single database, or for all connections on all databases.

The screenshot displays the 'All Collections - Table' view. At the top, there are navigation icons and a title bar with the text 'All Collections - Table' and a timestamp '19-Aug-2016 13:51'. Below the title bar, there are filters for 'Connection: Mongo-201', 'DB: local', and a 'Count: 1' indicator. The main table has the following structure:

| Connection | Host            | Database | Collection  | Alert Level | Alert Count | Number of Objects | Average Object Size |
|------------|-----------------|----------|-------------|-------------|-------------|-------------------|---------------------|
| Mongo-201  | 192.168.200.201 | local    | startup_log |             | 0           | 6                 | 1,266               |

**Title Bar:** Indicators and functionality might include the following:

  Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

## Fields and Data

This display includes:

- Connection** Select the connection for which you want to view collection data.
- DB** Select the database for which you want to view collection data, or select **All Databases** to view all collections for all databases.
- Primary Only** Selecting this check box displays connections in the table that have **Designation in Set** (within a replica set) defined as **Primary**, as well as those connections that are not part of a replica set (do not have a defined **Designation in Set**). Those connections with **Designation in Set** defined as **Secondary** will not be displayed.
- Count** The total number of collections found for the selected database(s).
- All Collections Table** This table describes all topics on the selected server. Click a row to view metrics for a single topic in the “[Collection Summary](#)” display.

|                            |  |
|----------------------------|--|
| <b>Connection</b>          | The name of the connection.  |
| <b>Host</b>                | The name of the host.  |
| <b>Database</b>            | The name of the database.  |
| <b>Collection</b>          | The name of the collection.  |
| <b>Alert Level</b>         | The current alert level.<br> -- One or more alerts have exceeded their specified <b>ALARMLEVEL</b> threshold.<br> -- One or more alerts have exceeded their specified <b>WARNINGLEVEL</b> threshold.<br> -- No alerts have exceeded an alert threshold. |
| <b>Alert Count</b>         | The total number of alerts for the database.   |
| <b>Number of Objects</b>   | The total number of objects or documents in the collection.  |
| <b>Average Object Size</b> | The average size, in bytes, of the objects in the collection.  |
| <b>Indexes</b>             | The total number of indexes in the collection.   |

**Expired**

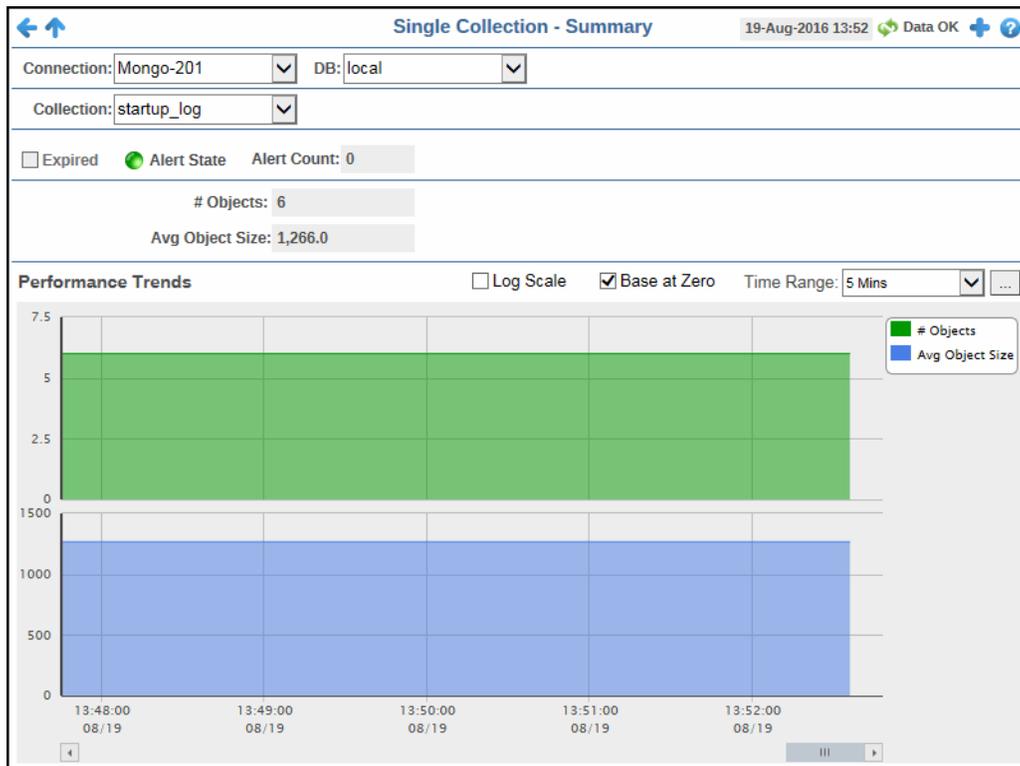
This check box becomes automatically checked when the data displayed in the row has exceeded the specified cache expiration time (set by default at 45 seconds) and is no longer current. Once the cache has been refreshed and is displaying current data, the check box will return to being unchecked. This check box will remain unchecked as long as the cache has been refreshed within the specified cache expiration time and the data is current.

**time\_stamp**

The date and time this row of data was last updated.

## Collection Summary

Track performance and utilization metrics for a single collection on a single database.



**Title Bar:** Indicators and functionality might include the following:

Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

Open the online help page for this display.

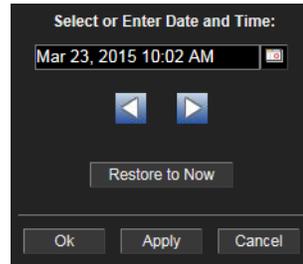
**Fields and Data**

This display includes:

|                                 |  |
|---------------------------------|--|
| <b>Connection</b>               | Select the connection for which you want to view collection data.  |
| <b>DB</b>                       | Select the database for which you want to view collection data, or select <b>All Databases</b> to view all collections for all databases.  |
| <b>Collection</b>               | Select the connection for which you want to view data.   |
| <b>Expired</b>                  | This check box becomes automatically checked when the data displayed in the row has exceeded the specified cache expiration time (set by default at 45 seconds) and is no longer current. Once the cache has been refreshed and is displaying current data, the check box will return to being unchecked. This check box will remain unchecked as long as the cache has been refreshed within the specified cache expiration time and the data is current.   |
| <b>Alert State</b>              | The current alert level.<br> -- One or more alerts have exceeded their specified <b>ALARMLEVEL</b> threshold.<br> -- One or more alerts have exceeded their specified <b>WARNINGLEVEL</b> threshold.<br> -- No alerts have exceeded an alert threshold. |
| <b>Alert Count</b>              | The total number of alerts for the database.   |
| <b># Objects</b>                | The total number of objects in the collection.   |
| <b>Avg Object Size</b>          | The average size, in bytes, of the objects in the collection.  |
| <b>Performance Trends Graph</b> | Shows message data for the selected collection.<br><b># Objects</b> -- Traces the total number of objects in the collection.<br><b>Avg Object Size</b> -- Traces the average size of objects in the collection.  |
| <b>Log Scale</b>                | This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option.   |

**Base at Zero** When this option is checked, zero is set as the Y axis minimum for all graph traces.

**Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click the  button.



By default, the time range end point is the current time. To change the time range end point, click the  button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows  to move forward or backward one time period. **Note:** The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.



## CHAPTER 14 Solution Package for Node.js

The Solution Package for Node.js is an easy to configure and use monitoring system that gives you extensive visibility into the health and performance of your Node.js node instances, node requests, and node processes.

The Monitor enables Node.js users to continually assess and analyze the health and performance of their infrastructure, gain early warning of issues with historical context, and effectively plan for capacity of their messaging system. It does so by aggregating and analyzing key performance metrics across all instances, requests, and processes, and presents the results, in real time, through meaningful dashboards as data is collected.

Users also benefit from predefined dashboards and alerts that pin-point critical areas to monitor in most environments, and allow for customization of thresholds to let users fine-tune when alert events should be activated.

The Monitor also contains alert management features so that the life cycle of an alert event can be managed to proper resolution. All of these features allow you to know exactly what is going on at any given point, analyze the historical trends of the key metrics, and respond to issues before they can degrade service levels in high-volume, high-transaction environments.

This section describes how to install, configure, deploy, start the Solution Package for Node.js, and read and use the Solution Package for Node.js displays. See **README\_sysreq.txt** for the full system requirements for RTView®.

The Solution Package for Node.js requires RTView Enterprise Monitor 3.5.

For Linux, these instructions require a Bourne-compatible shell.

The following instructions assume you are familiar with the start/stop scripts for RTView Enterprise Monitor.

As a general rule, SL recommends creating a top-level directory named **RTView** and installing RTView Enterprise Monitor under this directory. The following sections assume that you have created an **RTView** directory and installed RTView Enterprise Monitor under the **RTView** directory, thus resulting in the **RTView/rtvapm** directory structure.

This section assumes you created a project directory, **rtvapm\_projects**, when you installed RTView Enterprise Monitor. All examples (of configurations, property settings, command execution, and so forth) refer to the project directory. The Solution Package for Node.js configuration is located in the **rtvapm\_projects/emsample/servers/miscmon**.

This section includes:

- [“Getting Started”](#)
- [“Node.js Monitor Views/Displays”](#)

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**Note:** See [“Configuration and Deployment”](#) for additional information on configuring RTView Enterprise Monitor and its Solution Packages.

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## Getting Started

Perform these instructions if you downloaded, installed and configured the *standard* RTView Enterprise Monitor (**rtvapm\_std\_<version>.zip**), rather than the *full* RTView Enterprise Monitor, and now wish to install the Solution Package for Solace.

**Note:** If you downloaded and installed the *full* RTView Enterprise Monitor (**rtvapm\_full\_<version>.zip**), refer to [Chapter 2, “Configuration and Deployment”](#) .

This section includes:

- [“Install & Setup”](#)
- [“Installing the Agent”](#)
- [“Set Up Your Data Connection”](#)
- [“Start the Monitor”](#)
- [“Stop the Monitor”](#)
- [“Troubleshooting”](#)

## Install & Setup

Prerequisite: RTView Enterprise Monitor 3.5 must be installed on your system.

1. Download the **rtvapm\_nodemom\_<version>.zip** archive to your local Windows/UNIX/Linux server.

2. Extract the files:

**Windows:**

Type `unzip rtvapm_nodemom_<version>.zip` and save the files to the **C:\RTView** directory.

**UNIX/Linux:**

Type `unzip -a rtvapm_nodemom_<version>.zip` and save the files to the **/opt/RTView** directory.

3. Verify that the **nodemon** directory was created under **rtvapm** and extracted correctly.
4. Verify you do not have an extra **rtvapm** directory containing **nodemon**. If you do, move these directories under the first **rtvapm** directory and delete the nested **rtvapm**.
5. Set **JAVA\_HOME** to the location of your Java installation and include the **bin** directory under **JAVA\_HOME** in the path.

**Important:** This environment variable must be defined in UNIX/Linux systems for Tomcat to start successfully.

## Installing the Agent

Nodemon requires adding the `rtview-nodemon` module into your Node.js server application.

1. Copy the **C:/RTView/rtvapm/nodemon/agents/rtview-nodemon-<VERSION>.zip** file into your server application's **node\_modules** folder and unzip the files. The **rtview-nodemon** sub-directory is automatically created in your **node\_modules** directory (**node\_modules/rtview-nodemon**).
2. In a command window, **cd** to the **node\_modules/rtview-nodemon** directory and type **npm install** to install the required rtview-nodemon modules.
3. In your Node.js server application, you need to add a reference to the rtview-nodemon module. Below are two examples of how to add a reference:

**Example 1:**

```
require('rtview-nodemon').start({ 'app' : app, 'id' : 'your_serverID', 'cluster' : cluster });
```

**Example 2:**

```
var rtv = require('rtview-nodemon');
rtv.start({ 'app' : app, 'host' : 'id' : 'your_server_display_name', 'cluster' : cluster });
```

**Required Argument Fields:**

**'app'** : The reference to your express application object. This is only required for the master node in a clustered node application. For example:

```
var app = express();
```

**'id'** : The label used by nodemon to identify your server instance.

**Optional Argument Fields:**

**'cluster'** : If you are running a clustered Node.js application, this is the reference to the cluster object. Omit this option if non-clustered. For example:

```
var cluster = require('cluster');
```

**'host'** : The host name or IP address of your RTView EM nodemon installation if other than 'localhost'

**'port'** : **3275** The port number of your RTView EM nodemon installation. This must match the **"rtvhttpoption port"** entry found in **RTVHTTPOPTIONS.ini**, which is currently 3275.

## Defining User-Defined Host Names

The Node.js Monitor uses the application's host name that is pulled from the operating system or container in which it is running to populate the **Host** drop down lists/columns that appear throughout Node.js Monitor. In some cases, there could be more than one application running on the same operating system or within the same container, which means that the same host name might be used for multiple applications. To better determine the identity of the specific applications, you can assign a user-defined host name for the application using one of the following two methods:

- Set a user-defined host name by adding **-rtvhttp\_host** in the command line when starting the application. For example: **-rtvhttp\_host=<YourHostName>**
- Define the **RTVHTTP\_HOST** environment variable specifying the host name. For example: **RTVHTTP\_HOST=<YourHostName>**

When both are specified, the command line argument takes precedence over the environment variable. Once set, the user-defined host name will display in the **Host** drop down lists/columns throughout Node.js Monitor, thus allowing you to select the specific application for which you want to view data.

Proceed to [“Set Up Your Data Connection,”](#) next.

## Set Up Your Data Connection

The default port used for data collection is defined in the **sample.properties** file. To modify the default, perform the following:

1. Open the **RTView/rtvapm\_projects/emsample/servers/miscmon/sample.properties** file and find the following section:

```
#####
# NODEMON sample properties
#####

#####
# RTVHTTP DATA COLLECTOR PROPERTIES

# Configure your data connections here ...
# The examples shown below should be tailored to your environment.

# RTVHTTP OPTIONS SETTINGS
#
# Configure the listening port for the rtvhttp data adapter
#
# If multiple solution packs use the rtvhttp data adapter and are included the
# same data server (e.g. MISCMON)
# then be aware this property may occur multiple times in the same properties
# file,
# with the last occurrence to set the value taking precedence.

collector.sl.rtvview.rtvhttp.port=3275
```

2. Edit the following line and specify the Node.js rtvhttp data adapter port to which you want to connect (to enable the Monitor to collect data):

```
collector.sl.rtvview.rtvhttp.port=3275
```

Proceed to [“Start the Monitor,”](#) next.

## Start the Monitor

Use the configuration defined in the **rtvservers.dat** file, which is located in the **RTView/rtvapm\_projects/emsample/servers** directory.

1. Initialize a command line window by executing the **rtvapm\_init** script. For example:

### Windows

Go to your RTView Enterprise Monitor installation directory and type:

```
rtvapm_init
```

### UNIX

Go to your Enterprise Monitor installation directory and type:

```
.. ./rtvapm_init.sh
```

2. Initialize the user project directory by executing the `rtvapm_user_init` script. For example:

**Windows**

Change directory (`cd`) to `RTView\rtvapm_projects\emsample` and type:

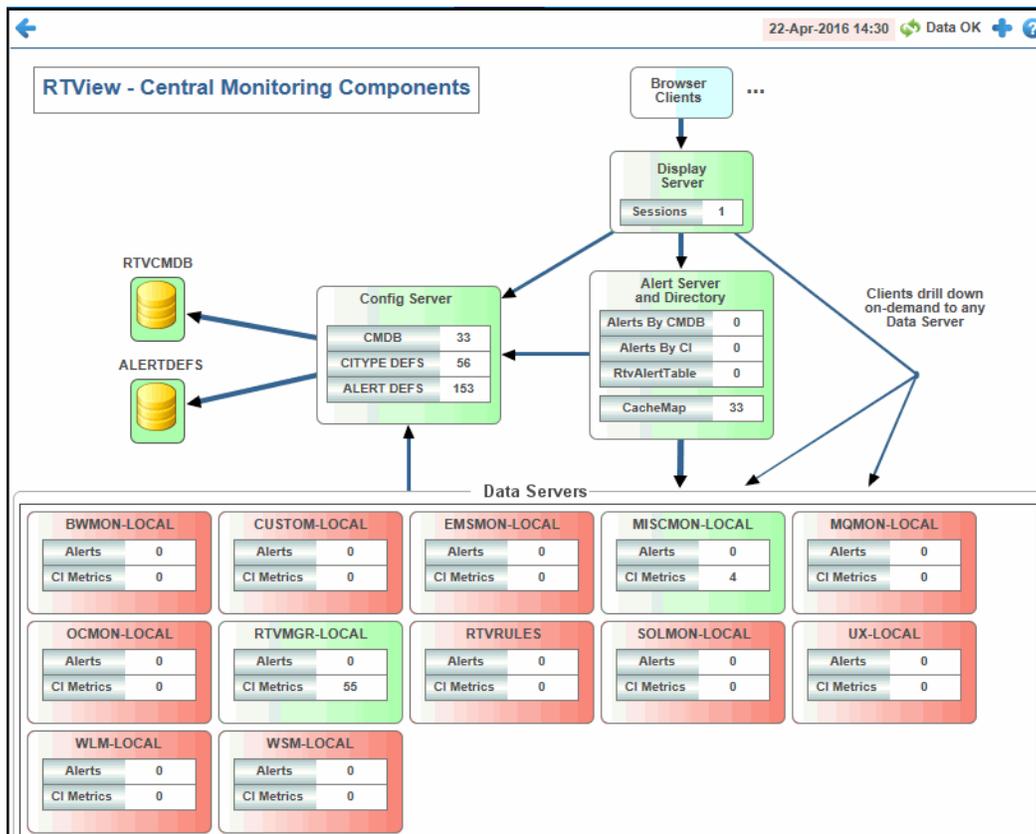
```
rtvapm_user_init
```

**UNIX**

Change directory (`cd`) to `RTView/rtvapm_projects/emsample` and type:

```
.. ./rtvapm_user_init.sh
```

3. Change directory (`cd`) to `rtvapm_projects/emsample/servers`.
4. Execute `start_rtv.sh central` (`start_rtv central` for Windows) to start the RTView Enterprise Monitor main processes.
5. Execute `start_rtv.sh rtvmgr` (`start_rtv rtvmgr` for Windows) to start the RTView Manager.
6. Execute `start_rtv.sh miscmon -properties:sample` (or `start_rtv miscmon -properties:sample` for Windows) to start all components of the Solution Package for Node.js.  
**Note:** Make sure that you have deployed the `emsample.war` file to your application server prior to attempting the next step. See the "Configure Central Servers" section in the RTView Enterprise Monitor document for more information.
7. Open a browser and go to your RTView Enterprise Monitor deployment.
8. Verify that the Data Server is collecting data by navigating to the **Admin** tab and clicking **Architecture->System Overview** in the navigation tree. The **RTView - Central Monitoring Components** display should open and the Data Server, named **MISCMON-LOCAL** (by default), should be green and the **CI Metrics** value should be greater than zero (**0**). For example:



You have completed the Quick Start.

For information about configuring RTView Enterprise Monitor and Solution Packages for your production environment, see the *RTView Enterprise Monitor® User's Guide* available at <http://www.sl.com/support/documentation/>.

You have completed the Quick Start.

## Stop the Monitor

**To stop the Solution Package for Node.js (in RTView Enterprise Monitor):**

1. Change directory (**cd**) to **RTView/rtvapm\_projects/emsample/servers**.
2. Execute **stop\_rtv.sh miscmon** (or **stop\_rtv miscmon** for Windows) to stop all components of the Solution Package for Node.js.

## Troubleshooting

This section includes:

- “Log Files,” next
- “JAVA\_HOME” on page 355
- “Permissions” on page 355
- “Network/DNS” on page 355
- “Verify Data Received from Data Server” on page 355
- “Verify Port Assignments” on page 355

### Log Files

When a Monitor component encounters an error, it outputs an error message to the console and/or to the corresponding log file. If you encounter issues, look for errors in the following log files:

- **dataserver.log**
- **historian.log**

which are located in the **rtvapm\_projects/emsample/servers/miscmon/logs** directory.

Logging is enabled by default. If you encounter issues with log files, verify the **logs** directory exists in the **rtvapm\_projects/emsample/servers/miscmon** directory.

### JAVA\_HOME

If the terminal window closes after executing the **start\_rtv** command, verify that JAVA\_HOME is set correctly.

### Permissions

If there are permissions-related errors in the response from the **start\_rtv** command, check ownership of the directory structure.

### Network/DNS

If any log file shows reference to an invalid URL, check your system's hosts file and confirm with your Network Administrator whether your access to the remote system is being blocked.

### Verify Data Received from Data Server

If you encounter problems collecting data, restart the Data Server, start the Monitor, and go to the **Admin** tab and select **Architecture > RTView Cache Tables** in the navigation tree. Select **MISCMON-LOCAL** from the **Data Server** drop down list, and search for all caches that start with “Node.” Make sure these caches are populated (the number of **Rows** and **Columns** in the table should be greater than 0). If not, there might be a problem with the connection to the Data Server.

### Verify Port Assignments

If the Viewer, display server, or Historian fail to connect to the Data Server or they receive no data, verify the ports are assigned correctly in your properties files and restart the Data Server.

---

## Node.js Monitor Views/Displays

The following Node.js Monitor Views (and their associated displays) can be found under **Components** tab > **Application/Web Servers**> **Node.js Servers** once Node.js Monitor is installed.

This section includes the following:

- **“Node/Master View”**: The displays in this View present detailed data for all node instances or for a particular node instance.
- **“Node Request View”**: The displays in this View allow you to view data pertaining to requests for a connection and a host, or view trending request data for a particular URL associated with a connection and a host.
- **“Process View”**: The displays in this View allow you to view the current and historical metrics for all node processes in a heatmap or tabular format for one or all hosts, or view the current and historical metrics for a single node process.

### Node/Master View

These displays provide detailed data for all node instances or for a particular node instance. Displays in this View are:

- **“Node Master Table”**: A tabular view of your connected and recently expired node instances and their associated metrics.
- **“Node Master Summary”**: Provides a way to view trending data for individual node processes.

### Node Master Table

This table provides a view of all your connected (and recently expired) node instances and their associated metric data including host, connection, alert severity, alert count, and the current value of each gathered metric. You can click a column header to sort column data in numerical or alphabetical order, and drill-down and investigate by clicking a row to view details for the selected node in the **“Node Master Summary”** display.

← Requests All Node / Master Info - Table 19-Aug-2016 10:01 Data OK + ?

Connection: SL\_Cluster2 Host: TESTBED-29

Count: 1 All Node / Masters Table

| Connection  | Hostname   | Alert Level | Alert Count | Process ID | Uptime    | CPU % | Request Count | Requests per sec | Requests Delta |
|-------------|------------|-------------|-------------|------------|-----------|-------|---------------|------------------|----------------|
| SL_Cluster2 | TESTBED-29 | ●           | 0           | 8562       | 17d 02:50 | 1.5   | 11,201,503    | 0.0              | 0.0            |

**Title Bar:** Indicators and functionality might include the following:

← ↑ Open the previous and upper display.  
 Table Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

⚠ Open the **Alert Views - RTView Alerts Table** display.

+ Open an instance of this display in a new window.

? Open the online help page for this display.

**Note:** The **Requests** button takes you to "Node Requests Table".

### Fields and Data:

|                   |  |
|-------------------|--|
| <b>Connection</b> | Select the name of the connection containing the node instances for which you want to view data. |
| <b>Host</b>       | Select the name of the host containing the node instances for which you want to view data.       |
| <b>Count</b>      | The total number of node instances being monitored based on your search criteria.                |

### Table:

Each row in the table is a different message router.

|                             |   |
|-----------------------------|---|
| <b>Connection</b>           | The name of the connection.   |
| <b>Host Name</b>            | The name of the host.   |
| <b>Alert Level</b>          | The current alert severity.<br> Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.<br> Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.<br> Green indicates that no metrics have exceeded their alert thresholds. |
| <b>Alert Count</b>          | The total number of current alerts.   |
| <b>Process ID</b>           | The process id for the node instance.   |
| <b>Uptime</b>               | The amount of time the process has been running.  |
| <b>CPU %</b>                | The percentage of CPU used for the process.   |
| <b>Request Count</b>        | The total number of requests on the host.   |
| <b>Requests per sec</b>     | The average number of requests per second on the host.  |
| <b>Requests Delta</b>       | The total number of requests since the last data update.  |
| <b>Requests Mean Rate</b>   | The average number of requests for the server since monitoring was started.   |
| <b>Requests 1 Min Rate</b>  | The average number of requests for the last minute.   |
| <b>Requests 5 Min Rate</b>  | The average number of requests for the last 5 minutes.  |
| <b>Requests 15 min Rate</b> | The average number of requests for the last 15 minutes.   |
| <b>Expired Workers</b>      | The number of expired workers on the host since the last data update.   |
| <b>Arch</b>                 | The CPU architecture of the operating system on the server. Possible values are <b>x64</b> , <b>arm</b> , and <b>ia32</b> .   |
| <b>C-ares</b>               | The current version of C-ares running on the host.  |
| <b>Http Parser</b>          | The current version of the http parser running on the host.   |
| <b>ICU</b>                  | The current version of ICU running on the host.   |
| <b>Modules</b>              | This number of modules found on the host.   |
| <b>Node Ver</b>             | The version of <b>node.js</b> running on the host.  |
| <b>Open SSL</b>             | The current version of OpenSSL running on the host.   |
| <b>Platform</b>             | The operating system's platform. Possible values, among others, are: <b>darwin</b> , <b>linux</b> , <b>sunos</b> , or <b>win32</b> .  |
| <b>Release</b>              | The operating system's release number.  |
| <b>Type</b>                 | The name of the operating system. Possible values, among others, are <b>Linux</b> on Linux, <b>Darwin</b> on OS X, and <b>Windows_NT</b> on Windows.  |
| <b>UV</b>                   | The current version of <b>uv</b> running on the host.   |
| <b>V8</b>                   | The current version of <b>v8</b> running on the host.   |
| <b>ZLib</b>                 | The current version of <b>ZLib</b> running on the host.   |

**Expired**

When checked, performance data about the node has not been received within the time specified (in seconds) in the **\$nodeRowExpirationTime** field in the **conf\rtvapm\_nodemon.properties** file. The **\$nodeRowExpirationTimeForDelete** field allows you to define the amount of time (in seconds) in which the row will be removed from the table if there is no response from the message router. To view/edit the current values, modify the following lines in the **.properties** file:

```
# Metrics data are considered expired after this number of seconds
#
collector.sl.rtvview.sub=$nodeRowExpirationTime:45
collector.sl.rtvview.sub=$nodeRowExpirationTimeForDelete:3600
```

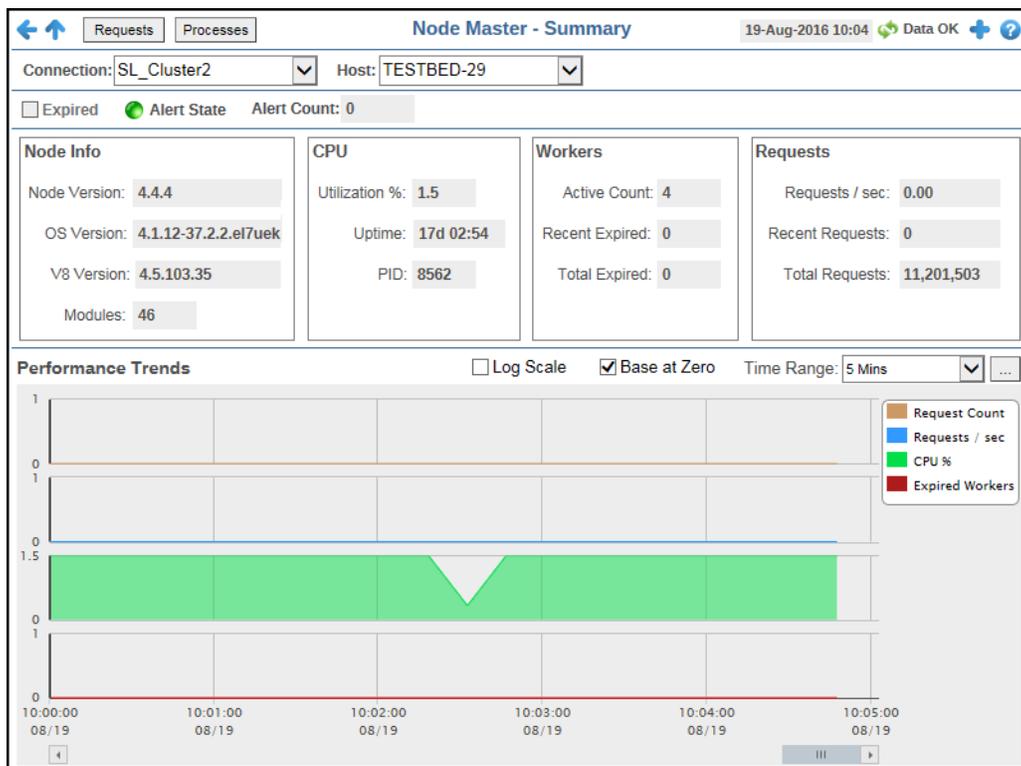
In the example above, the **Expired** check box would be checked after 45 seconds, and the row would be removed from the table after 3600 seconds.

**Time Stamp**

The date and time the row data was last updated.

**Node Master Summary**

This display allows you to view current CPU, worker, and request data as well as trending data for the number of requests, the number of requests per second, the percentage of CPU being used, and the number of recently expired workers on a particular host.



**Title Bar:** Indicators and functionality might include the following:


 Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

**Note:** The **Requests** button takes you to “[Node Requests Table](#)”. The **Processes** button takes you to “[All Processes Table](#)”.

### Filter By:

**Connection** Choose the connection for which you want to show data in the display.

**Host** Choose the host for which you want to show data in the display.

### Fields and Data:

**Expired** When checked, performance data about the node has not been received within the time specified (in seconds) in the **\$nodeRowExpirationTime** field in the **conf\rtvapm\_nodemon.properties** file. The **\$nodeRowExpirationTimeForDelete** field allows you to define the amount of time (in seconds) in which the row will be removed from the table if there is no response from the message router. To view/edit the current values, modify the following lines in the **.properties** file:

```
# Metrics data are considered expired after this number of seconds
#
collector.sl.rtvapm.sub=$nodeRowExpirationTime:45
collector.sl.rtvapm.sub=$nodeRowExpirationTimeForDelete:3600
```

In the example above, the **Expired** check box would be checked after 45 seconds, and the row would be removed from the table after 3600 seconds.

**Alert State** The current alert severity.

 Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.

 Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.

 Green indicates that no metrics have exceeded their alert thresholds.

**Alert Count** The total number of current alerts.

### Node Info

**Node Version** The version of **node.js** running on the host.

**OS Version** The operating system's version number.

**V8 Version** The current version of **v8** running on the host.

**Modules** This number of modules found on the host.

### CPU

**Utilization %** The percentage of memory used on the CPU.

**Uptime** The amount of time the process has been running.

**PID** The process id for the node instance.

### Workers

**Active Count** The current number of active workers on the host.

**Recent Expired** The number of expired workers on the host since the last data update.

**Total Expired** The total number of expired workers on the host.

### Requests

**Requests / sec** The average number of requests per second on the host.

**Recent Requests** The total number of requests since the last data update.

**Total Requests** The total number of requests on the host.

### Performance Trends Graph

Traces the following:

**Request Count** -- traces the number of requests on the host.

**Requests / sec** -- traces the number of requests/sec on the host.

**CPU %** -- traces the percentage of CPU being used on the host.

**Expired Workers** -- traces the number of expired workers on the host.

**Log Scale** Select to enable a logarithmic scale. Use **Log Scale** to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. **Log Scale** makes data on both scales visible by applying logarithmic values rather than actual values to the data.

**Base at Zero** Select to use zero (0) as the Y axis minimum for all graph traces.

**Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar

By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click Restore to Now to reset the time range end point to the current time.

## Node Request View

You can view data pertaining to requests for a connection and host, or view trending request data for a particular URL associated with a connection and a host. Displays in this View are:

- **“Node Requests Table”**: A tabular view of request data for one or all hosts on a particular connection.
- **“Node Request Summary”**: Allows you to view trending data (number of requests, number of requests per second, and average response time) for individual URLs by connection and host.

## Node Requests Table

This display allows you to view request data for one or all hosts on a particular connection. You can view the request URL, total number of requests, number of requests per second, the average response time, and the number of recent requests for each host.

Drill-down and investigate by clicking a row to view details for the selected host in the **“Node Request Summary”** display.

The screenshot shows a web interface titled "All Node Requests - Table". At the top, there is a "Masters" button and a status indicator "Data OK". Below the title, there are two dropdown menus: "Connection: SL\_Cluster2" and "Host: TESTBED-29". A "Count: 2" indicator is shown. The main content is a table with the following data:

| Connection  | Host       | Request URL            | Total Requests | Requests Per Sec | Res Time |
|-------------|------------|------------------------|----------------|------------------|----------|
| SL_Cluster2 | TESTBED-29 | /templates/alerts.html | 2796103        | 0.00             |          |
| SL_Cluster2 | TESTBED-29 | /templates/kendo.html  | 8405400        | 0.00             |          |

**Title Bar:** Indicators and functionality might include the following:

  Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

**Note:** The **Masters** button takes you to "[Node Master Table](#)".

### Filter By:

The display might include these filtering options:

**Connection** Select the connection for which you want to view data.

**Host** Select the host for which you want to view data.

### Fields and Data:

**Count:** The total number of nodes (rows) in the table.

### All Requests Table:

Column values describe the node and its associated requests.

**Connection** The name of the connection

**Host** The name of the host.

**Request URL** The URL from which the requests originated.

**Total Requests** The total number of requests.

**Requests Per Sec** The rate of requests since the server was started.

**Avg Response Time (ms)** The average response time (in milliseconds) since the server was started.

**Recent Requests** The total number of requests based on the last query interval.

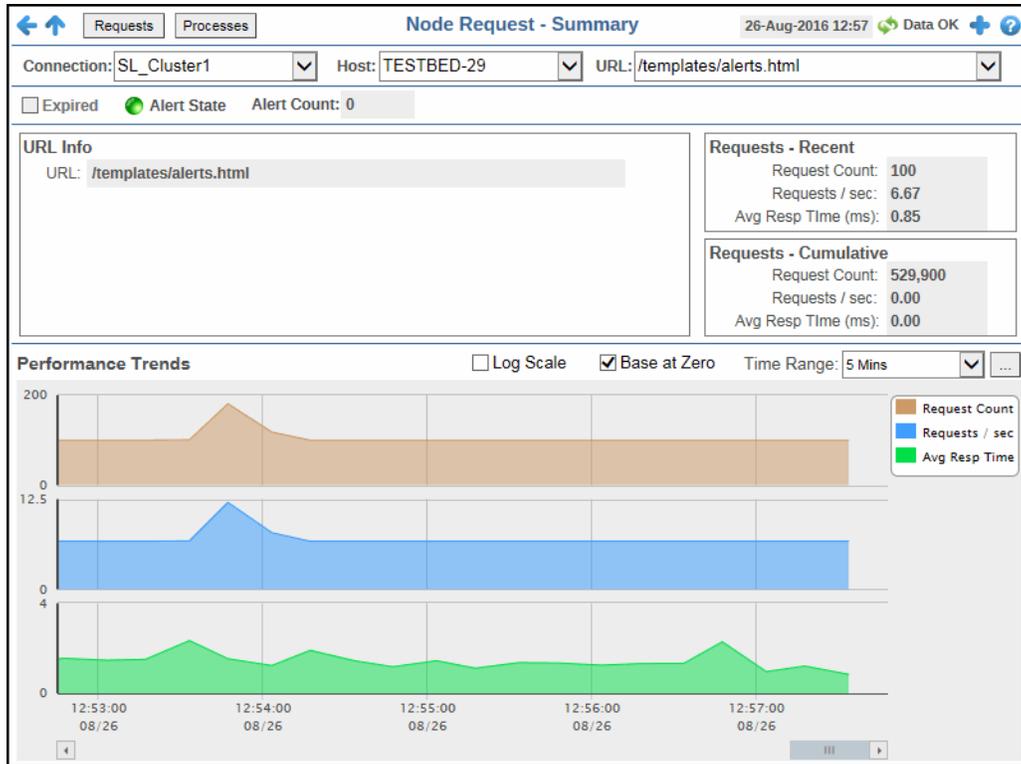
**Recent Requests Per Sec** The rate of recent requests based on the last query interval.

**Recent Avg Response Time (ms)** The average response time (in milliseconds) based on the last query interval.

**Time Stamp** The date and time the row data was last updated.

## Node Request Summary

This display allows you to view trending data (number of requests, number of requests per second, and average response time) for individual URLs by connection and host.



**Title Bar:** Indicators and functionality might include the following:



Open the previous and upper display.



Navigate to displays commonly accessed from this display.

19-Feb-2014 16:50

The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.



The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.



Open the **Alert Views - RTView Alerts Table** display.



Open an instance of this display in a new window.



Open the online help page for this display.

**Note:** The **Requests** button takes you to “[Node Requests Table](#)”. The **Processes** button takes you to “[All Processes Table](#)”.

### Filter By:

**Connection** Select the connection for which you want to show data in the display.

**Host** Select the host for which you want to show data in the display.

**URL** Select the URL for which you want to view data.

#### Fields and Data:

**Expired** When checked, performance data about the node has not been received within the time specified (in seconds) in the **\$nodeRowExpirationTime** field in the **conf\rtvapm\_nodemon.properties** file. The **\$nodeRowExpirationTimeForDelete** field allows you to define the amount of time (in seconds) in which the row will be removed from the table if there is no response from the message router. To view/edit the current values, modify the following lines in the **.properties** file:

```
# Metrics data are considered expired after this number of seconds
#
collector.sl.rtvapm.sub=$nodeRowExpirationTime:45
collector.sl.rtvapm.sub=$nodeRowExpirationTimeForDelete:3600
```

In the example above, the **Expired** check box would be checked after 45 seconds, and the row would be removed from the table after 3600 seconds.

**Alert State** The current alert severity.

-  Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.
-  Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.
-  Green indicates that no metrics have exceeded their alert thresholds.

**Alert Count** The total number of current alerts.

#### URL Info

**URL** The URL from which the requests originated.

#### Requests - Recent

**Request Count** The total number of requests based on the last query interval.

**Requests / sec** The rate of requests based on the last query interval.

**Avg Resp Time (ms)** The average response time (in milliseconds) based on the last query interval.

#### Requests - Cumulative

**Request Count** The total number of requests since the server was (re)started.

**Requests / sec** The rate of requests since the server was (re)started.

**Avg Resp Time (ms)** The average response time (in milliseconds) since the server was (re)started.

**Performance Trends Graph** Traces the following:

**Request Count** -- traces the total number of requests.

**Requests / sec** -- traces the rate of requests.

**Avg Resp Time**-- traces the average response time.

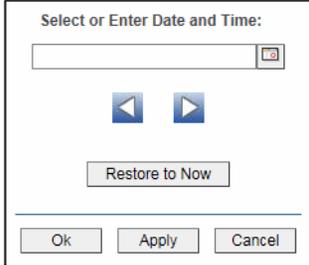
**Log Scale** Select to enable a logarithmic scale. Use **Log Scale** to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. **Log Scale** makes data on both scales visible by applying logarithmic values rather than actual values to the data.

**Base at Zero**

Select to use zero (**0**) as the Y axis minimum for all graph traces.

**Time Range**

Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

## Process View

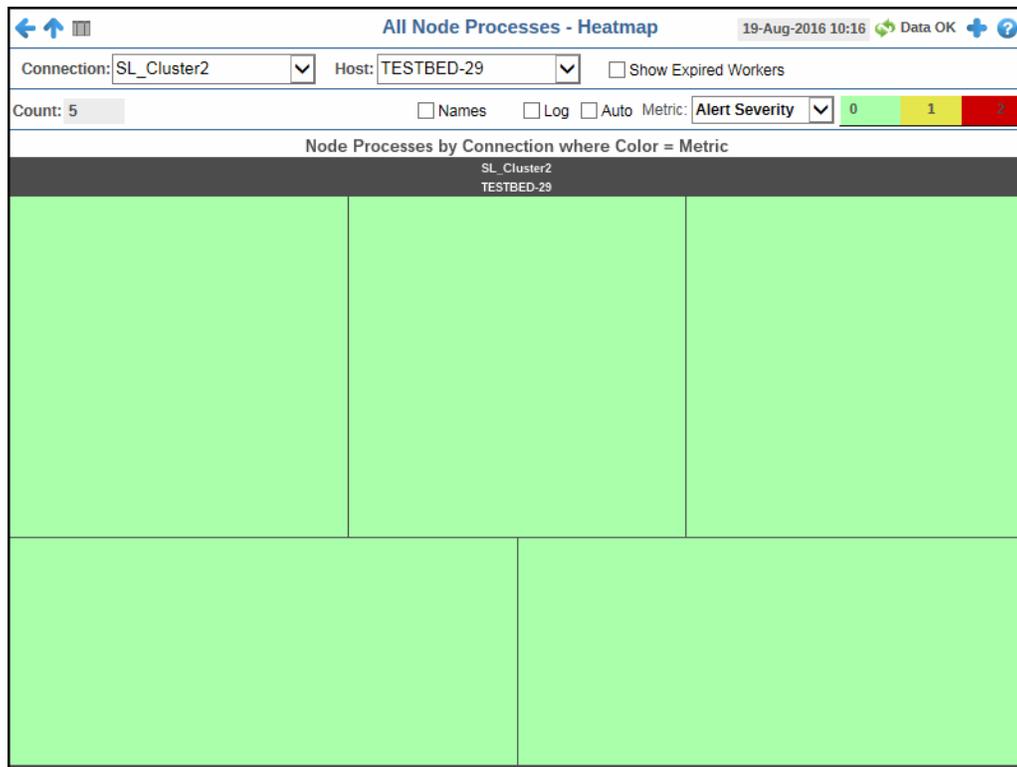
These displays allow you to view the current and historical metrics for all node processes in a heatmap or tabular format for one or all hosts, or view the current and historical metrics for a single node process. Displays in this View are:

- **"All Processes Heatmap"**: A color-coded heatmap view of data for all node processes for a particular connection/host combination.
- **"All Processes Table"**: A tabular view of data for all node processes for a particular connection/host combination.
- **"Process Summary"**: This display allows you to view current and trending data for a single node process for a particular connection/host combination.

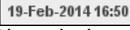
### All Processes Heatmap

This heatmap display provides an easy-to-view interface that allows you to quickly identify the current status of each of your node processes for each available metric. You can view the node processes in the heatmap based on the following metrics: the current alert severity, the current alert count, the percentage of CPU used, and the percentage of memory used. By default, this display shows the heatmap based on the **Alert Severity** metric.

You can use the **Names** check-box  to include or exclude labels in the heatmap, and you can mouse over a rectangle to see additional metrics for a node process. Clicking one of the rectangles in the heatmap opens the **"Process Summary"** display, which allows you to see additional details for the selected node process.



**Title Bar:** Indicators and functionality might include the following:

 Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

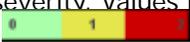
 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

### Fields and Data:

- Connection** Select the connection for which you want to show data in the display.
- Host** Select the host for which you want to show data in the display.
- Show Expired Workers** Select this check box to view expired workers in the heatmap.
- Count** Lists the total number of processes (rows) found using the search parameters.
- Names** Select this check box to display the names of the processes at the top of each rectangle in the heatmap.

- Log** Select to this check box to enable a logarithmic scale. Use **Log Scale** to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. **Log Scale** makes data on both scales visible by applying logarithmic values rather than actual values to the data.
- Auto** Select to enable auto-scaling. When auto-scaling is activated, the color gradient bar's maximum range displays the highest value.  
**Note:** Some metrics auto-scale automatically, even when **Auto** is not selected.
- Metric** Choose a metric to view in the display.
- Alert Severity** The current alert severity. Values range from **0** - **2**, as indicated in the color gradient  bar, where **2** is the highest Alert Severity:
-  Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.
  -  Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.
  -  Green indicates that no metrics have exceeded their alert thresholds.
- Alert Count** The total number of critical and warning unacknowledged alerts in the instance. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average alert count.
- CPU Used %** The percentage of CPU used. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the defined alert threshold of **NodeProcessCpuUsageHigh**. The middle value in the gradient bar indicates the middle value of the range.  
 When **Auto** is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.
- Memory Used %** The total percentage of memory used. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the defined alert threshold of **NodeProcessMemUsageHigh**. The middle value in the gradient bar indicates the middle value of the range.  
 When **Auto** is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.

## All Processes Table

This display allows you to view memory, heap memory, and latency data for all processes in a table format. You can drill-down and view the details in the “[Process Summary](#)” display for a specific process by clicking on a row in the resulting table.

| Connection  | Hostname   | Master / Worker | Alert Level | Alert Count | Uptime    | CPU % | Process ID | Memory Used (KB) | Memory Used % |
|-------------|------------|-----------------|-------------|-------------|-----------|-------|------------|------------------|---------------|
| SL_Cluster2 | TESTBED-29 | 1               |             | 0           | 17d 03:07 | 0.0   | 8588       | 29,905           | 0.8           |
| SL_Cluster2 | TESTBED-29 | 2               |             | 0           | 17d 03:07 | 0.0   | 8593       | 33,124           | 0.9           |
| SL_Cluster2 | TESTBED-29 | 3               |             | 0           | 17d 03:08 | 0.0   | 8599       | 33,042           | 0.9           |
| SL_Cluster2 | TESTBED-29 | 4               |             | 0           | 17d 03:08 | 0.0   | 8600       | 29,815           | 0.8           |
| SL_Cluster2 | TESTBED-29 | Master          |             | 0           | 17d 03:07 | 1.5   | 8562       | 40,116           | 1.0           |

**Title Bar:** Indicators and functionality might include the following:

Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

Open the online help page for this display.

### Filter By:

The display includes these filtering options:

- Connection** Select the connection for which you want to show data in the display.
- Host** Select the host for which you want to show data in the display.
- Show Expired Workers** Select this check box to view expired workers in the table.
- Count** Lists the total number of processes (rows) found using the search parameters.

**Fields and Data:**

|                                   |   |
|-----------------------------------|---|
| <b>Connection</b>                 | The name of the connection.   |
| <b>Hostname</b>                   | The name of the host.   |
| <b>Master / Worker</b>            | Displays whether the process is the Master process or, if the application is clustered, the worker ID.  |
| <b>Alert Level</b>                | The current alert status.<br> Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.<br> Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.<br> Green indicates that no metrics have exceeded their alert thresholds. |
| <b>Alert Count</b>                | Total number of alerts for the process.   |
| <b>Uptime</b>                     | Lists the amount of time the process has been up and running.   |
| <b>CPU %</b>                      | A decimal percentage describing how much the process utilizes the CPU.  |
| <b>Process ID</b>                 | The process ID.   |
| <b>Memory Used (KB)</b>           | The used memory as a fraction of total system memory, in kilobytes.   |
| <b>Memory Used %</b>              | The percentage of total available memory used.  |
| <b>Memory RSS (KB)</b>            | The Resident Set Size, which is the portion of memory held in RAM (as opposed to swap or disk), in kilobytes.   |
| <b>Heap Total (KB)</b>            | The total amount of heap memory from which newly created objects will originate, in kilobytes.  |
| <b>Heap Free (KB)</b>             | The amount of memory remaining from which newly created objects will originate, in kilobytes.   |
| <b>Heap Used (KB)</b>             | The heap memory currently in use, in kilobytes.   |
| <b>Heap Used %</b>                | The percentage of heap memory currently being used.   |
| <b>Heap Avail (KB)</b>            | The v8 engine's <b>total_available_size</b> value, in kilobytes.  |
| <b>Heap Limit (KB)</b>            | The v8 engine's <b>heap_size_limit</b> value, in kilobytes.   |
| <b>Heap Total Executable (KB)</b> | The v8 engine's <b>total_heap_size_executable</b> value, in kilobytes.  |
| <b>Latency p100</b>               | The number of microseconds that 100 percent of events were late in the previous 4 seconds.  |
| <b>Latency p99</b>                | The number of microseconds that 99 percent of events were late in the previous 4 seconds.   |
| <b>Latency p95</b>                | The number of microseconds that 95 percent of events were late in the previous 4 seconds.   |
| <b>Latency p90</b>                | The number of microseconds that 90 percent of events were late in the previous 4 seconds.   |
| <b>Latency p50</b>                | The number of microseconds that 50 percent of events were late in the previous 4 seconds.   |
| <b>Lag</b>                        | The average number of milliseconds a request has to wait in the Node's event queue before being processed. An excess lag means that the process is overloaded.  |

**time\_stamp** The date and time the row data was last updated.

### Expired

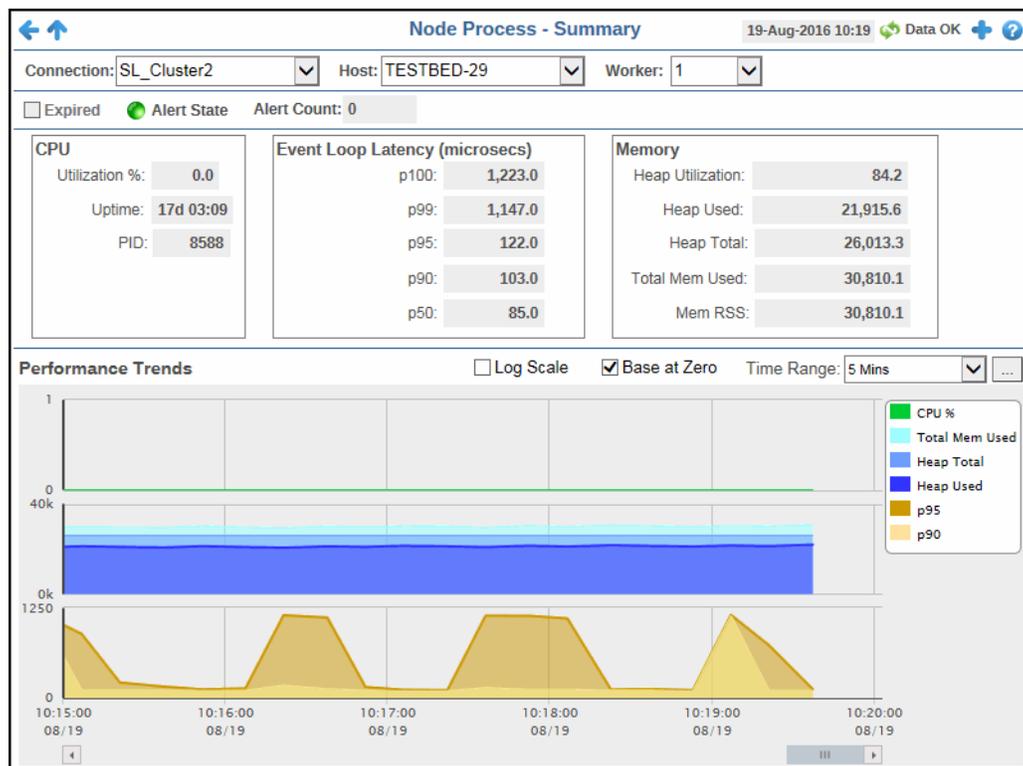
When checked, performance data about the client has not been received within the time specified (in seconds) in the **\$nodeRowExpirationTime** field in the **conf\rtvpm\_nodemmon.properties** file. The **\$nodeRowExpirationTimeForDelete** field allows you to define the amount of time (in seconds) in which the row will be removed from the table if there is no response from the client. To view/edit the current values, modify the following lines in the **.properties** file:

```
# Metrics data are considered expired after this number of seconds
#
collector.sl.rtvpm.sub=$nodeRowExpirationTime:45
collector.sl.rtvpm.sub=$nodeRowExpirationTimeForDelete:3600
```

In the example above, the **Expired** check box would be checked after 45 seconds, and the row would be removed from the table after 3600 seconds.

## Process Summary

This display provides a view of the current and historical metrics for a single process. You can view the current information pertaining to a particular URL and various request data for the node process in the upper portion of the display. The trend graph in the bottom half of the display contains the current and historical number of requests, the number of requests per second, and the average response time for the node process.



**Title Bar:** Indicators and functionality might include the following:

  Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

### Filter By:

The display might include these filtering options:

|                                       |  |
|---------------------------------------|--|
| <b>Connection</b>                     | Select the connection for which you want to show data in the display.  |
| <b>Host</b>                           | Select the host for which you want to show data in the display.  |
| <b>Worker</b>                         | Select the name of the worker to view. You can select from <b>Master</b> or any of the worker processes created by the Master. Worker processes are defined by numbers: <b>1</b> for the first worker process created by the <b>Master</b> , <b>2</b> for the second worker process created by the <b>Master</b> , and so on.  |
| <b>Expired</b>                        | <p>When checked, performance data about the client has not been received within the time specified (in seconds) in the <b>\$nodeRowExpirationTime</b> field in the <b>conf\rtvapm_nodemon.properties</b> file. The <b>\$nodeRowExpirationTimeForDelete</b> field allows you to define the amount of time (in seconds) in which the row will be removed from the table if there is no response from the client. To view/edit the current values, modify the following lines in the <b>.properties</b> file:</p> <pre># Metrics data are considered expired after this number of seconds # collector.sl.rtvapm.sub=\$nodeRowExpirationTime:45 collector.sl.rtvapm.sub=\$nodeRowExpirationTimeForDelete:3600</pre> <p>In the example above, the <b>Expired</b> check box would be checked after 45 seconds, and the row would be removed from the table after 3600 seconds.</p> |
| <b>Alert State</b>                    | <p>The current alert state of the process.</p> <ul style="list-style-type: none"> <li> Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.</li> <li> Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.</li> <li> Green indicates that no metrics have exceeded their alert thresholds.</li> </ul>  |
| <b>Alert Count</b>                    | Lists the total number of alerts for the process.  |
| <b>CPU</b>                            |  |
| <b>Utilization %</b>                  | A decimal percentage describing how much the process utilizes the CPU.   |
| <b>Uptime</b>                         | Lists the amount of time the process has been up and running.  |
| <b>PID</b>                            | The process ID.  |
| <b>Event Loop Latency (microsecs)</b> |  |
| <b>p100</b>                           | The number of microseconds that 100 percent of events were late in the previous 4 seconds.   |
| <b>p99</b>                            | The number of microseconds that 99 percent of events were late in the previous 4 seconds.  |

|            |   |
|------------|---|
| <b>p95</b> | The number of microseconds that 95 percent of events were late in the previous 4 seconds. |
| <b>p90</b> | The number of microseconds that 90 percent of events were late in the previous 4 seconds. |
| <b>p50</b> | The number of microseconds that 50 percent of events were late in the previous 4 seconds. |

**Memory**

|                         |   |
|-------------------------|---|
| <b>Heap Utilization</b> | The decimal percentage of utilized heap space.  |
| <b>Heap Used</b>        | The heap memory currently in use, in kilobytes.   |
| <b>Heap Total</b>       | The total amount of memory from which newly created objects can originate, in kilobytes.                  |
| <b>Total Mem Used</b>   | The used memory as a fraction of total system memory, in kilobytes.                                       |
| <b>Mem RSS</b>          | Resident Set Size, which is the portion of memory held in RAM (as opposed to swap or disk), in kilobytes. |

**Performance Trends Graph**

Traces the following:

**CPU %**-- traces the CPU utilization percentage.

**Total Mem Used**-- traces the amount of memory used.

**Heap Total**-- traces the total amount of available heap memory.

**Heap Used**-- traces the amount of used heap memory.

**p95** -- traces the number of microseconds that 95 percent of events were late in the previous 4 seconds.

**p90** -- traces number of microseconds that 90 percent of events were late in the previous 4 seconds.

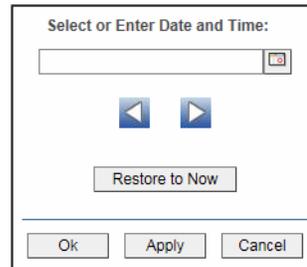
**Log Scale** Select to enable a logarithmic scale. Use **Log Scale** to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. **Log Scale** makes data on both scales visible by applying logarithmic values rather than actual values to the data.

**Base at Zero**

Select to use zero (**0**) as the Y axis minimum for all graph traces.

**Time Range**

Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

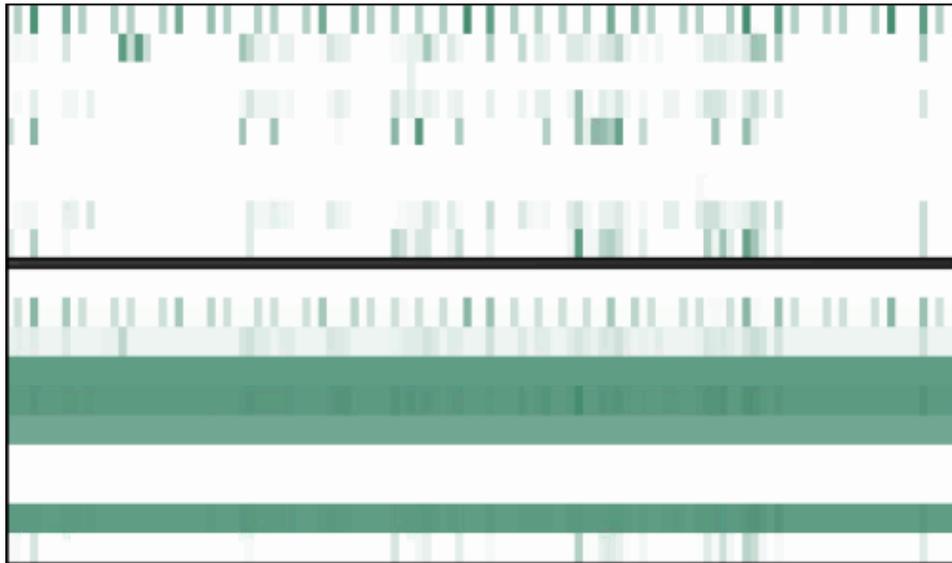
Click **Restore to Now** to reset the time range end point to the current time.

## CHAPTER 15 Solution Package for Oracle Coherence

The Solution Package for Oracle Coherence provides information about the health and configuration of your Oracle Coherence cluster elements, including caches, nodes, services and clients. The OC Monitor can be configured for a single Coherence cluster or multiple Coherence clusters (see below).

The OC Monitor collects metrics from all your Coherence elements simultaneously, and does so at frequent intervals (typically every 10 seconds). At each interval, the OC Monitor performs analytic calculations on the gathered metrics (on the Data Server rather than a database for optimal performance) in terms of the cluster as a whole. It then presents consistently updated health "snapshots" of your entire cluster, in real time, using a dashboard format and visually rich and legible graphics.

For example, history heatmaps, such as the following cache heatmap, show you utilization trends, over time, for your entire cluster.



Each row represents a cache. Each column represents a time period. A darker color indicates heavier usage, a lighter color indicates lighter usage. At a glance, you can quickly analyze load distribution, check for bottlenecks and identify caches with high usage. You can also answer questions such as, Is the cluster using what I expect? Is the cluster using it in a uniform scale? If there is an issue, you can mouse-over the heatmap to see when the issue started, what behavior preceded it, and the name of the resource.

Additionally, because data updates for all the elements in your cluster share the same time-stamp, you can see utilization spikes in the cluster, such as in trend graphs or heatmaps, and immediately address performance issues. Other monitoring systems cannot gather enough simultaneous data points for displaying spikes.

The OCM is also often used in pre-production environments for conducting load testing and performance tuning.

This section includes:

- [“Getting Started”](#)
- [“Additional Data Connection Options”](#)
- [“Additional Configurations”](#)
- [“OC Monitor Views/Displays”](#): Describes the displays that come with RTView® Monitor for Solace®.

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## Getting Started

Perform these instructions if you downloaded, installed and configured the *standard* RTView Enterprise Monitor (**rtvapm\_std\_<version>.zip**), rather than the *full* RTView Enterprise Monitor, and now wish to install the Solution Package for Solace.

**Note:** If you downloaded and installed the *full* RTView Enterprise Monitor (**rtvapm\_full\_<version>.zip**), refer to [Chapter 2, “Configuration and Deployment”](#) .

This section describes how to install, configure and start the OC Monitor Solution Package as a web browser, in which you connect to a single Coherence cluster, use the Direct Connection data connection method (in which the OC Monitor joins the Coherence cluster as a node) and the default settings (including the default HSQLDB database).

**NOTE:** The HSQLDB database is sufficient for evaluation and testing, it is not recommended for use in production deployments.

These instructions assume that you have already installed, configured and started the Enterprise Monitor.

To use the OCM Solution Package you will uncomment the OCM line in the **rtvservers.dat** file in the **emsample\servers** directory. For example:

```
#ocmon ./ocmon dataserver rundata -nopfilter:maincollector -notibco
```

This section includes:

- [“Install and Setup”](#)
- [“Gather Information”](#)
- [“Configure Data Connection”](#)
- [“Start the Monitor”](#)
- [“Stop the Monitor”](#)
- [“Troubleshoot”](#)

## Install and Setup

Prerequisite: RTView Enterprise Monitor 3.5 must be installed on your system.

Please refer to the **README\_sysreq.txt** from your product installation. A copy of this file is also available on the product download page.

1. Download the **rtvapm\_ocmon\_<version>.zip** file.

2. Extract the files on top of your existing RTView EM installation:

**Windows:**

Type **unzip rtvapm\_ocmon\_<version>.zip**

**UNIX/Linux:**

Type **unzip -a rtvapm\_ocmon\_<version>.zip**

**Note:** On UNIX/Linux systems, use the -a option to properly extract text files. Navigate to your installation directory, make the file **fixperms.sh** executable, then execute it in the current shell (first **chmod 755 fixperms.sh**, and then **./fixperms.sh**).

3. Verify that the **ocmon** directory and the **syslog** directory were created under **rtvapm** and extracted correctly.
4. Verify you do not have an extra **rtvapm** directory containing **ocmon**. If you do, move these directories under the first **rtvapm** directory and delete the nested **rtvapm**.
5. Windows systems only: set JAVA\_HOME to the location of your Java installation and include it in the path.  
**Important:** This environment variable must also be defined in UNIX/Linux systems for Tomcat to start successfully.
6. Verify that your Coherence cluster is configured with unique Member Names for each node. For information, see Oracle Coherence documentation:

[http://docs.oracle.com/cd/E18686\\_01/coh.37/e18677/cluster\\_setup.htm#COHDG5446](http://docs.oracle.com/cd/E18686_01/coh.37/e18677/cluster_setup.htm#COHDG5446).

7. Verify that your system is able to monitor Coherence using JMX. See Using JMX to Manage Coherence at the following link: [http://docs.oracle.com/cd/E18686\\_01/coh.37/e18682/jmx.htm](http://docs.oracle.com/cd/E18686_01/coh.37/e18682/jmx.htm). Specifically consider section **2.2 Accessing Coherence MBeans**: [http://docs.oracle.com/cd/E18686\\_01/coh.37/e18682/jmx.htm#BABDIEJG](http://docs.oracle.com/cd/E18686_01/coh.37/e18682/jmx.htm#BABDIEJG).

## Gather Information

Gather the information you need for configuring the direct connection. If the Java properties and class path used by the cluster you want to monitor are not readily available from cluster design documents, cluster launch scripts, or knowledgeable personnel, the following might assist with discovery of the required settings:

- Use the Coherence MBeanConnector to add a management node to your cluster as described in section 2.2.3 Setting Up the Coherence MBean Connector at the following link: [http://docs.oracle.com/cd/E18686\\_01/coh.37/e18682/jmx.htm#CEGBECFH](http://docs.oracle.com/cd/E18686_01/coh.37/e18682/jmx.htm#CEGBECFH).
- Adjust JVM options and the class path as needed so that the MBean Connector joins the cluster.
- Use jconsole to connect to the MBean Connector node, and verify that all Coherence MBeans appear in the jconsole MBeans tab (**Cache,Cluster,Connection,ConnectionManager,Node,Platform,Service,StorageManager**).

- Save the JVM options and class path settings that work with the MBean Connector for configuring OCM.

### Information Needed

#### JAR File Information:

- Paths to Coherence JARs and patch JARs.
- Paths to all JAR files that facilitate deserialization of MBeans, including JAR files for custom and third party MBeans.

Paths to database JDBC JAR files.

#### Direct Connection - Cluster Discovery:

- **Override File** - The name of the override file, if one is used, that contains all cluster discovery parameters.
- **WKA Connection** -
  - The name of the cluster.
  - WKA IP or host, or WKA list.
  - WKA port if not using default.

#### Multicast Parameters Used By Existing Cluster Nodes

- Cluster name
- Cluster address
- Cluster port
- Local port
- Edition
- Mode

#### Java Properties:

- All Coherence command line override properties used by existing cluster nodes.
- All Java properties that effect communication with cluster nodes such as network protocol properties.
- JMX authentication properties if applicable.

## Configure Data Connection

### Windows

Open the **rtview.properties** file, located in your ocmon project directory (**rtvapm\_projects\emsample\servers\ocmon**, which you created during your RTView EM installation), and edit as follows:

Specify that OCM connect as a node:

**sl.rtvapm.ocmon.node=true**

Define values for the tangosol properties that your cluster nodes use to join the cluster:

**tangosol.coherence.cluster=MyClusterName**

**tangosol.coherence.wka=**

**tangosol.coherence.override=**

**tangosol.coherence.cacheconfig=**

Set the value of the **sl.rtvapm.ocmon.jmxconn** property to the name of the cluster:

**sl.rtvapm.ocmon.jmxconn=MyClusterName**

Add the path to the Coherence jar to the java class path. For example:

**sl.rtvapm.cp=c:/coherence/lib/coherence.jar**

**NOTE:** You must also add any Coherence patch jars, and all jar files that facilitate deserialization of MBeans, including jar files for custom and third party MBeans.

Save your changes.

## UNIX/Linux

Open the **rtview.properties** file, located in your OCMON project directory (**rtvapm\_projects/emsample/servers/ocmon**, which you created during your RTView EM installation), and edit as follows:

Specify that OCM connect as a node:

**sl.rtvapm.ocmon.node=true**

Define values for the Tangosol properties that your cluster nodes use to join the cluster:

**tangosol.coherence.cluster=MyClusterName**

**tangosol.coherence.wka=**

**tangosol.coherence.override=**

**tangosol.coherence.cacheconfig=**

Set the value of the **sl.rtvapm.ocmon.jmxconn** property to the name of the cluster:

**sl.rtvapm.ocmon.jmxconn=MyClusterName**

Add the path to the Coherence jar to the java class path. For example:

**sl.rtvapm.cp=c:/coherence/lib/coherence.jar**

**NOTE:** You will also add any Coherence patch jars, and all jar files that facilitate deserialization of MBeans, including jar files for custom and third party MBeans.

Save your changes.

See [“Start the Monitor” on page 379](#) for details about using the OC Monitor.

## Start the Monitor

**NOTE:** These instructions assume you have started the Central Server applications.

### To start the Solution Package for Oracle Coherence (in RTView Enterprise Monitor):

Use the configuration defined in the **rtvservers.dat** file, which is located in the **rtvapm\_projects/emsample/servers** directory.

1. Initialize a command line window by executing the **rtvapm\_init** script. For example:

#### Windows

Go to your RTView Enterprise Monitor installation directory and type:

**rtvapm\_init**

#### UNIX

Go to your Enterprise Monitor installation directory and type:

**./rtvapm\_init.sh**

- Initialize the user project directory by executing the **rtvadm\_user\_init** script. For example:

### Windows

Change directory (**cd**) to **rtvadm\_projects\emsample** and type:

**rtvadm\_user\_init**

### UNIX

Change directory (**cd**) to **rtvadm\_projects/emsample** and type:

**./rtvadm\_user\_init.sh**

- Change directory (**cd**) to **rtvadm\_projects/emsample/servers**.
- Execute **start\_rtv.sh ocmon** (or **start\_rtv ocmon** for Windows) to start all components of the Solution Package for Solace.

- Open the Monitor:

Open a browser and go to the URL for the emsample servlet. For example:

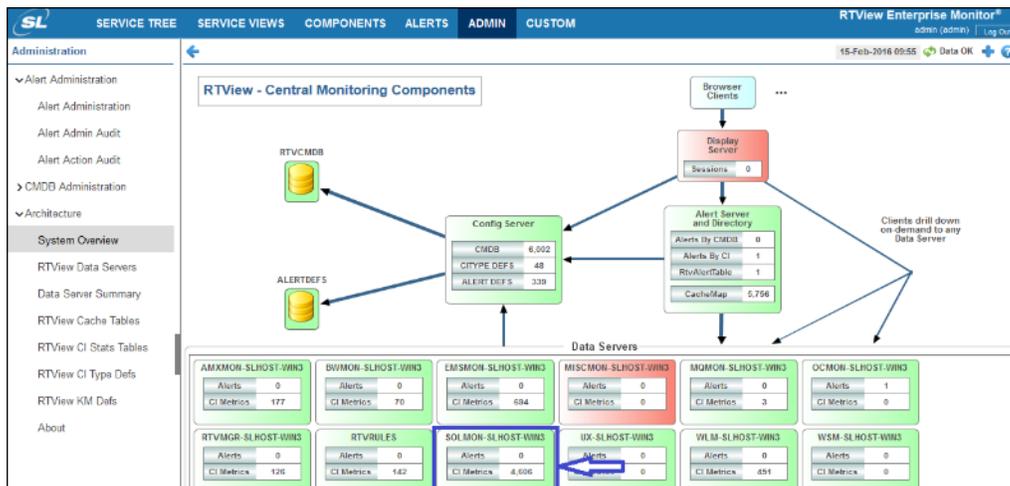
<http://host:port/emsample>

User Name: **demo**

Password: **demo**

The RTView EM main display opens in the Web browser. Select Oracle Coherence (in the navigation tree) to view the OCM Cluster Overview display and other OCM Monitor displays.

- In the Monitor, open the Architecture->System Overview display to verify that the Data Server (named **OCMON-LOCAL**, by default) is collecting data. The Data Server should be green and the **CI Metrics** value greater than zero (**0**). For example:



- Review log files for errors, located in the **emsample/servers/ocmon/logs** directory.

## Stop the Monitor

To stop the Solution Package for Oracle Coherence (in RTView Enterprise Monitor):

1. Initialize a command line window by executing the **rtvapm\_init** script. For example:

**Windows**

Go to your RTView Enterprise Monitor installation directory and type:

```
rtvapm_init
```

**UNIX**

Go to your Enterprise Monitor installation directory and type:

```
.. ./rtvapm_init.sh
```

2. Initialize the user project directory by executing the **rtvapm\_user\_init** script. For example:

**Windows**

Change directory (**cd**) to **RTView\rtvapm\_projects\emsample** and type:

```
rtvapm_user_init
```

**UNIX**

Change directory (**cd**) to **RTView/rtvapm\_projects/emsample** and type:

```
.. ./rtvapm_user_init.sh
```

3. Change directory (**cd**) to **rtvapm\_projects/emsample/servers**.
4. Execute **stop\_rtv.sh ocmon** (or **stop\_rtv ocmon** for Windows) to stop all components of the Solution Package for Oracle Coherence.
5. Optionally, you can use **grep** or **Task Manager** to ensure that all RTView related services are stopped.
  - **UNIX:** Execute **ps -ef |grep rtv** to determine the Process Identifier of processes still running and **kill -9 <ProcessId>** to terminate any that remain active.
  - **Windows:** Open Task Manager and look for Java sessions with **hsqldb** or **rtv** in the execute statement and terminate any that remain active.

## Troubleshoot

This section includes:

- [“Log Files,”](#) next
- [“JAVA\\_HOME”](#) on page 382
- [“Permissions”](#) on page 382
- [“Network/DNS”](#) on page 382
- [“Verify Data Received from Data Server”](#) on page 382
- [“Verify Port Assignments”](#) on page 382

## Log Files

When a Monitor component encounters an error, it outputs an error message to the console and/or to the corresponding log file. If you encounter issues, look for errors in the following log files:

- **dataserver.log**
- **displayserver.log**
- **historian.log**

which are located in the **rtvapm\_projects/emsample/servers/emsmon/logs** directory.

Logging is enabled by default. If you encounter issues with log files, verify the **logs** directory exists in the **rtvapm\_projects/emsample/servers/emsmon** directory.

## JAVA\_HOME

If the terminal window closes after executing the **start\_rtv** command, verify that **JAVA\_HOME** is set correctly.

## Permissions

If there are permissions-related errors in the response from the **start\_rtv** command, check ownership of the directory structure.

## Network/DNS

If any log file shows reference to an invalid URL, check your system's hosts file and confirm with your Network Administrator whether your access to the remote system is being blocked.

## Verify Data Received from Data Server

If you encounter problems collecting data, restart the Data Server, start the Monitor, and go to the **Admin** tab and select **Architecture > RTView Cache Tables** in the navigation tree. Select **EMSMON-LOCAL** from the **Data Server** drop down list, and search for all caches that start with "EMSMON." Make sure these caches are populated (the number of **Rows** and **Columns** in the table should be greater than 0). If not, there might be a problem with the connection to the Data Server.

## Verify Port Assignments

If the Viewer, display server, or Historian fail to connect to the Data Server or they receive no data, verify the ports are assigned correctly in your properties files and restart the Data Server.

---

## Additional Data Connection Options

This section provides step-by-step instructions for configuring a connection to acquire data from the cluster. You configure the data connection using property values in conjunction with property filters. For details about properties and property filters, see ["Properties" on page 981](#).

The data connection method options are: a named JMX connection, a multi-cluster configuration, a direct connection and an OCM agent. JMX connection methods are generally used for small clusters, and direct or OCM agent connection methods are generally used for large clusters. NOTE: To configure the OC Monitor for multiple Coherence clusters a JMX connection method is required.

If you have an existing management node in your cluster, choose the JMX connection variant that applies. If you do not have an existing management node in your cluster, see the following requirements.

See [“Oracle Coherence JMX Connection Options” on page 1021](#) for an overview of data connection methods.

The data connection method options are:

- **Named JMX Connection** (see [“Configure JMX Connection” on page 383](#)): This method connects to the cluster via a named JMX connection. The JMX connection name is used to identify the cluster in the database tables.
- **Multi-Cluster Configuration** (see [“Configure JMX Connection” on page 383](#)): This method is suitable for monitoring many small clusters with a single OCM instance, or for monitoring a single large cluster. This method consolidates the monitoring of Coherence clusters (rather than having a monitoring system for each cluster), is easy to configure (using one of the JMX Connection methods) and requires a single historical database instance.
- **Direct Connection** (see [“Configure Direct Data Connection” on page 387](#)): This method is generally used for large clusters.
- **OCM Agent** (see [“Use an OCM Agent” on page 388](#)): This method is generally used for large clusters to minimize the amount of garbage collection associated with collecting and processing JMX monitoring data.

## Configure JMX Connection

This section provides step-by-step instructions for configuring a JMX connection to acquire data from the cluster. NOTE: To configure the OC Monitor for multiple Coherence clusters a JMX connection method is required.

If you have an existing management node in your cluster, choose the JMX connection variant that applies. If you do not have an existing management node in your cluster, see the following guidelines.

Also see [“Oracle Coherence JMX Connection Options” on page 1021](#) for further details about JMX connection options.

This section includes:

- [“Named JMX Connection” on page 384](#): This method can be used with both the JMX remote port and the JMX RMI URL connection methods. Use this method when the JMX connection requires a user name and password.
- [“Password Encryption” on page 385](#): When you create a JMX connection by editing the **rtview.properties** file in a text editor, the connection password will be in plain text. This section describes how to encrypt the password.
- [“Multi-Cluster Configuration” on page 386](#): This method is for using the OCM to monitor multiple Coherence clusters. This method consolidates the monitoring of Coherence clusters (rather than having a monitoring system for each cluster), is easy to configure (using one of the JMX Connection methods) and requires a single historical database instance.

## Named JMX Connection

This section describes how to create an RTView JMX connection in the **rtview.properties** file using a text editor and the `encode_string` utility. The **rtview.properties** file is located in your project directory.

1. Open the **rtview.properties** file in a text editor and add the following line (below the Collector named JMX Connections JMX connections comment) to set the value for the **maincollector.sl.rtview.jmx.jmxconn** property:

```
# maincollector.sl.rtview.jmx.jmxconn=<conn_name> <host> <port> URL:- - - 'false'
maincollector.sl.rtview.jmx.jmxconn=<conn_name> <host> <port> URL:- - - 'false'
```

Where:

**<conn\_name>** is the name of the connection

**<host>** is the hostname of the machine with the Coherence management node

**<port>** is the port number used by the management node

(specified by **-Dcom.sun.management.jmxremote.port=xxxx**, as described above)

For example:

```
maincollector.sl.rtview.jmx.jmxconn=MyCluster localhost 9971 URL:- - - 'false'
```

2. Set the **<username>** and **<password>** as desired for the connection.

For example, when no username or password are required:

```
maincollector.sl.rtview.jmx.jmxconn=MyCluster localhost 9971 URL:- - - 'false'
```

For example, when a username and password are required:

```
maincollector.sl.rtview.jmx.jmxconn=MyCluster localhost 9971 URL:-
myusername mypassword 'false'
```

3. Specify the name of the JMX connection you just created by setting the **sl.rtvapm.ocmon.jmxconn** property value as follows:

```
# - use a named jmx connection
```

```
sl.rtvapm.ocmon.jmxconn=<conn_name>
```

Where:

**<conn\_name>** is the name of the connection you created

4. Specify to not connect as a node (so we can use JMX) by setting the **sl.rtvapm.ocmon.node** property value to false:

```
# Specify whether OCM should connect as a node or not
```

```
sl.rtvapm.ocmon.node=false
```

5. Verify that all other JMX connection properties are comments:

```
# sl.rtvapm.ocmon.jmxhost
```

```
# sl.rtvapm.ocmon.jmxport
```

```
# sl.rtvapm.ocmon.jmxurl
```

6. Save the **rtview.properties** file and exit the text editor.

See **Password Encryption**, next.

Or proceed to [“Verify Configuration” on page 390](#).

## Password Encryption

If you create a JMX connection by editing the **rtview.properties** file in a text editor, the connection password will be in plain text. To encrypt the password perform the following steps:

1. Initialize a command line window by executing the **rtvapm\_init** script. For example:

### Windows

Go to your RTView Enterprise Monitor installation directory and type:

**rtvapm\_init**

### UNIX

Go to your Enterprise Monitor installation directory and type:

**./rtvapm\_init.sh**

2. Initialize the user project directory by executing the **rtvapm\_user\_init** script. For example:

### Windows

Change directory (**cd**) to **RTView\rtvapm\_projects\emsample** and type:

**rtvapm\_user\_init**

### UNIX

Change directory (**cd**) to **RTView/rtvapm\_projects/emsample** and type:

**./rtvapm\_user\_init.sh**

3. Change directory (**cd**) to **ocmon/projects/sample** directory and type:

**encode\_string jmx <password>**

where **<password>** is your password to be encrypted.

For example:

**encode\_string jmx newpassword**

The encrypted value, a series of numbers, is returned.

4. Copy and paste the encrypted value into the **<password>** field of the JMX connection definition in the **rtview.properties** file. For example:

```
maincollector.sl.rtview.jmx.jmxconn=MyCluster localhost 9971 URL:-  
myusername 01343013550134601331013490134901353013450134801334  
'false'
```

5. Edit the **rtview.properties** file as needed for authentication:

- Add all necessary JMX options to the JVM property **sl.rtview.jvm=**
- Add all necessary class paths to the classpath property as **sl.rtview.cp=property** values
- Add keystore

Proceed to [“Verify Configuration” on page 390](#).

## Multi-Cluster Configuration

The Multi-Cluster Configuration is suitable for monitoring many small clusters with a single OCM instance, or for monitoring a single large cluster. If you have more than one cluster to monitor, consider the Multi-Cluster Configuration benefits:

- Centralizes the monitoring of Coherence clusters
- Metrics for all clusters is accessed from a single URL (rather than a URL for each cluster)
- Easy to configure
- Requires a single historical database instance
- Reduces hardware costs
- Simplifies OCM configuration

See **README\_sysreq.txt** for the full system requirements.

For Linux, these instructions require a Bourne-compatible shell.

This section describes how to configure the OCM to monitor multiple Coherence clusters. To configure the OC Monitor for multiple Coherence clusters JMX connections are required (a direct connection is not compatible, since there can only be a direct connection to a single cluster). The **rtview.properties** file is located in your project directory.

NOTE: Multi-cluster monitoring requires sufficient resources to monitor all the clusters you intend to monitor. Verify that you have sufficient resources for the clusters you intend to monitor.

To configure the OC Monitor for multiple Coherence clusters:

1. Configure named JMX connections as described in [“Named JMX Connection” on page 384](#).
2. Verify that you can connect to each cluster you wish to monitor using an explicit named JMX connection.
3. Ensure that the following property values are set in the **rtview.properties** file that are used for multi-cluster monitoring:
  - `sl.rtvapm.ocmon.node=false` (where **false** specifies not to use a single direct connection)
  - `sl.rtvapm.ocmon.jmxconn=*` (where **\*** specifies to use all named JMX connections)

NOTE: The `ocmon` command line scripts use **rtview.properties** as the default **.properties** file. Other **<user>.properties** files can be named explicitly as a command line argument to the **ocmon** scripts. For example, you can use a properties file named **MultiCluster.properties** for monitoring multiple clusters, and use it to configure the OCM processes. For example: **start\_rtv default all -properties:MultiCluster**.

Also, a multi-cluster **.properties** file can refer to more than one cluster. Therefore the name of the file should describe the group of clusters monitored (for example, `DemoClusters`, `DevClusters`). For a sample **rtview.properties** file, see [“Properties” on page 981](#).

4. Open the **rtview.properties** file and ensure that all clusters you intend to monitor have correct, unique and meaningfully named JMX connection definitions. Edit as needed. The cluster name should be descriptive as it is used in OCM displays and alert messages. For example, `DEV1` and `SALES1`. For a sample **rtview.properties** file, see [“Properties” on page 981](#).

5. If additional clusters need to be monitored that are not specified as a named connection in the **rtview.properties** file, add an entry for the cluster (using unique and meaningfully named JMX connection definitions).
6. Save the file.
7. Restart the Data Server.

Proceed to [“Verify Configuration” on page 390](#).

## Configure Direct Data Connection

To deploy OC Monitor Solution Package as a web browser without default settings:

1. Open the **rtview.properties** file, located in the **ocmon/projects/sample** directory, in a text editor and make the following changes:
  - **sl.rtvapm.ocmon.node=true**
  - Set Coherence Properties for Cluster Node configuration. OC Monitor property files support the following Coherence command line override properties (and any other property that begins with **tangosol**):
    - tangosol.coherence.cluster
    - tangosol.coherence.clusteraddress
    - tangosol.coherence.clusterport
    - tangosol.coherence.edition
    - tangosol.coherence.mode
    - tangosol.coherence.wka
    - tangosol.coherence.wka.port
    - tangosol.coherence.localhost
    - tangosol.coherence.localport
    - tangosol.coherence.override
    - tangosol.coherence.cacheconfig
    - tangosol.coherence.management.refresh.policy
    - tangosol.coherence.management.refresh.expiry
  - Define values for the properties that your cluster nodes use to join the cluster.
  - Uncomment, and set the value of the **sl.rtvapm.ocmon.jmxconn** property to the desired name of the direct connection. Typically, the name of the cluster is used for this value (or, if the cluster does not have a Coherence cluster name, a unique name is used).

Example:

**sl.rtvapm.ocmon.jmxconn=DevClusterA**

NOTE: The name specified for the **sl.rtvapm.ocmon.jmxconn** property (in Direct Connection mode) is also used to identify the cluster in alerts and data persisted in the database. Because data from multiple databases might subsequently be combined, best practices dictate that a globally unique identifier be specified for cluster names to easily identify data from each cluster.

2. Using the Jar Properties information you previously gathered (see [“Gather Information”](#)):
  - Add the path to the Coherence JAR files required by the existing cluster to **sl.rtvapm.ocmon.jmxconn**. Include any patch JARs used by cluster nodes, as well as the paths to JAR files for POF serialization. Use one entry per **sl.rtvapm.ocmon.jmxconn** property instance as they are combined into a cumulative classpath.

Windows Example:

```
sl.rtvview.cp=c:\coherence352\lib\coh-352-patch-01.jar  
sl.rtvview.cp=c:\coherence352\lib\coherence.jar
```

- Add the path to the database JDBC driver, and other required JAR files, using additional **sl.rtvview.cp=** property values.
- Add JVM options as **sl.rtvview.jvm=** property values.

Example:

```
sl.rtvview.jvm=-Dtangosol.coherence.mbeans=/sl-custom-mbeans.xml
```

3. If none of the following are true, skip this Step. If any of the following are true, complete this Step:
  - the existing cluster uses Java authentication features.
  - additional Tangosol/Coherence properties or options are needed.
  - additional JAR files are needed to connect to the cluster.
  - additional JAR files are needed to support custom and third party MBeans.
  - additional JAR files are needed for database access.
  - additional file paths are needed for Coherence configuration files such as POF configuration.

If any of the above are true, edit the **rtvview.properties** file as follows:

- Add the paths to JAR files required to join the cluster as **sl.rtvview.cp=**property values.
- Add the paths needed for JAR and Coherence configuration file directories required by the existing cluster, third party applications or database as **sl.rtvview.cp=**property values.
- Add additional Coherence overrides and Java security properties used by the existing cluster as **sl.rtvview.jvm=**property values.

4. Save the file.

Proceed to [“Verify Configuration” on page 390](#).

## Use an OCM Agent

This section describes how to use the OCM Agent to gather data from the Coherence cluster. The OCM Agent is a method for acquiring JMX data from a Coherence cluster that reduces the occurrence of packet loss errors sometimes seen in large clusters. This method is especially useful for monitoring very large clusters containing many MBeans.

Normally, and by default, the Data Server acquires data from a Coherence cluster and supplies it to the OC Monitor. The Data Server also aggregates and processes raw data into caches, and in the process creates large amounts of transient data. This extra overhead can cause long garbage collection pauses on a node in the cluster, and increase both communication delays and other garbage collection activity in the cluster.

The OCM Agent method employs an OCM Agent Data Server that joins the cluster and is dedicated solely to acquiring JMX data and forwarding it to the Data Server. The Data Server does not join the cluster and is dedicated solely to aggregating and processing raw data into caches. This configuration minimizes garbage collection, reducing the overhead for optimal monitoring.

To summarize the OCM Agent method process:

- The Data Server receives a request for a new data sample.
- The Data Server forwards the request to the OC Monitor Agent Data Server.
- The OC Monitor Agent Data Server provides the data to the Data Server.
- The Data Server updates its caches with the new data sample.

The OCM Agent method entails an additional Java process (the OCM Agent) and an additional connection (between the Agent and the Data Server).

The **rtview.properties** file is located in your project directory.

### To use the OCM Agent

1. Verify that all OC Monitor applications and the cluster are stopped. See Stopping the Monitor for details about stopping OC Monitor applications.

2. Initialize a command line window by executing the **rtvapm\_init** script. For example:

#### Windows

Go to your RTView Enterprise Monitor installation directory and type:

**rtvapm\_init**

#### UNIX

Go to your Enterprise Monitor installation directory and type:

**.. /rtvapm\_init.sh**

3. Initialize the user project directory by executing the **rtvapm\_user\_init** script. For example:

#### Windows

Change directory (**cd**) to **RTView\rtvapm\_projects\emsample** and type:

**rtvapm\_user\_init**

#### UNIX

Change directory (**cd**) to **RTView/rtvapm\_projects/emsample** and type:

**.. /rtvapm\_user\_init.sh**

4. Change directory (**cd**) to the **ocmon/projects/sample** directory.

5. In the **projects/sample** directory, start the OCM applications by typing:

**start\_rtv agentmode all**

NOTE: If you do not wish to start all the OC Monitor applications at once, you must start each application (or "server") individually and in the following order:

**start\_rtv agentmode database**

**start\_rtv agentmode dataserver**

**start\_rtv agentmode agentsender**

**start\_rtv agentmode historian**

**start\_rtv agentmode displayserver**

NOTE: The **start\_rtv** script starts processes in an OCM configuration as specified in the **"rtvservers.dat"** configuration file. For details about **start\_rtv**, see ["Scripts" on page 209](#).

The OCM Agent is now configured to gather data from the Coherence cluster.

Proceed to [“Verify Configuration” on page 390](#).

## Verify Configuration

The purpose of this section is to verify that your OC Monitor configuration (performed in earlier sections of this documentation) is operating properly before performing a full Web deployment.

### Windows

On Windows, use the standalone OC Monitor to test data acquisition from the cluster. For details about **start\_rtv**, see [“Scripts” on page 209](#).

1. Initialize a command line window by executing the **rtvapm\_init** script. For example:

#### Windows

Go to your RTView Enterprise Monitor installation directory and type:

```
rtvapm_init
```

#### UNIX

Go to your Enterprise Monitor installation directory and type:

```
./rtvapm_init.sh
```

2. Initialize the user project directory by executing the **rtvapm\_user\_init** script. For example:

#### Windows

Change directory (**cd**) to **rtvapm\_projects\emsample** and type:

```
rtvapm_user_init
```

#### UNIX

Change directory (**cd**) to **rtvapm\_projects/emsample** and type:

```
./rtvapm_user_init.sh
```

3. Change directory (**cd**) to the **projects\mysample** directory of the OC Monitor installation directory.

4. Start the HSQLDB database by typing:

```
start_rtv default database
```

A command prompt window appears for the HSQLDB database.

5. Start the Viewer by typing:

```
start_rtv viewer -console
```

A command prompt window appears, followed by the OC Monitor application.

6. Inspect the messages that appear in the command prompt window for errors.

- If there are no errors, the Cluster Overview display appears. Your OC Monitor configuration is operating properly. It takes at least two JMX retrieval cycles to obtain data and fully populate the displays. Proceed to full deployment as described in the section Starting the Monitor.
  - If there are errors they appear in the command prompt window, or display fields remain empty. Proceed to the next Step.
- 7.** Perform the following steps:
- Note the errors that occurred.
  - Terminate the OC Monitor.
  - Modify the configuration files as needed.
  - Restart the OC Monitor.
- 8.** Repeat Steps 2 – 5 as needed to resolve any data acquisition issues.  
Proceed to Starting the Monitor.

## UNIX/Linux

For details about **start\_rtv**, see [“Scripts” on page 209](#).

- 1.** Initialize a command line window by executing the **rtvapm\_init** script. For example:

### Windows

Go to your RTView Enterprise Monitor installation directory and type:

**rtvapm\_init**

### UNIX

Go to your Enterprise Monitor installation directory and type:

**./rtvapm\_init.sh**

- 2.** Initialize the user project directory by executing the **rtvapm\_user\_init** script. For example:

### Windows

Change directory (**cd**) to **rtvapm\_projects\emsample** and type:

**rtvapm\_user\_init**

### UNIX

Change directory (**cd**) to **rtvapm\_projects/emsample** and type:

**./rtvapm\_user\_init.sh**

- 3.** Change directory (**cd**) to the mysample directory.

Example: **cd projects/mysample**

- 4.** Start HSQLDB.

Example: **start\_rtv.sh default database**

- 5.** Check the HSQLDB log file for errors. Example without errors:

```
cat hsqldb.log
```

```
[Thread[main,5,main]]: checkRunning(false) entered
[Thread[main,5,main]]: checkRunning(false) exited
Startup sequence initiated from main() method
Loaded properties from [/home/m/SLTest/rtvoc_55c1/projects/myocm/server.properties]
Initiating startup sequence...
Server socket opened successfully in 8 ms.
Database [index=0, id=0, db=file:DATA/alertdefs, alias=alertdefs] opened successfully in
452 ms.
Database [index=1, id=1, db=file:DATA/rtvhistory, alias=rtvhistory] opened successfully
in 878 ms.
Startup sequence completed in 1341 ms.
2009-11-20 11:16:56.800 HSQLDB server 1.8.0 is online
To close normally, connect and execute SHUTDOWN SQL
From command line, use [Ctrl]+[C] to abort abruptly
```

## 6. Start the Data Server.

Example: **start\_rtv.sh default dataserver**

## 7. Carefully inspect the Data Server log file, **logs/dataserver.log**, for OC Monitor and Coherence errors.

NOTE: Coherence can produce a large number of long messages making errors difficult to notice. Common errors at this stage are "class not found" errors due to missing JAR files, and incorrect or blocked ports.

- If there are no errors, proceed to Starting the Monitor.
- If there are errors proceed to Step 8.

## 8. Terminate the Data Server and correct any configuration errors found.

Example: **stop\_rtv.sh** default dataserver

## 9. Repeat steps 6 – 8 as needed until the Data Server output produces no errors.

## 10. Terminate the data server and HSQLDB and use "**ps -ef | grep hsqldb**" to find the HSQLDB process.

---

# Additional Configurations

## High Availability

High Availability (HA) mitigates single point of failure within OCM by providing a means of defining redundant system components together with failover capability for users of those components.

When using HA, components are designated PRIMARY and BACKUP. If the PRIMARY component fails, failover occurs to the BACKUP component. If the PRIMARY component is subsequently restarted, the BACKUP component allows the newly restarted component to take the primary role and return to its backup role.

A High Availability (HA) Data Server configuration that is within the RTView EM platform is available for the OCM Solution Package version.

The `emsample/servers` directory provides an example of HA for RTView EM and the OCM Solution Package version. The example assumes the availability of two machines `PRIMARYHOST` and `BACKUPHOST` defined by environment variables of the same name. RTView EM is configured by the `rtvservers-ha.dat` file in place of the `rtvservers.dat` file in the `emsample/servers` directory

Assuming the environment variables `PRIMARYHOST` and `BACKUPHOST` are set correctly, EM components on the primary machine are started as normal using the “central” configuration with the **start\_rtv** command. EM components on the backup machine are started using the “central-backup” configuration with the **start\_rtv** command.

Start the primary OCM Data Server on the primary machine as normal using the `ocmon` configuration with the **start\_rtv** command. For example:

Windows

**start\_rtv ocmmon dataserver**

UNIX

**start\_rtv.sh ocmmon dataserver**

Start the backup OCM Data Server on the backup machine using the `ocmon-backup` configuration with the **start\_rtv** command. For example:

Windows

**start\_rtv ocmmon-backup dataserver**

UNIX

**start\_rtv.sh ocmmon-backup dataserver**

The appropriate property files and propfilters for the OCM Data Server are defined in the **rtvservers-ha.dat** file in the `servers` directory. The property values controlling HA used by the OCM Data Servers are defined in the `ha.properties` file in the **servers/ocmon** directory.

---

## OC Monitor Views/Displays

The following Solution Package for Solace Views (and their associated displays) can be found under **Components** tab > **Middleware** > **Oracle Coherence** after installation:

This section contains the following:

- [“Cluster Selector” on page 394](#): See all your Coherence clusters and Data Servers and choose which cluster to display data for.
- [“Cluster Views” on page 395](#): Use these displays to assess Coherence cluster-level performance and utilization.
- [“Proxy Services” on page 415](#): Use these displays to assess proxy service performance metrics.
- [“Cache Services” on page 430](#): Use these displays to assess performance and utilization of all caches in the cluster.
- [“All Caches” on page 442](#): Use these displays to investigate performance, utilization and activity metrics of a single cache.
- [“Single Cache” on page 449](#): Use these displays to assess node-level performance and utilization in the cluster.

- [“All Nodes” on page 464](#): Use these displays to investigate performance and utilization metrics of a single node.
- [“Single Node” on page 474](#): Use these displays to investigate performance and utilization metrics of a single node.
- [“Time Range Analysis” on page 488](#): Use these displays to manage your Oracle Coherence metrics, nodes and caches.
- [“OC Administration”](#): Use these displays to manage your Oracle Coherence metrics, nodes and caches.

## Cluster Selector

This display shows details about your Coherence clusters and OCM Data Servers.

Use this display to see all the Coherence clusters you can monitor, as well as their status. Choose a cluster to view performance details for the cluster in the Cluster - Overview display.

Each row in the table is a different Coherence cluster. The columns contain information pertaining to each cluster. When you select a cluster you are also selecting the Data Server corresponding with that cluster. After you make your selection, all displays subsequently show data for that cluster/Data Server (except for alert displays which consolidate alerts from all Data Servers). For example, the [“Node Summary”](#) display will then show data for the selected cluster/Data Server.

For details about Oracle Coherence data, refer to vendor documentation at [www.oracle.com](http://www.oracle.com).

| Connection  | Alert Severity | Alert Count | ClusterSize | Caches | Objects   | Data Server |
|-------------|----------------|-------------|-------------|--------|-----------|-------------|
| DemoCluster |                | 0           | 60          | 15     | 1,856,470 | __default   |

### Title Bar:

Indicators and functionality might include the following:

- Open the previous and upper display.
- and navigate to displays commonly accessed from this display.
- 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
- Cis: 3,047 The number of items in the display.

- Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

|                       |   |
|-----------------------|---|
| <b>Connection</b>     | The name of the user defined connection that is used to connect to the monitored Coherence cluster.   |
| <b>Alert Severity</b> | The maximum level of alerts on the cluster.<br> Red indicates that one or more exceeded their ALARM LEVEL threshold.<br> Yellow indicates that one or more exceeded their WARNING LEVEL threshold.<br> Green indicates that none have exceeded their alert thresholds. |
| <b>Alert Count</b>    | The number of current alerts for the cluster.   |
| <b>Cluster Size</b>   | The total number of nodes for the cluster.  |
| <b>Caches</b>         | The total number of caches for the cluster.   |
| <b>Objects</b>        | The total number of objects stored in the cluster.  |
| <b>Data Sever</b>     | The name of the Data Server (connection) that is used to monitor the cluster.   |

## Cluster Views

Cluster Views displays present high-level performance metrics for the cluster. Use the Cluster Views displays to quickly assess Coherence cluster-level performance metrics.

- [“Cluster - Overview” on page 395](#): Quickly assess general cluster stability, cluster size (number of nodes, clients and caches), service and cache capacity utilization/distribution and HA status.
- [“Caches / Nodes / Alerts” on page 399](#): View cache and node utilization hot spots and currently active alerts.
- [“Memory/Network Health” on page 402](#): Assess cluster memory utilization and packet transmission success/failure trends, and see weakest nodes.
- [“Stability Metrics” on page 404](#): Troubleshoot nodes joining and leaving the cluster, view HA status for cache services.
- [“All Services History” on page 407](#): Assess capacity utilization, over time, by all services in a cluster.
- [“All Caches History” on page 410](#): Assess capacity utilization and distribution for all caches in a cluster, and quickly identify potential bottlenecks.
- [“All Nodes History” on page 413](#): Assess capacity utilization, over time, for all nodes in a cluster.

### Cluster - Overview

Use this display to quickly assess the cluster size (number of nodes, clients and caches) and stability, service and cache capacity utilization and HA status. This display is the initial view in the OC Monitor.

Choose a cluster from the drop down menu. Check the Communication Success% bar charts for cluster packet loss. If the pairs of bar graphs are uneven, this indicates that packet loss is occurring. The cause for the packet loss could be a network issue, a single defective NIC card, a garbage collection issue, disk swapping or a shortage of CPU on a single machine. Investigate further by clicking the bar chart to view details in the Cluster - “Memory/Network Health” display.



**Title Bar:**

Indicators and functionality might include the following:

- ← ↑ Open the previous and upper display.
- CMDB and Table navigate to displays commonly accessed from this display.
- 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
- Cls: 3,047 The number of items in the display.

- Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Alert icon Open the **Alert Views - RTView Alerts Table** display.
- + Open an instance of this display in a new window.
- ? Open the online help page for this display.

**Fields and Data:**

**Coherence Cluster Configuration**

- Total Nodes** Total number of nodes being monitored, including storage enabled nodes, client nodes, and management (JMX) nodes.
- Storage** Total number of nodes in the cluster which have storage enabled for any cache. This value is equal to the total nodes when replicated caches are being used. The number is less when only distributed cache types are utilized.
- Clients** Total number of nodes in the cluster which do not have storage enabled for any cache. These are usually process nodes, proxy nodes, extend nodes, or MBean server nodes.

|  |   |
|--|---|
| <b>Caches</b>                                | Total number of caches in the cluster.  |
| <b>Version</b>                               | Version of Oracle Coherence running.  |
| <b>Cluster Memory Usage Totals</b>           |   |
| <b>Senior Node</b>                           | Node ID of the senior node of the cluster.  |
| <b>Client Nodes</b>                          | Monitor client node memory utilization for the cluster.   |
| <b>Max MB</b>                                | Total memory allocated.   |
| <b>Used MB</b>                               | Total memory used.  |
| <b>%</b>                                     | <b>Percent of allocated memory being used.</b>  |
| <b>Storage Nodes</b>                         | Monitor storage node memory utilization for the cluster.  |
| <b>Max MB</b>                                | Total memory allocated.   |
| <b>Used MB</b>                               | Total memory used.  |
| <b>%</b>                                     | <b>Percent of allocated memory being used</b>   |
| <b>Alert Severity</b>                        | <p>The maximum level of alerts for all nodes in the cluster. Click to drill down to the Alert Detail Table.</p> <ul style="list-style-type: none"> <li><span style="color: red;">●</span> Red indicates that one or more exceeded their ALARM LEVEL threshold.</li> <li><span style="color: yellow;">●</span> Yellow indicates that one or more exceeded their WARNING LEVEL threshold.</li> <li><span style="color: green;">●</span> Green indicates that none have exceeded their alert thresholds.</li> </ul> <p><b>Memory</b> Represents the current most critical state of alerts related to heap and memory alerts for all nodes in the cluster. For example, the AvailableMemoryLowNode alert.</p> <p><b>Network</b> Represents the current most critical state of alerts related to network and communication protocols for all nodes in the cluster. For example, the BadCommunicationCluster alert.</p> <p><b>Stability</b> Represents the current most critical state of alerts related to cluster stability for all nodes in the cluster. For example, the DepartedNodePercentage alert.</p> <p><b>Tasks</b> Represents the current most critical state of alerts related to queries, entry processors and invocations for all nodes in the cluster. For example, the HighTaskBacklogNode alert.</p> <p><b>Data Quality</b> Represents the current most critical state of alerts related to the quality of data in the Data Server for all nodes in the cluster. For example, the JmxProcessingTime alert.</p> <p><b>Other</b> Represents the current most critical state of alerts related to all alerts not represented in the other five status indicators for all nodes in the cluster. For example, the CapacityLimitAllCaches alert.</p> <p><b>Memory</b> Represents the current most critical state of alerts related to heap and memory alerts for all nodes in the cluster. For example, the AvailableMemoryLowNode alert.</p> |
| <b>Service Configuration &amp; HA Status</b> |   |
| <b>Cache Services</b>                        | Assess size, distribution and status of Coherence protocol-related cache services used by applications in the cluster. Determine whether cache services are distributed properly across the cluster. The list includes distributed, replicated and mirrored caches. Note that Management and Invocation services are intentionally not listed.  |

|                      |  |
|----------------------|--|
| <b>Service Name</b>  | The name of the service in the cluster. These are defined in each server cache configuration XML file.   |
| <b>StatusHA</b>      | The high availability status for each of the services.   |
| <b>MACHINE-SAFE</b>  | If a machine for the service goes offline the data stored on the machine remains available in the cluster (no data loss).                          |
| <b>NODE-SAFE</b>     | If a node for the service goes offline (or is taken offline using kill-9) data stored on the node remains available in the cluster (no data loss). |
| <b>ENDANGE RED</b>   | If a node for the service goes offline the data stored on the node is potentially unavailable in the cluster (potential data loss).                |
| <b>Total Nodes</b>   | The number of nodes in the cluster that are running a thread for the service.  |
| <b>Storage Nodes</b> | The number of nodes for the service where storage is enabled.  |
| <b>Caches</b>        | The number of caches for the service.  |
| <b>Objects</b>       | The number of objects in all caches for the service.   |
| <b>Senior</b>        | The node ID of the most senior node in the cluster for the service.  |

### Caches - Busiest & Largest

|                      |  |
|----------------------|--|
| <b>Most Gets</b>     | Track services performing the greatest number of gets in the cluster. The total is the number of gets by nodes in the cluster since the last sample was retrieved. Click to drill-down to the All Caches - <a href="#">"Current Activity Chart"</a> display. |
| <b>Cumulative</b>    | Select the checkbox to show only the cumulative total for all nodes for the service since they started in the Most Gets bar chart.   |
| <b>Largest Cache</b> | Track caches that consume the greatest amount of capacity. Click to drill-down to the All Caches - <a href="#">"Current Size Chart"</a> display.   |

### Cluster Stability

|                             |  |
|-----------------------------|--|
| <b>Node Uptimes</b>         | Monitor cluster stability and how often nodes are restarted (for example, every month, every day, every hour, and so forth). If the number of nodes running for seconds of time increases (and your nodes are restarted weekly), consider investigating. Click in the Node Uptimes region to view details on the <a href="#">"Stability Metrics"</a> display.<br>Solid colors in the graph indicate the amount of time since the nodes were started. Longer uptimes generally represent a more stable cluster. Departed Nodes specifies the number of nodes that have departed and not returned since monitoring of the cluster was started. If a node departs and returns with the same name, the count is decremented. |
| <b>Memory Utilization %</b> | Monitor memory utilization for all nodes in the cluster.   |
| <b>Average</b>              | The average memory utilization for all nodes in the cluster.   |
| <b>Worst Node</b>           | The most amount of memory consumed by a single node in the cluster. A slow node that provides data to other nodes can cause latency issues for the entire cluster. If a node is consuming too much memory, investigate by clicking the bar chart to view details in the Cluster - <a href="#">"Memory/Network Health"</a> display.   |

**Communication Success%** Monitor cluster packet loss--an excellent indicator of systemic issues in the cluster. If the pairs of bar graphs are uneven, this indicates that packet loss is occurring and analysis is needed. Investigate further by clicking the bar chart to view details in the Cluster - "Memory/Network Health" display.

The bar charts show the percent (%) successful UDP packet transfers in the cluster for the last twenty minutes. Each pair of bars show the Publish and Receive success rates for all nodes in the cluster. Compare each pair of Publish and Receive bars. The bars should have similar rates. If they do not have similar rates this indicates packet loss in the cluster. For example, if the Publish success rate is much lower than the Receive success rate, packets are being resent and the receiver is not getting them.

Compare and track the pairs of bars across twenty minutes. The bars should track evenly. If the bars do not track evenly this also is a sign of packet loss in the cluster.

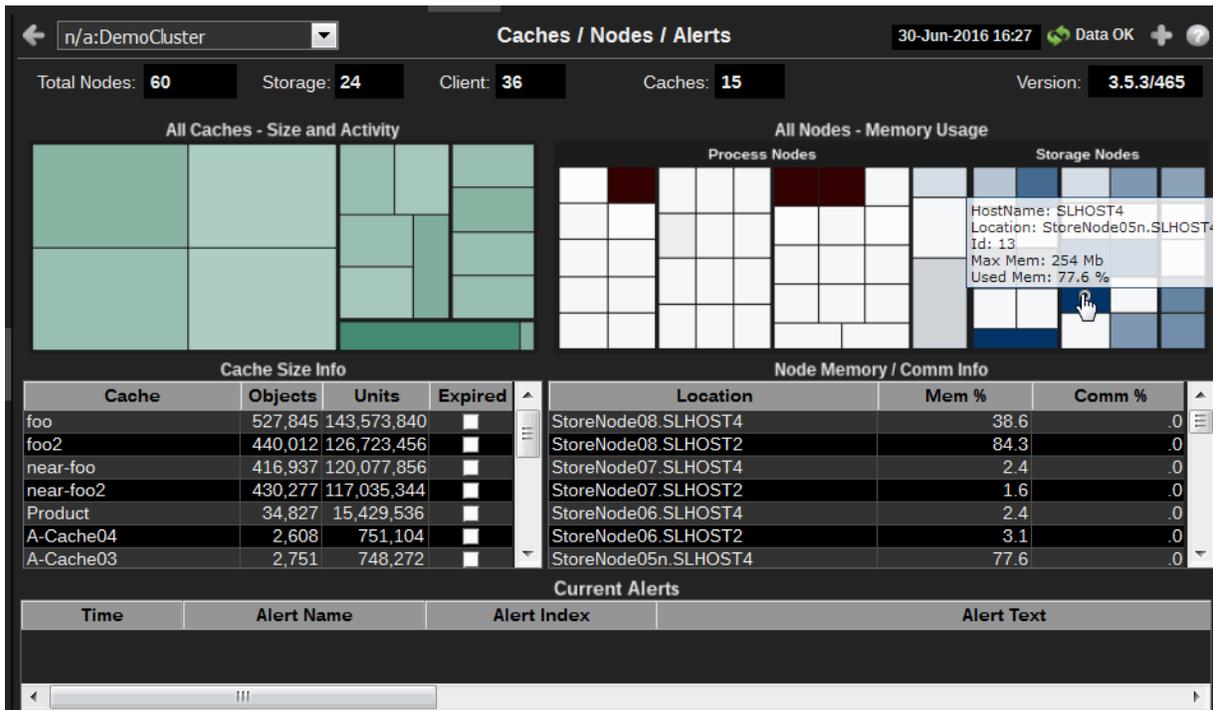
The cause for the packet loss could be a network issue, a single defective NIC card, a garbage collection issue, disk swapping or a shortage of CPU on a single machine.

**Publish** The Publish success rate is the percent (%) of packets in the cluster successfully sent by nodes, without having to be resent. A 100% success rate occurs when a packet is sent and does not have to be re-sent. When a packet must be resent the success rate is reduced.

**Receive** The Receive success rate is the percent (%) of packets in the cluster successfully received by nodes, without being received twice. A 100% success rate occurs when a packet is received once. When a packet is received twice the success rate is reduced.

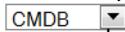
### Caches / Nodes / Alerts

Use this display to view cache and node utilization hot spots and currently active alerts. Observe how much capacity is taken from memory and how much is taken from consumption. Identify caches and nodes that are slow due to a shortage of capacity or memory. Verify nodes are configured properly (using the mouseover tool-tip). View time-ordered list of current alerts in the cluster.



**Title Bar:**

Indicators and functionality might include the following:

  Open the previous and upper display.  and  navigate to displays commonly accessed from this display.

 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 CIs: 3,047 The number of items in the display.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

**Fields and Data:**

|                    |   |
|--------------------|---|
| <b>Total Nodes</b> | Total number of nodes being monitored, including storage enabled nodes, client nodes, and management (JMX) nodes.   |
| <b>Storage</b>     | Total number of nodes in the cluster which have storage enabled for any cache. This value is equal to the total nodes when replicated caches are being used. The number is less when only distributed cache types are utilized. |
| <b>Clients</b>     | Total number of nodes in the cluster which do not have storage enabled for any cache. These are usually process nodes, proxy nodes, extend nodes, or MBean server nodes.  |
| <b>Caches</b>      | Total number of caches in the cluster.  |
| <b>Version</b>     | Version of Oracle Coherence running.  |

**Capacity & Memory Usage**

**All Caches - Size and Activity** Use the heatmap to identify a cache with high capacity or memory usage, indicated by a dark rectangle. Observe how much capacity is taken from memory and how much is taken from consumption. View cache metrics using the mouseover tool-tip. Investigate cache utilization trends over time in the ["All Caches History"](#) display. Click on a rectangle to drill-down to the All Caches - ["All Caches Heatmap"](#).

The heatmap is grouped by service. Each rectangle represents a cache within the service. The size of each rectangle represents the size of a cache in units. The color of each rectangle represents the number of gets on the cache. The color is linearly scaled, where white is the minimum gets seen and dark green is the maximum gets seen.

**Cache Size Info** The table lists each cache in the cluster and enables you to sort the by most/least amount of objects or units. Click a row to view details in the ["Single Cache Summary"](#) display.

**Cache** The name of the cache.

**Objects** The number of objects currently in the cache.

**Units** The number of units currently used by the cache.

**All Nodes-Memory Usage** Use the heatmap to identify a node with high memory usage, indicated by a dark rectangle. Verify nodes are configured properly using the mouseover tool-tip. Click on a rectangle to drill-down to the ["All Nodes by Type/Host/Memory"](#).

The heatmap is divided into two sections: Process Nodes and Storage Nodes. Each rectangle represents a node in the cluster. The size of the rectangle represents the value of the maximum node memory. The color of the rectangle represents the value of the memory used. The color is linearly scaled, where white is 0% memory used and dark green is 80% memory used.

|                              |   |
|------------------------------|---|
| <b>Node Memory/Comm Info</b> | The table lists each node in the cluster and enables you to sort the by most/least amount of objects or units. Click a row to view details in the “ <a href="#">Node Summary</a> ” display. |
| <b>Location</b>              | The name of the host.   |
| <b>Mem%</b>                  | The percent memory utilization for the node.  |
| <b>Comm%</b>                 | The percent memory utilization used for packet transfer by the node.  |

**All Active Alerts (in selected cluster)**

**Current Alerts** The table lists all alerts for all sources (nodes and caches) in the selected cluster that have exceeded an alert threshold. Sort the data by column using the button. By default, critical and warning alerts are shown. Select an alert in the list to open the **Alert Detail Table** dialog and acknowledge an alert or add comments. Where:

-  Red indicates that one or more resources exceeded their ALARM LEVEL threshold.
-  Yellow indicates that one or more resources exceeded their WARNING LEVEL threshold.
-  Green indicates that no resources have exceeded their alert thresholds.

For details about alerts, see **Appendix, Alert Definitions**.

**Alert Name** The alert type. Alert Types contain alert threshold definitions. A single alert type applies to all nodes or caches in the cluster. For example, the OcAvailableMemoryLowNodeSpike alert type applies to multiple nodes, and the OcCapacityLimitCache alert type applies to multiple caches. (The Alert Index identifies the source node for the alert.)

For details about alerts, see **Appendix, Alert Definitions**.

**Alert Index** The Oracle Coherence source (node or cache) from which the alert originated. As with nodes, a cluster can have multiple caches. A single alert type, such as OcCapacityLimitCache, applies to all caches in the cluster. The Alert Index identifies the cache from which the alert originated.

**Alert Text** Descriptive information about the alert.

**Cleared** The checkbox is selected if this alert has cleared. An alert is considered cleared when the source for the alert (node or cache) returns to below the alert threshold. To include acknowledged alerts in the table, select Show Cleared.

**Acknowledged** The checkbox is selected if this alert has been acknowledged. Acknowledged alerts have been manually acknowledged by an administrator. Acknowledged alerts are automatically removed from the Current Alerts table. To include acknowledged alerts in the table, select Show Acknowledged.

**ID** Unique ID for the alert.

**Comments** Comments about the alert previously entered by an administrator.

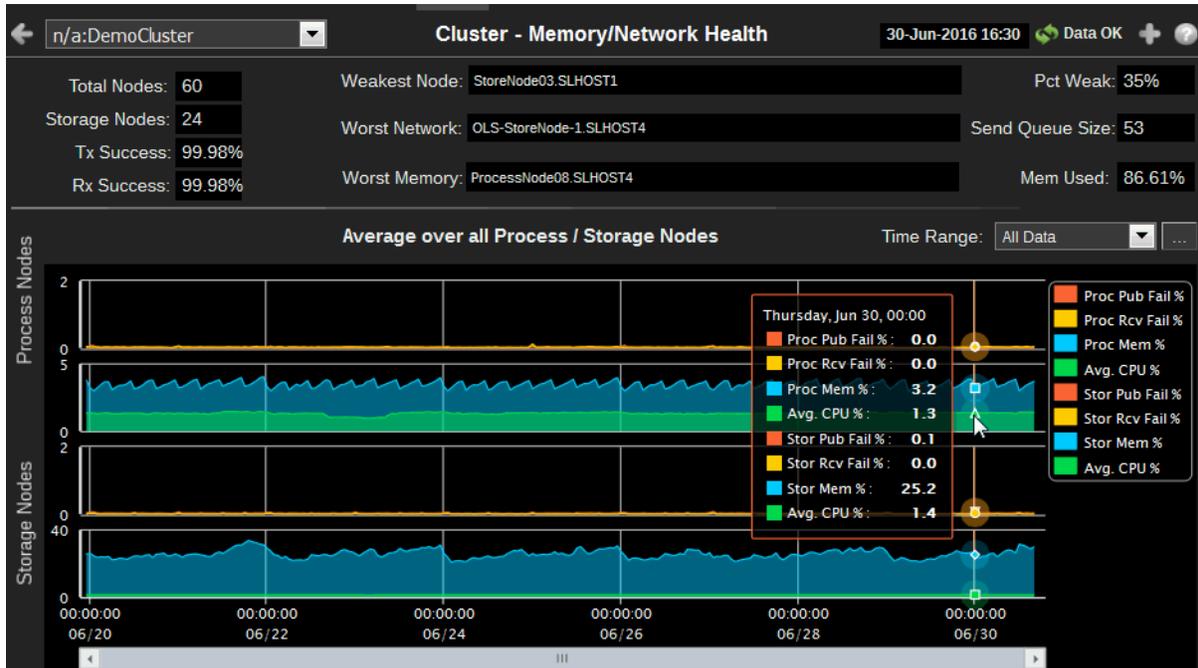
**Cleared Reason** An alert is in a cleared state when the source for the alert (node or cache) returns to below the alert threshold. Or, with the OcDepartedNode alert type, when the node rejoins the cluster the alert is cleared.

**Cleared Time** The time the alert was cleared.

- Alert Index Value** The Oracle Coherence source (node or cache) from which the alert originated.
- Cluster Connection** The name of the cluster in which the alert source (node or cache) is a member.

### Memory/Network Health

Use this display to assess cluster memory utilization and packet transmission success/failure trends, and to see the weakest nodes.



**Title Bar:**

Indicators and functionality might include the following:

- ← ↑ Open the previous and upper display.
- CMDB and Table navigate to displays commonly accessed from this display.
- 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
- Cls: 3,047 The number of items in the display.

- Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- 🚨 Open the **Alert Views - RTView Alerts Table** display.
- ⊕ Open an instance of this display in a new window.
- ❓ Open the online help page for this display.

**Fields and Data:**

- Total Nodes** The total number of nodes in the cluster. This includes storage enabled nodes, client nodes, and management (JMX) nodes.
- Storage Nodes** The total number of nodes in the cluster which have storage enabled for any cache. This value is equal to the total nodes when replicated caches are being used. The number is less when only distributed cache types are utilized.

- Tx Success**      The publisher success rate, in percent. The Publish success rate is the percent (%) of packets in the cluster successfully sent by nodes, without having to be resent. A 100% success rate occurs when a packet is sent and does not have to be re-sent. When a packet must be resent the success rate is reduced.
  
- Rx Success**      The receiver success rate, in percent. The Receive success rate is the percent (%) of packets in the cluster successfully received by nodes, without being received twice. A 100% success rate occurs when a packet is received once. When a packet is received twice the success rate is reduced.
  
- Weakest Node**      The node voted by Coherence as the weakest in the cluster. The Weakest Node often points to a server/node that is causing performance issues. The node value most often appears in the "weakest node" attribute of all the JMX "node" objects. The format of this string is **<Node IP Address>:< Node Port >/<NodeID>**.
  - Weak**              The percent of the Coherence nodes that "elected" the node as the weakest.
  
- Worst Network**      The node that has the longest network queue in the cluster.
  - Send Queue**      The number of packets currently scheduled for delivery, including packets sent and still awaiting acknowledgment. Packets that do not receive an acknowledgment within the ResendDelay interval are automatically resent.
  
- Worst Memory**      The node that has the lowest available memory of any node in the cluster.
  - Mem Used**        The percent of memory consumed on the Worst Memory node.
  
- Average over all Process / Storage Nodes**      **Trend Graphs**  
 The trend graphs show aggregated performance metrics for storage and process nodes.
  
- Time Range**        Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

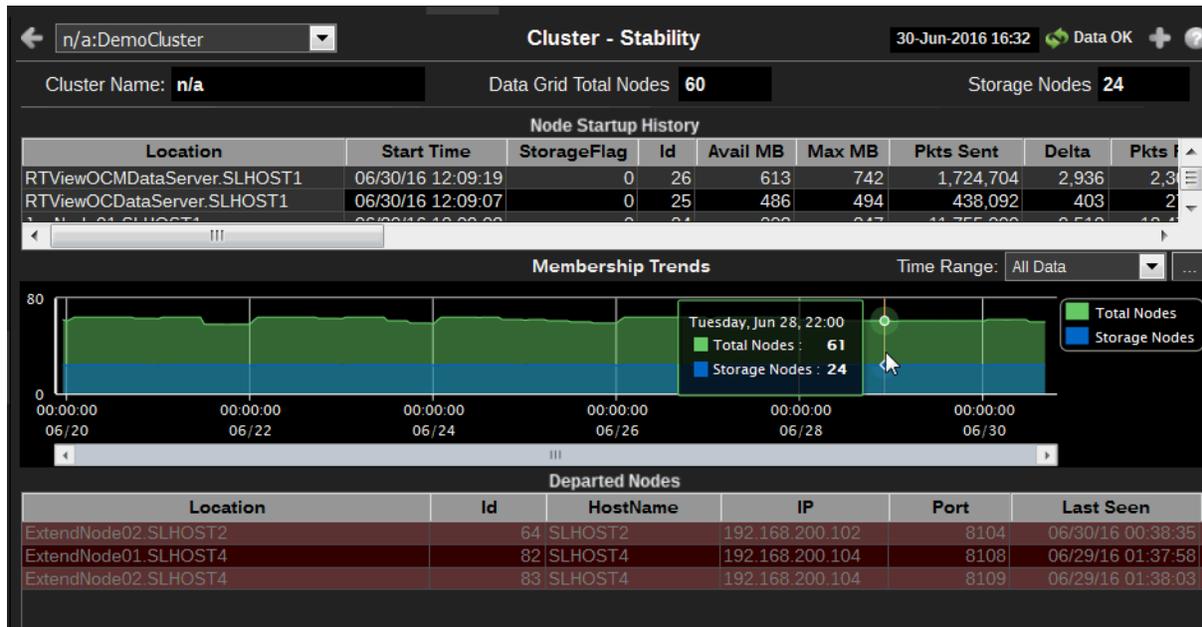
Use the navigation arrows to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

|                      |  |   |
|----------------------|--|---|
| <b>Process Nodes</b> | Publish Failures and Received Failures | Indicates the trending of process node publisher and receiver failure rates. If these values are above 10%, action may be required to improve the stability or performance of the cluster as a whole. The Weakest Node information often points to the server/nodes that are the cause of these issues. |
|                      | Memory Utilization%                    | Indicates the trending of process node memory utilization. If these values are above 10%, action may be required to improve the stability or performance of the cluster as a whole.   |
| <b>Storage Nodes</b> | Publish Failures and Received Failures | Indicates the trending of storage node publisher and receiver failure rates. If these values are above 10%, action may be required to improve the stability or performance of the cluster as a whole. The Weakest Node information often points to the server/nodes that are the cause of these issues. |
|                      | Memory Utilization%                    | Indicates the trending of storage node memory utilization. If these values are above 10%, action may be required to improve the stability or performance of the cluster as a whole.   |

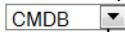
### Stability Metrics

Use this display to troubleshoot nodes joining and leaving the cluster, and view HA status for cache services. This display presents information about node up times and the stability of the cluster.



**Title Bar:**

Indicators and functionality might include the following:

  Open the previous and upper display.  and  navigate to displays commonly accessed from this display.

 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 The number of items in the display.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

**Fields and Data:**

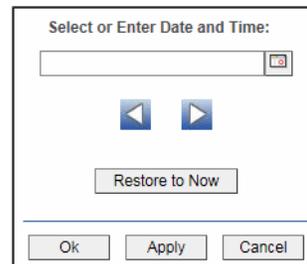
|                              |   |
|------------------------------|---|
| <b>Cluster Name</b>          | Select a cluster from the drop-down menu.   |
| <b>Data Grid Total Nodes</b> | The total number of nodes being monitored. This includes storage enabled nodes, client nodes, and management (JMX) nodes.   |
| <b>Storage Nodes</b>         | The total number of nodes in the cluster which have storage enabled for any cache. This value is equal to the total nodes when replicated caches are being used. The number is less when only distributed cache types are utilized. |
| <b>Node Startup History</b>  | Use this table to identify nodes that have departed and returned to the cluster recently. This table contains a list of nodes in the cluster, sorted by start time (the most recently created node is listed first).                |
| <b>Location</b>              | A unique identifier for each node. It is defined as:<br><b>member_name.machine.rack.site.</b>   |
| <b>Start Time</b>            | The date and time that the node joined the cluster.   |
| <b>StorageFlag</b>           | Indicates whether storage is enabled ( <b>0</b> or <b>1</b> ).  |
| <b>Id</b>                    | The short member id that uniquely identifies this member.   |
| <b>Avail MB</b>              | The amount of available memory for this node, in megabytes.   |
| <b>Max MB</b>                | The maximum amount of memory for this node, in megabytes.   |
| <b>Pkts Sent</b>             | The cumulative number of packets sent by this node since the node statistics were last reset.   |
| <b>Delta</b>                 | The number of packets sent by this node since the last update.  |
| <b>Pkts Rcvd</b>             | The cumulative number of packets received by this node since the node statistics were last reset.   |
| <b>Delta</b>                 | The number of packets received by this node since the last update.  |
| <b>Pkts Rptd</b>             | The cumulative number of duplicate packets received by this node since the node statistics were last reset.   |
| <b>Delta</b>                 | The number of duplicate packets received by this node since the last update.  |
| <b>Pkts Resent</b>           | The cumulative number of packets resent by this node since the node statistics were last reset.   |
| <b>Delta</b>                 | The number of packets resent by this node since the last update.  |

|                       |   |
|-----------------------|---|
| <b>Pub Succ Rate</b>  | The publisher success rate for this node since the node statistics were last reset. Publisher success rate is a ratio of the number of packets successfully delivered in a first attempt to the total number of sent packets. A failure count is incremented when there is no ACK received within a timeout period. It could be caused by either very high network latency or a high packet drop rate.              |
| <b>Rec Succ Rate</b>  | The receiver success rate for this node since the node statistics were last reset. Receiver success rate is a ratio of the number of packets successfully acknowledged in a first attempt to the total number of received packets. A failure count is incremented when a re-delivery of previously received packet is detected. It could be caused by either very high inbound network latency or lost ACK packets. |
| <b>Member</b>         | The member name for this node.  |
| <b>Machine</b>        | The machine name for this node.   |
| <b>Rack</b>           | The rack name for this node.  |
| <b>Site</b>           | The site name for this node.  |
| <b>Process</b>        | The process name for this node.   |
| <b>Uni Addr</b>       | The unicast address. This is the IP address of the node's DatagramSocket for point-to-point communication.  |
| <b>Uni Port</b>       | The unicast port. This is the port of the node's DatagramSocket for point-to-point communication.   |
| <b>RoleName</b>       | The role name for this node.  |
| <b>ProductEdition</b> | The product edition this node is running. Possible values are: Standard Edition (SE), Enterprise Edition (EE), Grid Edition (GE).   |

### Membership Trends

Track the total number of nodes and the total number of storage nodes in the cluster for the duration of the user session. These lines are normally unchanging or "flat". If there are fluctuations in this graph, check the debugging guide for appropriate actions.

**Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

**Departed Nodes**

Track departed nodes by IP address, port number and time last seen.

**Location**

A unique identifier for each node. It is defined as:  
**member\_name.machine.rack.site.**

**HostName**

The name of the host on which the node resides.

**IP**

The node IP address.

**Port**

The unicast port the node used while in the cluster. This is the port of the node's DatagramSocket for point-to-point communication.

**Last Seen**

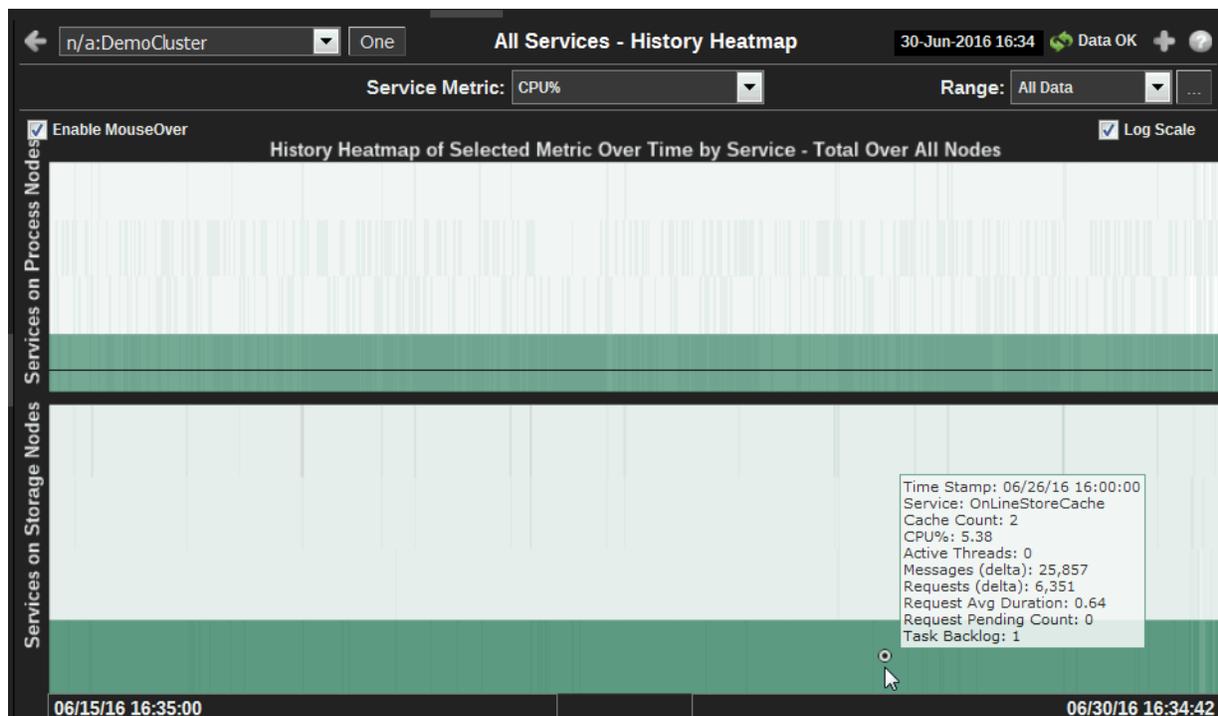
The date and time that the node left the cluster.

## All Services History

Use this display to assess utilization of cache capacity, over time, by all services in a cluster. Analyze load distribution across services and caches, check for bottlenecks and quickly identify services that need more threads. Answer questions such as:

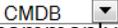
- Is their enough cache capacity available for the service?
- Is their enough storage capacity available for the service?

Use the mouseover tool-tip to see how many caches the service runs on, and data for the selected metric.



**Title Bar:**

Indicators and functionality might include the following:

  Open the previous and upper display.  and  navigate to displays commonly accessed from this display.

 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 The number of items in the display.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

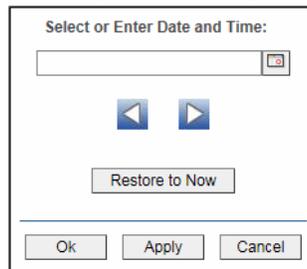
**Filter By:**

The display might include these filtering options:

|                               |   |
|-------------------------------|---|
| <b>Service Metric:</b>        | Choose a service metric for which to display data in the heatmap. Use the mouse-over tool-tip to view metrics. Identify a service with high utilization. Perform node analysis by clicking <b>One</b> to view the <a href="#">"Single Service History"</a> display.   |
| <b>CPU%</b>                   | Percent of CPU utilization in the specified time range.   |
| <b>Requests</b>               | The number of client requests issued to the cluster in the specified time range. This metric is a good indicator of end-user utilization of the service.  |
| <b>Messages</b>               | The number of messages for the given node in the specified time range.  |
| <b>ActiveThreads</b>          | The number of threads in the service thread pool, not currently idle.   |
| <b>TaskBacklog</b>            | The size of the backlog queue that holds tasks scheduled to be executed by one of the service threads. Use this metric for determining capacity utilization for threads running on a service. For example, if the service has a high <b>TaskBacklog</b> rate and a low amount of CPU available, consider increasing the number of threads for the service to improve performance. |
| <b>RequestPendingCount</b>    | The number of pending requests issued by the service.   |
| <b>RequestAverageDuration</b> | The average duration (in milliseconds) of an individual request issued by the service since the last time the statistics were reset.  |

**Time Range**

Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

**Enable MouseOver**

Select this option to make service details visible upon mouseover.

**History Heatmap of Selected Metric by Service**

Use the heatmap to view utilization trends for all services, over time, and quickly identify heavy usage, indicated by a dark color (by default, dark green). Look for a consistently dark horizontal line, which typically indicates constant high utilization. If this level of utilization is unexpected, consider performing a lower level analysis by viewing service details in the ["Single Service Summary"](#) display.

Two heatmaps, one for Process Nodes and another for Storage Nodes, show utilization trends for the selected metric, for all services running in the cluster. Each row represents a service. Cells in a row are sized uniformly. Each column represents a time period (typically in 10 second intervals). The color of the row cells represent the relative value of the selected service Metric, where a darker shade is a larger value.

Use the mouseover tool-tip to see how many caches the service runs on, and data for the selected metric.

**Services on Process Nodes** Each row represents a service. The color of the cells represents the relative value of the selected Service Metric, where a darker shade is a larger value. The size of the cells are uniform as they each represent one process node. Use the mouseover tool-tip to see how many caches the service runs on, and data for the selected metric.

**Services on Storage Nodes** Each row represents a service. The color of the cells represents the relative value of the selected Service Metric, where a darker shade is a larger value. The size of the cells are uniform as they each represent one storage node. Use the mouseover tool-tip to see how many caches the service runs on, and data for the selected metric.

**Log Scale**

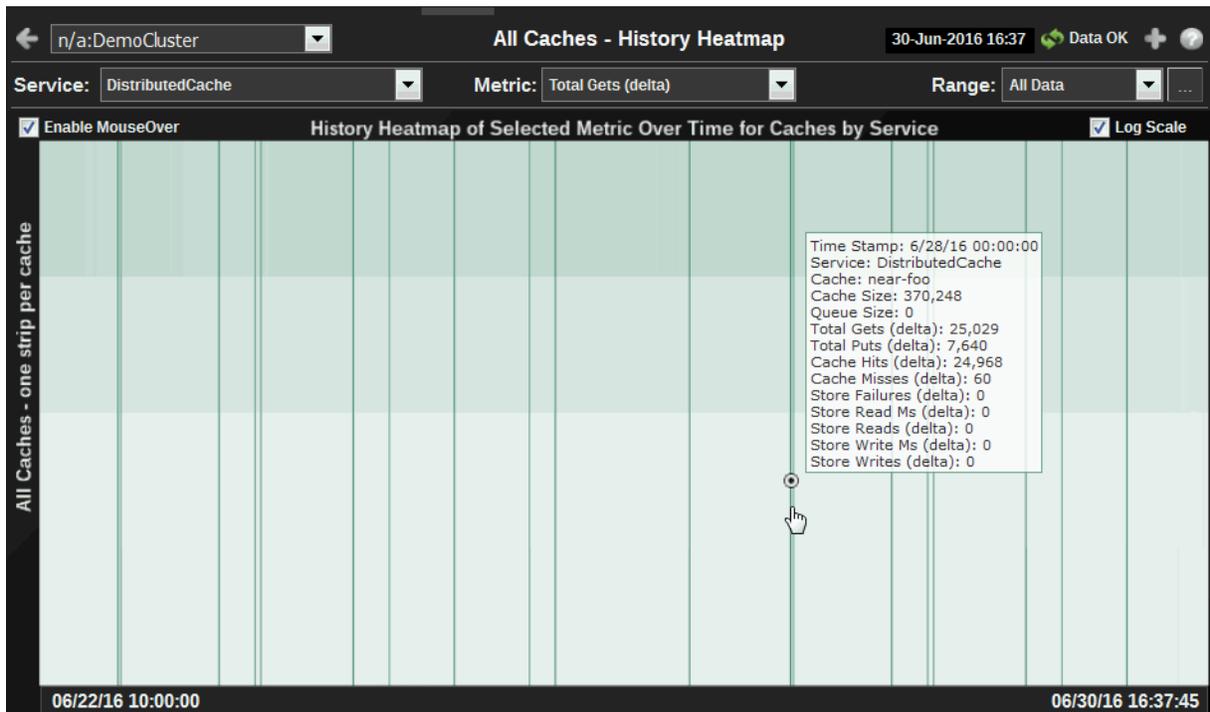
Enable to use a logarithmic scale for the Y axis. Use Log Scale to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. Log Scale makes data on both scales visible by applying logarithmic values rather than actual values to the data.

## All Caches History

Use this display to assess capacity utilization, over time, for all caches in a cluster. Analyze load distribution, check for bottlenecks and quickly identify caches with high usage. Answer questions such as:

- Is the cluster using what I expect?
- Is the cluster using it in a uniform scale?

Use the mouseover tool-tip to see the name of the cache and data for the selected metric.



### Title Bar:

Indicators and functionality might include the following:

← ↑ Open the previous and upper display.  
 CMDB and Table navigate to displays commonly accessed from this display.

19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Cls: 3,047 The number of items in the display.

Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

🚨 Open the **Alert Views - RTView Alerts Table** display.

⊕ Open an instance of this display in a new window.

❓ Open the online help page for this display.

### Filter By:

**Cluster:** Select a cluster for which to display data in the heatmap.

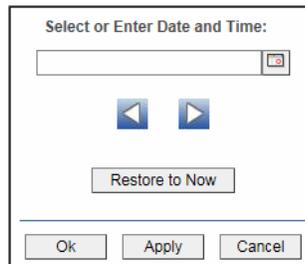
**Service:** Select a service for which to display data in the heatmap.

**Metric:** Select a metric for which to display data in the heatmap.

**Total Gets** The total number of requests for data from this cache.

|                                  |   |
|----------------------------------|---|
| <b>Total Puts</b>                | The total number of data stores into this cache.  |
| <b>Cache Hits</b>                | The total number of successful gets for this cache.   |
| <b>Cache Misses</b>              | The total number of failed gets for this cache. This metric indicates whether cache utilization is effective. For example, how often requests are made for data that does not exist in the cache. If a cache has a high rate of misses, consider performing a lower level analysis by viewing the cache in the <a href="#">"Single Cache Summary"</a> display. Check the metrics for Size, Evictions and Misses to determine whether more capacity is needed. |
| <b>Cache Size</b>                | The total number of objects in the cache.   |
| <b>StoreFailures (Delta)</b>     | The total number of store failures on this cache since the last data sample.  |
| <b>StoreReads (Delta)</b>        | The total number of load operations on this cache since the last data sample.   |
| <b>StoreReadMillis (Delta)</b>   | The cumulative amount of time (in milliseconds) of load operations for this cache since the last data sample.   |
| <b>StoreWrites (Delta)</b>       | The total number of store and erase operations for this cache since the last data sample.   |
| <b>StoreWritesMillis (Delta)</b> | The cumulative amount of time (in milliseconds) of store and erase operations on this cache since the last data sample.   |
| <b>Total Gets</b>                | The total number of requests for data from this cache.  |

**Range:** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

**AppName:** Choose an AppName to show data for in the display.

**Fields and Data:**

|                             |   |
|-----------------------------|---|
| <b>AppSlice Information</b> | <b>Last Update:</b> The date and time the data was last updated.  |
|                             | <b>Completed:</b> The total number of completed processes summed across all processes in one AppSlice of the application. |
|                             | <b>Suspended:</b> The total number of suspended processes   |
|                             | <b>Failed:</b> The total number of failed processes   |

**Created Rate:** The number of application processes created per second.

**Failed Rate:** The number of failed application processes per second.

**Avg Exec:** The average number of seconds for processes to execute.

**Avg Elap:** The average amount of elapsed time, in seconds.

**Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .

By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

**Enable MouseOver**

Select this option to make cache details visible upon mouseover.

**History Heatmap of Selected Metric**

Use the heatmap to view utilization trends for all caches, over time, and quickly identify heavy usage, indicated by a dark color (by default, dark green). Look for a consistently dark horizontal line, which typically indicates constant high utilization. If this level of utilization is unexpected, consider performing a lower level analysis by viewing cache details in the ["Single Cache Summary"](#) display.

Also look for a dark vertical line, which indicates that all the caches, nodes or services are being used simultaneously. Typically this indicates further analysis is needed.

The heatmap shows cache utilization trends for the selected service and metric, for all caches running in the cluster. Each row represents a cache. Cells in a row are sized uniformly and represent one process node. Each column represents a time period (typically in 10 second intervals). The heatmap is grouped vertically by service. The color of the row cells represent the relative value of the selected service Metric, where a darker shade is a larger value.

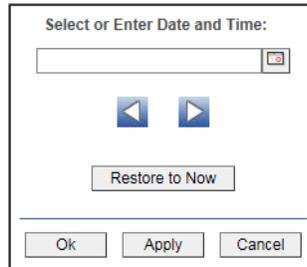
Use the mouseover tool-tip to see the name of the cache and data for the selected metric.

**Log Scale**

Select to enable a logarithmic scale. Use **Log Scale** to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. **Log Scale** makes data on both scales visible by applying logarithmic values rather than actual values to the data.

**Base at Zero** Use zero as the Y axis minimum for all graph traces.

**Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar [...].



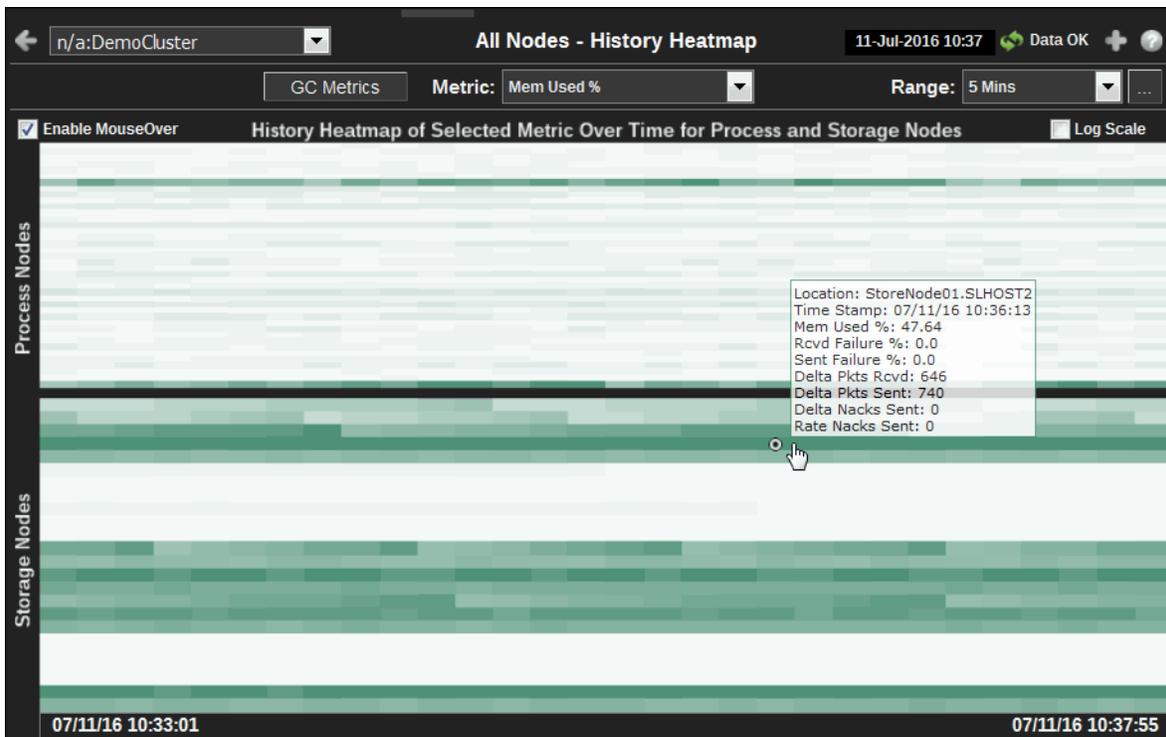
By default, the time range end point is the current time. To change the time range end point, click Calendar [...] and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows ◀ ▶ to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

## All Nodes History

Use this display to assess capacity utilization, over time, for all nodes in a cluster. Analyze load distribution, check for bottlenecks and quickly identify nodes with high usage. Use the mouseover tool-tip to see the node hostname and data for the selected metric.



**Title Bar:**

Indicators and functionality might include the following:

← ↑ Open the previous and upper display.  
 and  navigate to displays commonly accessed from this display.

The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

The number of items in the display.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

**Filter By:**

**Cluster:** Select a cluster for which to display data in the heatmap.

**GC Metrics** Click to open the ["All Nodes History"](#) display which shows GC Duty Cycle for all the nodes in a cluster.

**Metric:** Select a metric for which to display data in the heatmap.

**Mem Used%** The percent (%) of memory used by the node.

**Packets Sent Fail%** The percent (%) of packets that had to be resent by this node.

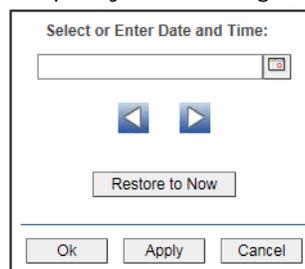
**Packets Rcvd Fail%** The percent (%) of packets that failed to be received by this node.

**Delta Packets Sent** The number of packets sent by this node since the last data sample.

**Delta Packets Rcvd** The number of packets received by this node since the last data sample.

**Delta Nacks Sent** The number of TCMP packets sent by this node since the last data sample. Use this data to troubleshoot communication errors.

**Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

|   |   |
|---|---|
| <b>Enable MouseOver</b>                   | Select this option to make cache details visible upon mouseover.  |
| <b>History Heatmap of Selected Metric</b> | <p>Use the heatmap to view utilization trends for all nodes, over time, and quickly identify heavy usage, indicated by a dark color (by default, dark green). Look for a consistently dark horizontal line, which typically indicates constant high utilization. If this level of utilization is unexpected, consider performing a lower level analysis by viewing node details in the <a href="#">"Node Summary"</a> display.</p> <p>Two heatmaps, one for Process Nodes and another for Storage Nodes, show utilization trends for the selected metric, for all nodes running in the cluster. Each row represents a node. Cells in a row are sized uniformly. Each column represents a time period (typically in 10 second intervals). The color of the row cells represent the relative value of the selected service Metric, where a darker shade is a larger value.</p> <p>Use the mouseover tool-tip to see the node hostname and data for the selected metric.</p> |
| <b>Process Nodes</b>                      | Each row represents a node. The color of the cells represents the relative value of the selected Service Metric, where a darker shade is a larger value. The size of the cells are uniform. Use the mouseover tool-tip to see the node hostname and data for the selected metric.   |
| <b>Storage Nodes</b>                      | Each row represents a node. The color of the cells represents the relative value of the selected Service Metric, where a darker shade is a larger value. The size of the cells are uniform. Use the mouseover tool-tip to see the node hostname and data for the selected metric.   |
| <b>Log Scale</b>                          | Select to enable a logarithmic scale. Use <b>Log Scale</b> to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. <b>Log Scale</b> makes data on both scales visible by applying logarithmic values rather than actual values to the data.  |

## Proxy Services

Proxy Services displays present detailed proxy server performance metrics for the cluster. Use the Proxy Services displays to quickly identify overloaded proxy services and locate the extend client connection causing the issue.

Proxy Services performance metrics include: CPU%, Requests, Request Average Duration, Request Pending Count, Task Backlog and Active Threads.

- ["Proxy / Extend Overview"](#): Heatmap shows the extend connections and a trend graph shows the total connections and total bytes transferred across all proxies for the selected host or hosts.
- ["Proxy / Extend Connections" on page 417](#): Table shows proxy services data with trend graphs/tables of extend connection detail for a specified location.
- ["Proxy / Extend Detail" on page 423](#): Table shows data for proxy services and extend client connection data, including remote endpoint, time stamp, connect time and outgoing byte backlog.
- ["Proxy Nodes History" on page 427](#): Heatmap shows performance utilization, over time, for all proxy service nodes in the selected cluster.
- ["Extend Connections History" on page 429](#): Heatmap shows performance utilization, over time, for all extend connections in the selected cluster.

## Proxy / Extend Overview

Heatmap shows performance utilization and a trend graph shows the total connections and total bytes transferred for all proxy services for the selected host or hosts.



### Title Bar:

Indicators and functionality might include the following:

Open the previous and upper display.  
 and navigate to displays commonly accessed from this display.

The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

The number of items in the display.

The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

Open the online help page for this display.

**Cluster:** Select a cluster for which to display data in the heatmap.

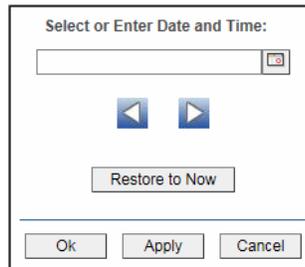
**Hosts** Click to open display that shows GC Duty Cycle for all the nodes in a cluster.

**Metric:** Select a metric for which to display data in the heatmap.

**Alert Severity** The maximum level of alerts in the heatmap rectangle. Values range from 0 - 2, as indicated in the color gradient bar, where 2 is the highest Alert Severity:

- Alert Count**      The total number of critical and warning alerts in the heatmap rectangle. The color gradient bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average alert count.
- Current Bytes Sent**      Total number of bytes sent by the selected proxy in the time range specified.
- Current Bytes Received**      Total number of bytes received by the selected proxy in the time range specified.
- Proxy CPU%**      The average percent CPU utilization for the selected proxy.
- Bytes Backlog**      The number of pending bytes in the Extend outgoing queue.
- Proxy Bytes Backlog**      The number of pending bytes in the Proxy outgoing queue.

**Range**      Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

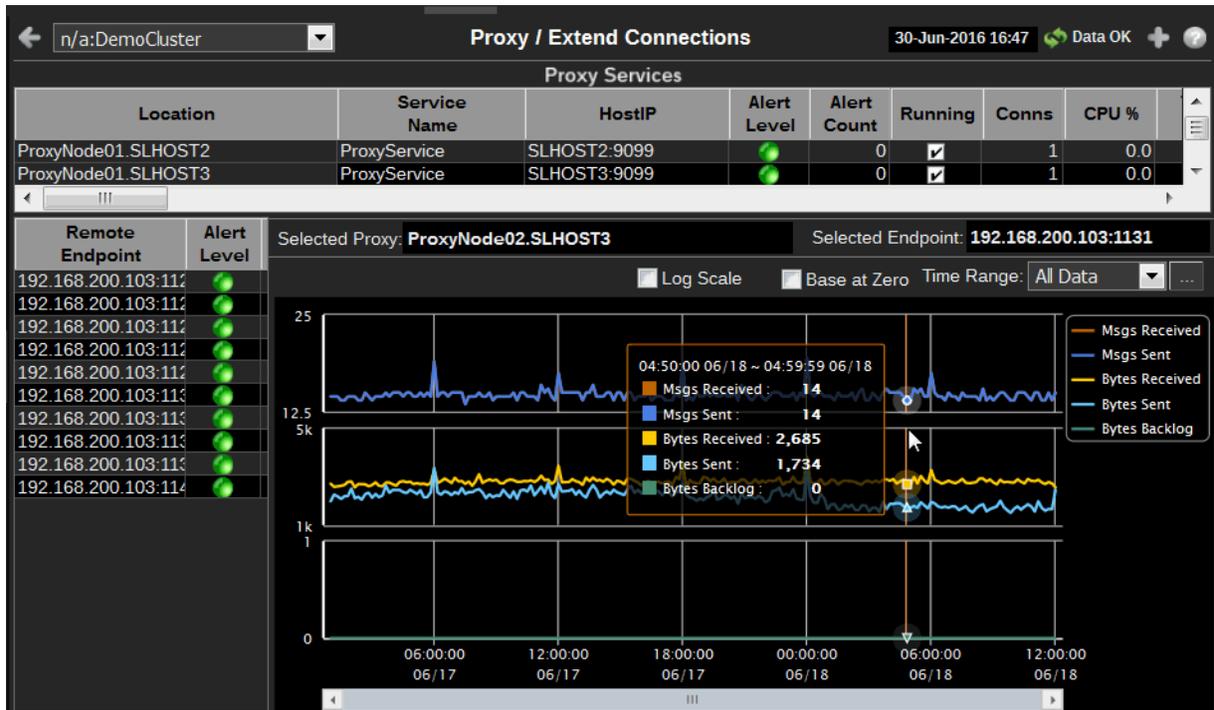
Click **Restore to Now** to reset the time range end point to the current time.

**Total Connections**      The number of extend clients connected to the selected proxy.

## Proxy / Extend Connections

Table shows proxy services data, including connections, CPU usage and bytes sent and received, and a trend graph displays messages and bytes sent and received for the selected remote endpoint.

The table data is the result of joins of metric from the following Coherence MBeans: Service and ConnectionManager. For details on attributes of these MBeans go to: [http://download.oracle.com/otn\\_hosted\\_doc/coherence/350/com/tangosol/net/management/Registry.html](http://download.oracle.com/otn_hosted_doc/coherence/350/com/tangosol/net/management/Registry.html).



**Title Bar:**

Indicators and functionality might include the following:

- ← ↑ Open the previous and upper display.
- CMDB and Table navigate to displays commonly accessed from this display.
- 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
- Cls: 3,047 The number of items in the display.

- Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Alert icon Open the **Alert Views - RTView Alerts Table** display.
- + Open an instance of this display in a new window.
- ? Open the online help page for this display.

**Filter By:**

The display might include these filtering options:

- Cluster:** Select a cluster from the drop-down menu.
- Proxy Services Location** Identifies the proxy service and the host it resides on.
- HostIP** The IP address of the host where the proxy service resides.

|                               |   |
|-------------------------------|---|
| <b>Alert Level</b>            | The maximum level of alerts in the row:<br> Red indicates that one or more exceeded their ALARM LEVEL threshold.<br> Yellow indicates that one or more exceeded their WARNING LEVEL threshold.<br> Green indicates that none have exceeded their alert thresholds. |
| <b>Alert Count</b>            | The number of alerts in the row.  |
| <b>Running</b>                | Indicates that the proxy service is running when selected.  |
| <b>Connections</b>            | The number of extend clients connected to the selected host or hosts.   |
| <b>CPU%</b>                   | The average percent CPU utilization for each proxy service in the cluster.  |
| <b>Bytes Sent</b>             | The number of bytes sent by the proxy service since the proxy service joined the cluster.   |
| <b>Delta</b>                  | The number of bytes sent by the proxy service since the last data sample.   |
| <b>Backlog</b>                | The size (in kilobytes) of the backlog queue.   |
| <b>Bytes Rcvd</b>             | The number of bytes received by the proxy service since the proxy service joined the cluster.   |
| <b>Delta</b>                  | The number of bytes received by the proxy service since the last data sample.   |
| <b>MsgsSent</b>               | The number of messages sent by the proxy service since the proxy service joined the cluster.  |
| <b>Delta</b>                  | The number of messages sent by the proxy service since the last data sample.  |
| <b>Backlog</b>                | The size of the backlog queue that holds messages scheduled to be sent by one of the proxy service pool threads.  |
| <b>Msgs Rcvd</b>              | The number of messages received by the proxy service since the proxy service joined the cluster.  |
| <b>Delta</b>                  | The number of messages received by the proxy service since the last data sample.  |
| <b>Tasks</b>                  | The number of tasks performed by the proxy service since the last time the statistics were reset.   |
| <b>RequestAverageDuration</b> | The average duration (in milliseconds) of an individual synchronous request issued by the proxy service since the last time the statistics were reset.  |
| <b>RequestMaximumDuration</b> | Maximum duration (in milliseconds) of an individual proxy service request since the last time the statistics were reset.  |
| <b>RequestTotalCount</b>      | The number of requests issued and received by the proxy service.  |
| <b>TaskAverageDuration</b>    | The average duration (in milliseconds) of an individual task execution.   |
| <b>TaskBacklog</b>            | The size of the backlog queue that holds tasks scheduled to be executed by one of the proxy service pool threads.   |
| <b>TaskCount</b>              | The number of tasks performed by the proxy service since the last time the statistics were reset.   |
| <b>TaskHungCount</b>          | The total number of currently executing hung tasks.   |

|                                      |  |
|--------------------------------------|--|
| <b>TaskHungDuration</b>              | The longest currently executing hung task duration in milliseconds.  |
| <b>TaskHungTaskId</b>                | The id of the of the longest currently executing hung task.  |
| <b>TaskHungThresholdMilliseconds</b> | The duration (in milliseconds) that a proxy service task can execute before it is considered hung. Note that a posted task that has not yet started is never considered as hung.   |
| <b>TaskMaxBacklog</b>                | The maximum size of the proxy service backlog queue since the last time the statistics were reset.   |
| <b>TaskTimeoutCount</b>              | The total number of timed-out proxy service tasks since the last time the statistics were reset.   |
| <b>RequestPendingCount</b>           | The number of pending proxy service requests.  |
| <b>RequestPendingDuration</b>        | The average duration (in milliseconds) that an individual proxy service request waits before being executed.   |
| <b>RequestTimeoutCount</b>           | The total number of timed-out proxy service requests since the last time the statistics were reset.  |
| <b>RequestTimeoutMillis</b>          | The duration (in milliseconds) for a proxy service request to reach the specified timeout threshold.   |
| <b>TaskTimeoutMillis</b>             | The default timeout value (in milliseconds) for tasks that can be timed-out but do not explicitly specify the task execution timeout value.  |
| <b>IncomingBufferPoolSize</b>        | <b>The number of buffers in the incoming pool.</b>   |
| <b>ThreadAbandonedCount</b>          | The number of abandoned threads from the proxy service thread pool. A thread is abandoned and replaced with a new thread if it executes a task for a period of time longer than execution timeout and all attempts to interrupt it fail. |
| <b>ThreadCount</b>                   | The number of threads in the proxy service thread pool.  |
| <b>ThreadIdleCount</b>               | The number of currently idle threads in the proxy service thread pool.   |
| <b>AverageActiveThreadCount</b>      | The average number of proxy service active threads, not currently idle, since the last time the statistics were reset.   |
| <b>ThreadAverageActiveCount</b>      | <b>The average number of active (not idle) threads in the service thread pool since the last time the statistics were reset.</b>   |
| <b>AverageTaskDuration</b>           | The average duration (in milliseconds) to perform a proxy service task since the last time the statistics were reset.  |
| <b>MaximumBacklog</b>                | The maximum size of the backlog queue since the last time the statistics were reset.   |
| <b>Throughput</b>                    | The amount of data (in kilobytes) that is transferred by the proxy service.  |
| <b>ThroughputInbound</b>             | The amount of data (in kilobytes) that is transferred from clients to the proxy service.   |

|                          |   |   |
|--------------------------|---|---|
|                          | <b>Throughput Outbound</b>  | The amount of data (in kilobytes) that is transferred from the proxy service to clients.                            |
|                          | <b>IncomingBufferPoolCapacity</b>   | The size (in kilobytes) of the proxy service incoming buffer pool.  |
|                          | <b>OutgoingBufferPoolCapacity</b>   | The size (in kilobytes) of the proxy service outgoing buffer pool.  |
|                          | <b>OutgoingBufferPoolSize</b>   | The number of buffers in the proxy service outgoing pool.   |
|                          | <b>nodeId</b>   | The unique identifier for the proxy service.  |
|                          | <b>RefreshTime</b>  | The timestamp when this model was last retrieved from a corresponding node. For local servers it is the local time. |
|                          | <b>HostName</b>   | The name of the host where the proxy service resides.   |
|                          | <b>MemberName</b>   | A specified, unique name of the host where the proxy service resides.   |
|                          | <b>SeniorMemberId</b>   | The proxy service senior member id. If the proxy service is not running, it is -1.                                  |
|                          | <b>Rate</b>   | The number of errors accumulated per second.  |
| <b>Execution</b>         | <b>Min</b>  | The shortest execution time of any process instance, in milliseconds.   |
|                          | <b>Max</b>  | The longest execution time of any process instance, in milliseconds.  |
|                          | <b>Average</b>  | The average execution time for all completed process instances, in milliseconds.                                    |
|                          | <b>Current</b>  | The amount of time accumulated this update cycle.   |
|                          | <b>Rate</b>   | The amount of time accumulated per second.  |
| <b>Elapsed</b>           | <b>Min</b>  | The shortest elapsed time of any process instance, in milliseconds.   |
|                          | <b>Max</b>  | The longest elapsed time of any process instance, in milliseconds.  |
|                          | <b>Average</b>  | The average elapsed time for all completed process instances, in milliseconds.                                      |
|                          | <b>Current</b>  | The amount of elapsed time accumulated this update cycle.   |
|                          | <b>Rate</b>   | The amount of elapsed time accumulated per second.  |
| <b>Selected Proxy</b>    | <b>This field is populated by the selection made in the Proxy Services table.</b> |   |
| <b>Selected Endpoint</b> | This field is populated by the selection made in the Remote Endpoint table.       |   |

### Trend Graphs

Select a host from the Proxy Services table and a connection from the Remote Endpoint table. This table is populated by the selection made in the Proxy Services table.

Alert Level shows the maximum level of alerts in row:

- Red indicates that one or more exceeded their ALARM LEVEL threshold.
- Yellow indicates that one or more exceeded their WARNING LEVEL threshold.
- Green indicates that none have exceeded their alert thresholds.

**Msgs Received:** Traces the number of messages received by the selected proxy service from the remote endpoint.

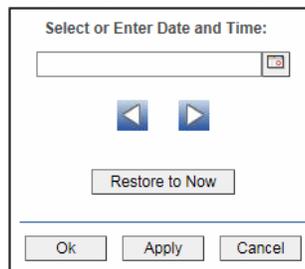
**Msgs Sent:** Traces the number of bytes received by the selected proxy service from the remote endpoint.

**Bytes Received:** Traces the rate at which the application is accumulating process execution time, in milliseconds per second.

**Bytes Sent:** Traces the number of executed activities per second.

**All Activities Exec Time/sec:** Traces the number of bytes sent by the selected proxy service to the remote endpoint.

**Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

## Proxy / Extend Detail

Table shows data for proxy services and extend client connection data, including remote endpoint, time stamp, connect time and outgoing byte backlog.

| Proxy Services      |              |              |                                      |             |                                     |       |       |       |
|---------------------|--------------|--------------|--------------------------------------|-------------|-------------------------------------|-------|-------|-------|
| Location            | Service Name | HostIP       | Alert Level                          | Alert Count | Running                             | Conns | CPU % | Total |
| ProxyNode01.SLHOST2 | ProxyService | SLHOST2:9099 | <span style="color: green;">●</span> | 0           | <input checked="" type="checkbox"/> | 1     | 0.0   | 2     |
| ProxyNode01.SLHOST3 | ProxyService | SLHOST3:9099 | <span style="color: green;">●</span> | 0           | <input checked="" type="checkbox"/> | 1     | 0.0   | 2     |
| ProxyNode01.SLHOST4 | ProxyService | SLHOST4:9099 | <span style="color: green;">●</span> | 0           | <input checked="" type="checkbox"/> | 0     | 0.0   | 4     |
| ProxyNode02.SLHOST2 | ProxyService | SLHOST2:9099 | <span style="color: green;">●</span> | 0           | <input checked="" type="checkbox"/> | 0     | 0.0   | 0     |
| ProxyNode02.SLHOST3 | ProxyService | SLHOST3:9099 | <span style="color: green;">●</span> | 0           | <input checked="" type="checkbox"/> | 0     | 0.0   | 0     |
| ProxyNode02.SLHOST4 | ProxyService | SLHOST4:9099 | <span style="color: green;">●</span> | 0           | <input checked="" type="checkbox"/> | 0     | 0.0   | 0     |

| Extend Client Connections for ProxyNode02.SLHOST3:* |                      |                                      |             |                   |                     |               |                 |
|---|----------------------|--------------------------------------|-------------|-------------------|---------------------|---------------|-----------------|
| Location  | Remote Endpoint      | Alert Level                          | Alert Count | Time Stamp        | Connect Time (mins) | Bytes Backlog | Message Backlog |
| ProxyNode02.SLHOST3                                 | 192.168.200.103:1131 | <span style="color: green;">●</span> | 0           | 06/17/16 01:03:29 | 2,098.6             | 0             | 0               |
| ProxyNode02.SLHOST3                                 | 192.168.200.103:1136 | <span style="color: green;">●</span> | 0           | 06/17/16 01:03:34 | 2,098.5             | 0             | 0               |
| ProxyNode02.SLHOST3                                 | 192.168.200.103:1128 | <span style="color: green;">●</span> | 0           | 06/19/16 01:03:33 | 659.1               | 0             | 0               |
| ProxyNode02.SLHOST3                                 | 192.168.200.103:1121 | <span style="color: green;">●</span> | 0           | 06/19/16 01:03:27 | 1,437.2             | 0             | 0               |
| ProxyNode02.SLHOST3                                 | 192.168.200.103:1124 | <span style="color: green;">●</span> | 0           | 06/22/16 01:03:32 | 2,818.6             | 0             | 0               |
| ProxyNode02.SLHOST3                                 | 192.168.200.103:1132 | <span style="color: green;">●</span> | 0           | 06/22/16 01:03:37 | 2,098.7             | 0             | 0               |
| ProxyNode02.SLHOST3                                 | 192.168.200.103:1136 | <span style="color: green;">●</span> | 0           | 06/24/16 01:03:40 | 1,018.4             | 0             | 0               |
| ProxyNode02.SLHOST3                                 | 192.168.200.103:1140 | <span style="color: green;">●</span> | 0           | 06/24/16 01:03:45 | 1,018.3             | 0             | 0               |
| ProxyNode02.SLHOST3                                 | 192.168.200.103:1121 | <span style="color: green;">●</span> | 0           | 06/26/16 01:03:29 | 1,437.2             | 0             | 0               |
| ProxyNode02.SLHOST3                                 | 192.168.200.103:1127 | <span style="color: green;">●</span> | 0           | 06/26/16 01:03:34 | 1,437.1             | 0             | 0               |

### Title Bar:

Indicators and functionality might include the following:

- Open the previous and upper display.
- and navigate to displays commonly accessed from this display.
- 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
- Cls: 3,047 The number of items in the display.

- Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

**Cluster** Select a cluster from the drop-down menu.

### Proxy Services

- Location** Identifies the proxy service and the host it resides on.
- HostIP** The IP address of the host where the proxy service resides.
- Running** Indicates that the proxy service is running when selected.
- Connections** The number of extend clients connected to the selected host or hosts.

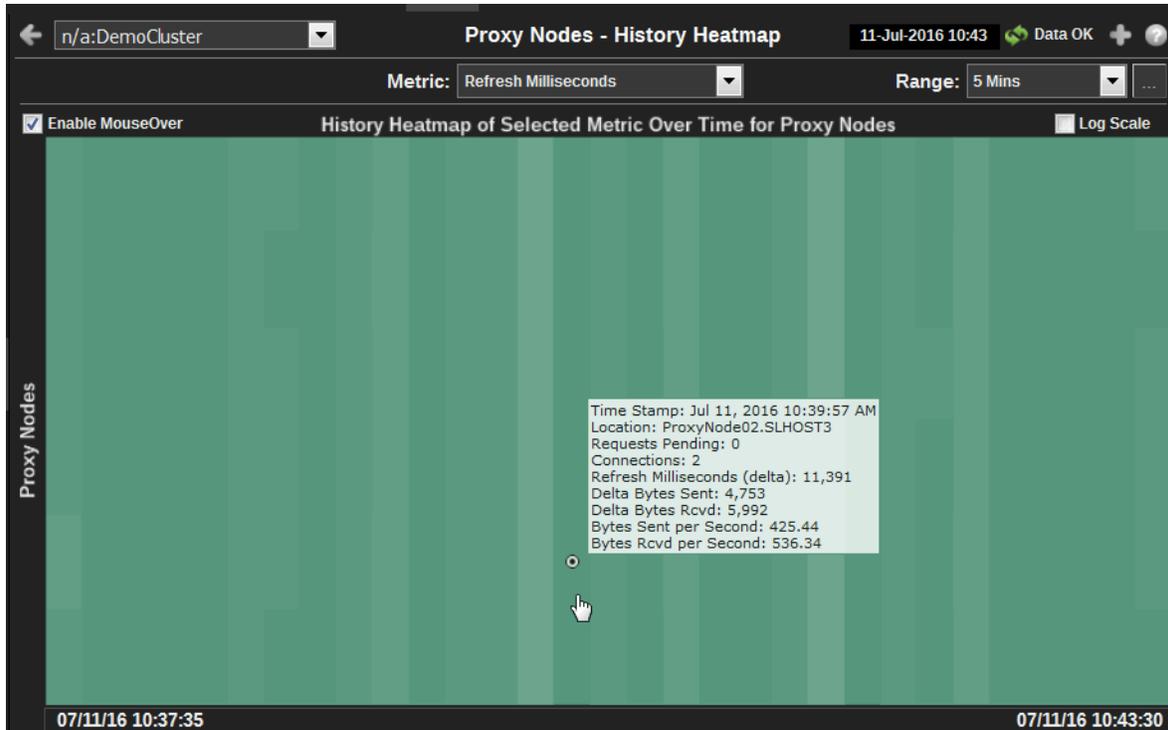
|                                |  |
|--------------------------------|--|
| <b>CPU%</b>                    | The average percent CPU utilization for each proxy service in the cluster.   |
| <b>Bytes Sent</b>              | The number of bytes sent by the proxy service since the proxy service joined the cluster.  |
| <b>Delta</b>                   | The number of bytes sent by the proxy service since the last data sample.  |
| <b>Backlog</b>                 | The size (in kilobytes) of the backlog queue.  |
| <b>Bytes Rcvd</b>              | The number of bytes received by the proxy service since the proxy service joined the cluster.  |
| <b>Delta</b>                   | The number of bytes received by the proxy service since the last data sample.  |
| <b>MsgsSent</b>                | The number of messages sent by the proxy service since the proxy service joined the cluster.   |
| <b>Delta</b>                   | The number of messages sent by the proxy service since the last data sample.   |
| <b>Backlog</b>                 | The size of the backlog queue that holds messages scheduled to be sent by one of the proxy service pool threads.                                       |
| <b>Msgs Rcvd</b>               | The number of messages received by the proxy service since the proxy service joined the cluster.   |
| <b>Delta</b>                   | The number of messages received by the proxy service since the last data sample.   |
| <b>Tasks</b>                   | The number of tasks performed by the proxy service since the last time the statistics were reset.  |
| <b>RequestAverage Duration</b> | The average duration (in milliseconds) of an individual synchronous request issued by the proxy service since the last time the statistics were reset. |
| <b>RequestMaxDuration</b>      | Maximum duration (in milliseconds) of an individual proxy service request since the last time the statistics were reset.                               |
| <b>RequestPending Count</b>    | The number of pending proxy service requests.  |
| <b>RequestPending Duration</b> | The average duration (in milliseconds) that an individual proxy service request waits before being executed.   |
| <b>RequestTimeout Count</b>    | The total number of timed-out proxy service requests since the last time the statistics were reset.  |
| <b>RequestTimeout Millis</b>   | The duration (in milliseconds) for a proxy service request to reach the specified timeout threshold.   |
| <b>RequestTotalCount</b>       | The number of requests issued and received by the proxy service.   |
| <b>TaskAverageDuration</b>     | The average duration (in milliseconds) of an individual task execution.  |
| <b>TaskBacklog</b>             | The size of the backlog queue that holds tasks scheduled to be executed by one of the proxy service pool threads.                                      |
| <b>TaskCount</b>               | The number of tasks performed by the proxy service since the last time the statistics were reset.  |
| <b>TaskHungCount</b>           | The total number of currently executing hung tasks.  |

|                                   |  |
|-----------------------------------|--|
| <b>TaskHungDuration</b>           | The longest currently executing hung task duration in milliseconds.  |
| <b>TaskHungTaskId</b>             | The id of the of the longest currently executing hung task.  |
| <b>TaskHungThresholdMillis</b>    | The duration (in milliseconds) that a proxy service task can execute before it is considered hung. Note that a posted task that has not yet started is never considered as hung.   |
| <b>TaskMaxBacklog</b>             | The maximum size of the proxy service backlog queue since the last time the statistics were reset.   |
| <b>TaskTimeoutCount</b>           | The total number of timed-out proxy service tasks since the last time the statistics were reset.   |
| <b>TaskTimeoutMillis</b>          | The default timeout value (in milliseconds) for tasks that can be timed-out but do not explicitly specify the task execution timeout value.  |
| <b>IncomingBufferPoolSize</b>     | The number of buffers in the incoming pool.  |
| <b>ThreadAbandonedCount</b>       | The number of abandoned threads from the proxy service thread pool. A thread is abandoned and replaced with a new thread if it executes a task for a period of time longer than execution timeout and all attempts to interrupt it fail. |
| <b>ThreadCount</b>                | The number of threads in the proxy service thread pool.  |
| <b>ThreadIdleCount</b>            | The number of currently idle threads in the proxy service thread pool.   |
| <b>AverageActiveThreadCount</b>   | The average number of proxy service active threads, not currently idle, since the last time the statistics were reset.   |
| <b>ThreadAverageActiveCount</b>   | The average number of active (not idle) threads in the service thread pool since the last time the statistics were reset.  |
| <b>AverageTaskDuration</b>        | The average duration (in milliseconds) to perform a proxy service task since the last time the statistics were reset.  |
| <b>MaximumBacklog</b>             | The maximum size of the backlog queue since the last time the statistics were reset.   |
| <b>Throughput</b>                 | The amount of data (in kilobytes) that is transferred by the proxy service.  |
| <b>ThroughputInbound</b>          | The amount of data (in kilobytes) that is transferred from clients to the proxy service.   |
| <b>ThroughputOutbound</b>         | The amount of data (in kilobytes) that is transferred from the proxy service to clients.   |
| <b>IncomingBufferPoolCapacity</b> | The size (in kilobytes) of the proxy service incoming buffer pool.   |
| <b>OutgoingBufferPoolCapacity</b> | The size (in kilobytes) of the proxy service outgoing buffer pool.   |
| <b>OutgoingBufferPoolSize</b>     | The number of buffers in the proxy service outgoing pool.  |
| <b>nodeld</b>                     | The unique identifier for the proxy service.   |

|                                  |   |
|----------------------------------|---|
| <b>RefreshTime</b>               | The timestamp when this model was last retrieved from a corresponding node. For local servers it is the local time.                                   |
| <b>HostName</b>                  | The name of the host where the proxy service resides.   |
| <b>MemberName</b>                | A specified, unique name of the host where the proxy service resides.   |
| <b>SeniorMemberId</b>            | The proxy service senior member id. If the proxy service is not running, it is -1.  |
| <b>Extend Client Connections</b> | Select a row from the Proxy Services table to populate client data in the table.  |
| <b>Location</b>                  | Identifies the proxy service and the host it resides on.  |
| <b>RemoteEndpoint</b>            | The IP address of the client.   |
| <b>Timestamp</b>                 | The date and time (in cluster time) that this client joined the proxy service.  |
| <b>Connect Time (mins)</b>       | The duration (in minutes) the client has been connected to the proxy service.   |
| <b>OutgoingByteBacklog</b>       | The size of the backlog queue (in bytes) that holds outgoing bytes scheduled to be executed by one of the proxy service pool threads for the client.  |
| <b>OutgoingMessageBacklog</b>    | The number of messages in the backlog queue that holds outgoing messages scheduled to be sent to the client by one of the proxy service pool threads. |
| <b>TotalBytesReceived</b>        | The number of bytes received from the client by the proxy service since the client connected to the proxy service.                                    |
| <b>Delta</b>                     | The number of bytes received from the client by the proxy service since the last data sample.   |
| <b>TotalBytesSent</b>            | The number of bytes sent to the client by the proxy service since the client connected to the proxy service.  |
| <b>Delta</b>                     | The number of bytes sent to the client by the proxy service since the last data sample.   |
| <b>TotalMessagesReceived</b>     | The number of messages received from the client by the proxy service since the client connected to the proxy service.                                 |
| <b>Delta</b>                     | The number of messages received from the client by the proxy service since the last data sample.  |
| <b>TotalMessagesSent</b>         | The number of messages sent to the client by the proxy service since the client connected to the proxy service.                                       |
| <b>Delta</b>                     | The number of messages sent to the client by the proxy service since the last data sample.  |
| <b>UUID</b>                      | The unique identifier for the extend client application.  |
| <b>nodeld</b>                    | The unique identifier for the proxy service the extend client is connected to.  |

## Proxy Nodes History

Heatmap shows performance utilization, over time, for all proxy service nodes in the selected cluster. Use this display to assess performance, over time, for all proxy service nodes in a cluster. Analyze load distribution, check for bottlenecks and quickly identify proxy service nodes with high usage.



### Title Bar:

Indicators and functionality might include the following:

- Open the previous and upper display.
- and navigate to displays commonly accessed from this display.
- The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
- The number of items in the display.

- The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

|                             |  |
|-----------------------------|--|
| <b>Cluster</b>              | Select a cluster from the drop-down menu.                        |
| <b>Metric</b>               | Select a metric from the drop-down menu.                         |
| <b>Request Pending</b>      | The number of pending requests issued by the node.               |
| <b>Connections</b>          | Total number of connection for the node.                         |
| <b>Refresh Milliseconds</b> | The amount of time, in milliseconds, since the last data sample. |

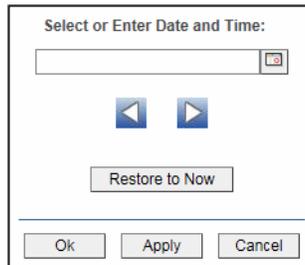
**Delta Bytes Sent** Total number of bytes sent by the node since the last data sample.

**Delta Bytes Rcvd** Total number of bytes received by the node since the last data sample.

**Bytes Sent Per Second** Total bytes sent, per second, by the node.

### Range

Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

### Enable MouseOver

Select this option to make details visible upon mouseover.

### Log Scale

Enable to use a logarithmic scale for the Y axis. Use Log Scale to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. Log Scale makes data on both scales visible by applying logarithmic values rather than actual values to the data.

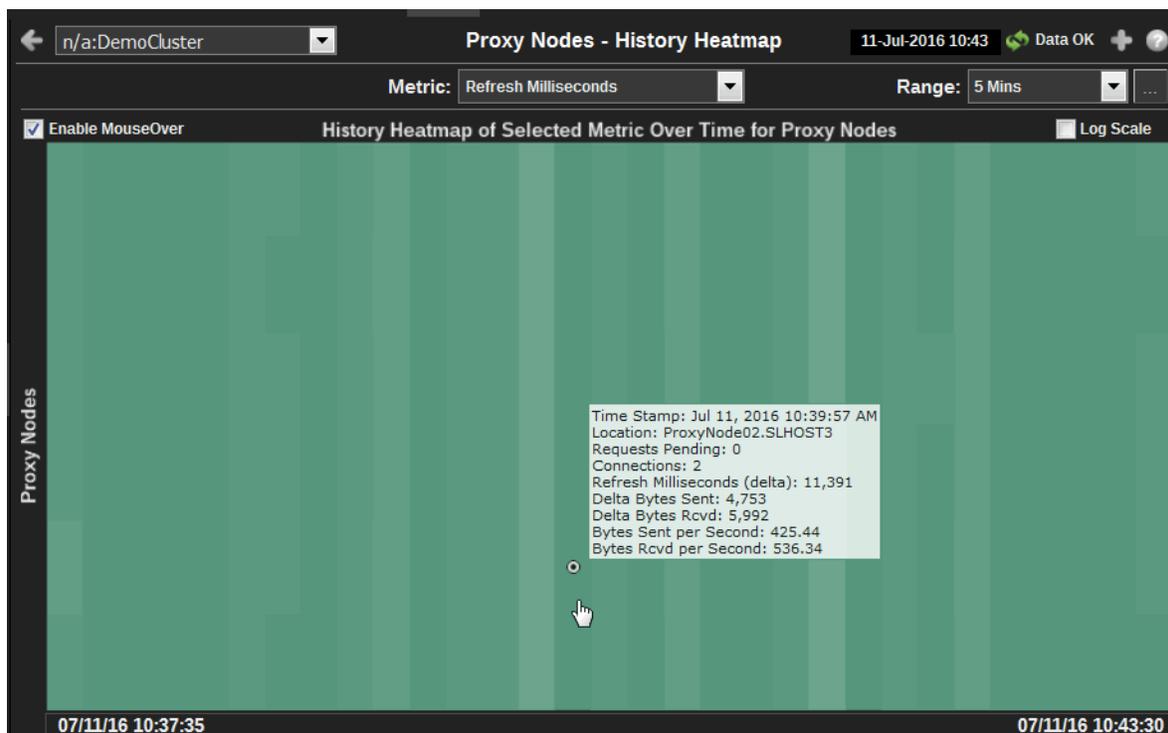
### Proxy Nodes Heatmap

Use the heatmap to view utilization trends for all Process and Storage nodes, over time, and quickly identify heavy usage, indicated by a dark color (by default, dark green). Look for a consistently dark horizontal line, which typically indicates constant high utilization. If this level of utilization is unexpected, consider performing a lower level analysis by viewing node details in the ["Node Summary"](#) display.

Use the mouseover tool-tip to see the node hostname and data for the selected metric.

## Extend Connections History

Heatmap shows performance utilization, over time, for all extend connections in the selected cluster.



### Title Bar:

Indicators and functionality might include the following:

- Open the previous and upper display.
- and navigate to displays commonly accessed from this display.
- The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
- The number of items in the display.

- Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

**Cluster** Select a cluster from the drop-down menu.

**Metric** Select a metric from the drop-down menu.

**Delta Bytes Sent** Total number of bytes sent by the node since the last data sample.

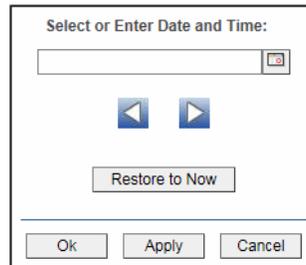
**Delta Bytes Rcvd** Total number of bytes received by the node since the last data sample.

**Delta Messages Sent** Total number of messages sent by the node since the last data sample.

|                              |   |
|------------------------------|---|
| <b>Delta Messages Rcvd</b>   | Total number of messages received by the node since the last data sample. |
| <b>Bytes Sent per Second</b> | Total bytes sent, per second, by the node.                                |
| <b>Bytes per Second</b>      | Total bytes received, per second, by the node.                            |
| <b>Msgs Sent per Second</b>  | Total messages sent, per second, by the node.                             |
| <b>Msgs Rcvd per Second</b>  | Total messages received, per second, by the node.                         |

**Range**

Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

**Enable MouseOver**

Select this option to make details visible upon mouseover.

**Log Scale**

Enable to use a logarithmic scale for the Y axis. Use Log Scale to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. Log Scale makes data on both scales visible by applying logarithmic values rather than actual values to the data.

**Proxy Nodes Heatmap**

Use the heatmap to view utilization trends for all Process and Storage nodes, over time, and quickly identify heavy usage, indicated by a dark color (by default, dark green). Look for a consistently dark horizontal line, which typically indicates constant high utilization. If this level of utilization is unexpected, consider performing a lower level analysis by viewing node details in the Single Node - Summary display.

Use the mouseover tool-tip to see the node hostname and data for the selected metric.

## Cache Services

Cache Services displays present detailed service performance metrics for the cluster. Use the Cache Services displays to quickly identify overloaded services and locate the client connection causing the issue.

These displays show metrics for all cache services, including: CPU%, Requests, Request Average Duration, Request Pending Count, Task Backlog and Active Threads.

- [“Single Service Summary” on page 431](#): Trend graphs show performance metrics for a single service aggregated across all nodes.
- [“Service Metrics Overview” on page 435](#): Heatmap shows overview of the current behavior of the cluster, displaying metrics across nodes in the cluster for a selected service or for all services. Enables you to determine if the behavior of the cluster is balanced across all nodes or identify if some nodes are hot spots.
- [“Service Metric Heatmap” on page 436](#): Heatmap shows current value of a selected metric, selected by service, across the cluster. Enables you to determine if the behavior of the cluster, for the selected metric, is balanced or identify if some nodes are hot spots.
- [“Single Service History” on page 438](#): Use this display to perform low-level analysis of service capacity utilization, over time, per node. Heatmap enables you to view the impact of events across the cluster as well as the relative historical performance of nodes across the cluster.
- [“Cache Service Detail” on page 440](#): Table view of attributes of a selected service for a selected host for nodes. Attribute values can be ordered to identify the nodes with the highest and lowest values of interest.

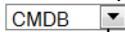
## Single Service Summary

This display shows performance metrics for a single service aggregated across all nodes.



**Title Bar:**

Indicators and functionality might include the following:

  Open the previous and upper display.  and  navigate to displays commonly accessed from this display.

 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 Cts: 3,047 The number of items in the display.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

|                      |  |
|----------------------|--|
| <b>Cluster</b>       | Select a cluster to display.   |
| <b>Service</b>       | Select a service to display.   |
| <b>Storage Nodes</b> | Select to display storage node data in the trend graphs of this display.   |
| <b>Process Nodes</b> | Select to display process node data in the trend graphs of this display.   |
| <b>Caches</b>        | The number of caches managed by the service.   |
| <b>Type</b>          | The type of cache.   |
| <b>Storage Nodes</b> | The number of storage nodes in the cache.  |
| <b>Process Nodes</b> | The number of process nodes in the cache.  |
| <b>Status</b>        | The high availability status of the service: <ul style="list-style-type: none"> <li> <b>ENDANGERED:</b> There is potential data loss in the cluster if a node goes offline.</li> <li> <b>NODE-SAFE:</b> There is no risk of data loss in the cluster if a node goes offline (or is taken offline using kill-9). The data is replicated across multiple nodes and remains available in the cluster.</li> <li> <b>MACHINE-SAFE:</b> There is no risk of data loss in the cluster if a machine goes offline (or is taken offline using kill-9). The data is replicated across multiple machines and remains available in the cluster.</li> <li> <b>RACK-SAFE:</b> There is no risk of data loss in the cluster if a rack goes offline (or is taken offline using kill-9). The data is replicated across multiple racks and remains available in the cluster.</li> <li> <b>SITE-SAFE:</b> There is no risk of data loss in the cluster if a site goes offline (or is taken offline using kill-9). The data is replicated across multiple sites and remains available in the cluster.</li> </ul> |

|                 |   |
|-----------------|---|
| <b>Requests</b> | <p>Requests executed by the service.</p> <p><b>Total</b> The number of requests executed.</p> <p><b>Rate / Delta</b> Use the <b>Use Rates</b> checkbox to toggle between two value types: <b>Rate</b> and <b>Delta</b> (as labeled in the display upon selection).</p> <p>When the <b>Use Rates</b> (checkbox) is NOT selected the <b>Delta</b> values are shown here and in the trend graphs. <b>Delta</b> is the difference in the value since the last sample. When the <b>Use Rates</b> (checkbox) is selected the <b>Rate</b> values are shown here and in the trend graphs. <b>Rate</b> is the value per second. The <b>Rate</b> value is useful when the sampling time period is unknown, has changed, or has a long duration specified. For a given rate, the <b>Rate</b> value does not vary if the sample period changes (whereas the <b>Delta</b> value does vary). The <b>Rate</b> value enables you to directly compare rates on systems with different sample periods.</p> <p><b>Pending</b> The number of pending requests.</p>                          |
| <b>Messages</b> | <p>Messages executed by the service.</p> <p><b>Total</b> The number of messages executed.</p> <p><b>Rate / Delta</b> Use the <b>Use Rates</b> checkbox to toggle between two value types: <b>Rate</b> and <b>Delta</b> (as labeled in the display upon selection).</p> <p>When the <b>Use Rates</b> (checkbox) is NOT selected the <b>Delta</b> values are shown here and in the trend graphs. <b>Delta</b> is the difference in the value since the last sample. When the <b>Use Rates</b> (checkbox) is selected the <b>Rate</b> values are shown here and in the trend graphs. <b>Rate</b> is the value per second. The <b>Rate</b> value is useful when the sampling time period is unknown, has changed, or has a long duration specified. For a given rate, the <b>Rate</b> value does not vary if the sample period changes (whereas the <b>Delta</b> value does vary). The <b>Rate</b> value enables you to directly compare rates on systems with different sample periods.</p> <p><b>Req Avg Duration</b> The average amount of time to process messages.</p> |
| <b>Tasks</b>    | <p>Tasks performed by the service.</p> <p><b>Count</b> The number of tasks performed.</p> <p><b>Backlog</b> The number of tasks scheduled to be executed by one of the service threads.</p> <p><b>Queue</b> The Write Back Queue total across all caches on the service.</p>  |
| <b>Threads</b>  | <p>Threads on the service.</p> <p><b>Count</b> The number of threads on the service.</p> <p><b>Active</b> The number of threads in the service not currently idle.</p> <p><b>Avg CPU%</b> The average amount of CPU usage (%) for the service.</p>  |

**Storage /  
Process Node  
Totals**

The trend graphs show aggregated performance metrics for storage or process nodes. Choose **Storage Nodes** or **Process Nodes** at the top of this display.

**Use Rates** Select to show **Rate** values in the **Requests and Messages** fields and trend graphs.

**Rate** is the value per second. The **Rate** value is useful when the sampling time period is unknown, has changed, or has a long duration specified. For a given rate, the **Rate** value does not vary if the sample period changes (whereas the **Delta** value does vary). The **Rate** value enables you to directly compare rates on systems with different sample periods. Deselect **Use Rates** to show the **Delta** values in the **Activity - Current (Delta)** fields and trend graphs. **Delta** is the difference in the value since the last sample.

**Log Scale** Enable to use a logarithmic scale for the Y axis. Use Log Scale to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. Log Scale makes data on both scales visible by applying logarithmic values rather than actual values to the data.

**Base at Zero** Use zero for the Y axis minimum for all graphs.

**Time Range**

Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .

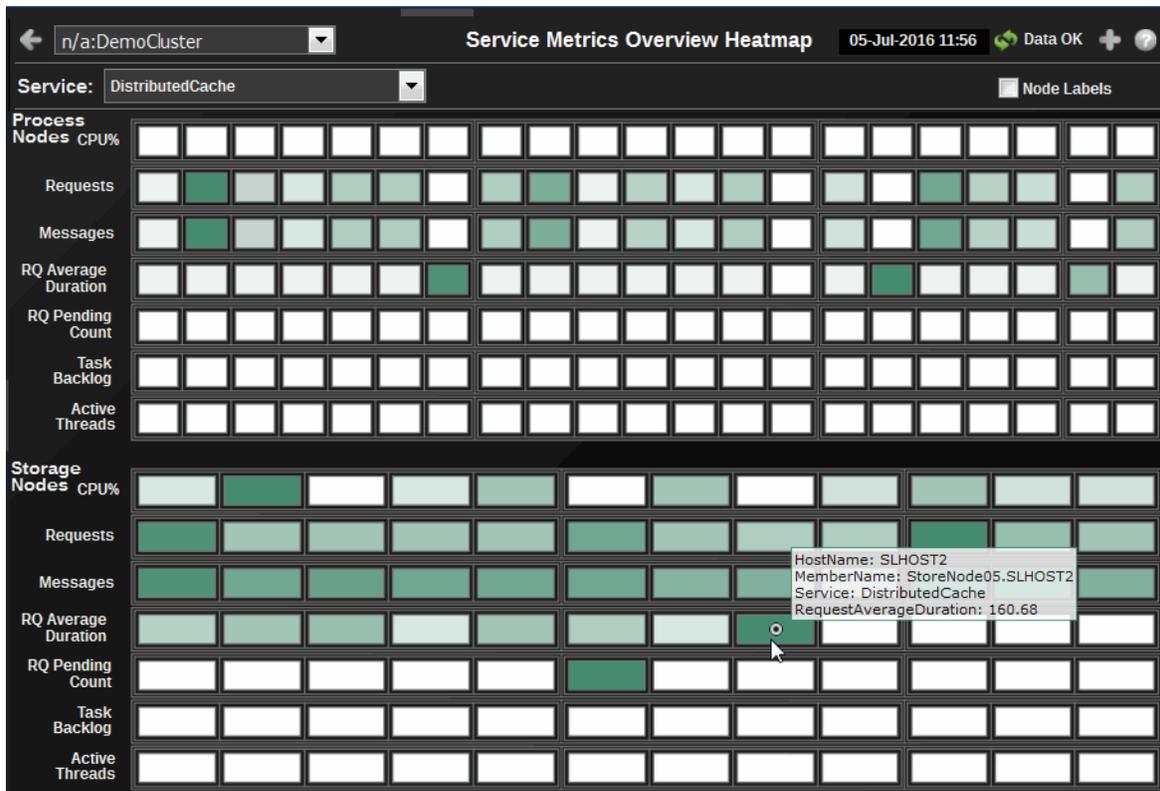
By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

## Service Metrics Overview

Heatmap of Process (non-storage enabled) Nodes and Storage (enabled) Nodes. Size = One Node. Color = Relative Value of Selected Metric.



### Title Bar:

Indicators and functionality might include the following:

Open the previous and upper display.  
 and navigate to displays commonly accessed from this display.

19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Cis: 3,047 The number of items in the display.

Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

Open the online help page for this display.

**Cluster** Select a cluster to display.

**Service** Select a service to display.

**Node Labels** Select to display node labels.

**Process Nodes**  
**Storage Nodes** Color of the cells represents the relative value of the selected Metric; a darker shade is a larger value. The size of all cells is identical as they each represent one process node.

**CPU%** Percent of CPU utilization on the given node.

**Requests** Number of requests issued by the service in the measured period.

**Messages** The number of messages for the given node in the measured interval.

**Request Average Duration** Average duration (in milliseconds) of an individual request issued by the service since the last time the statistics were reset.

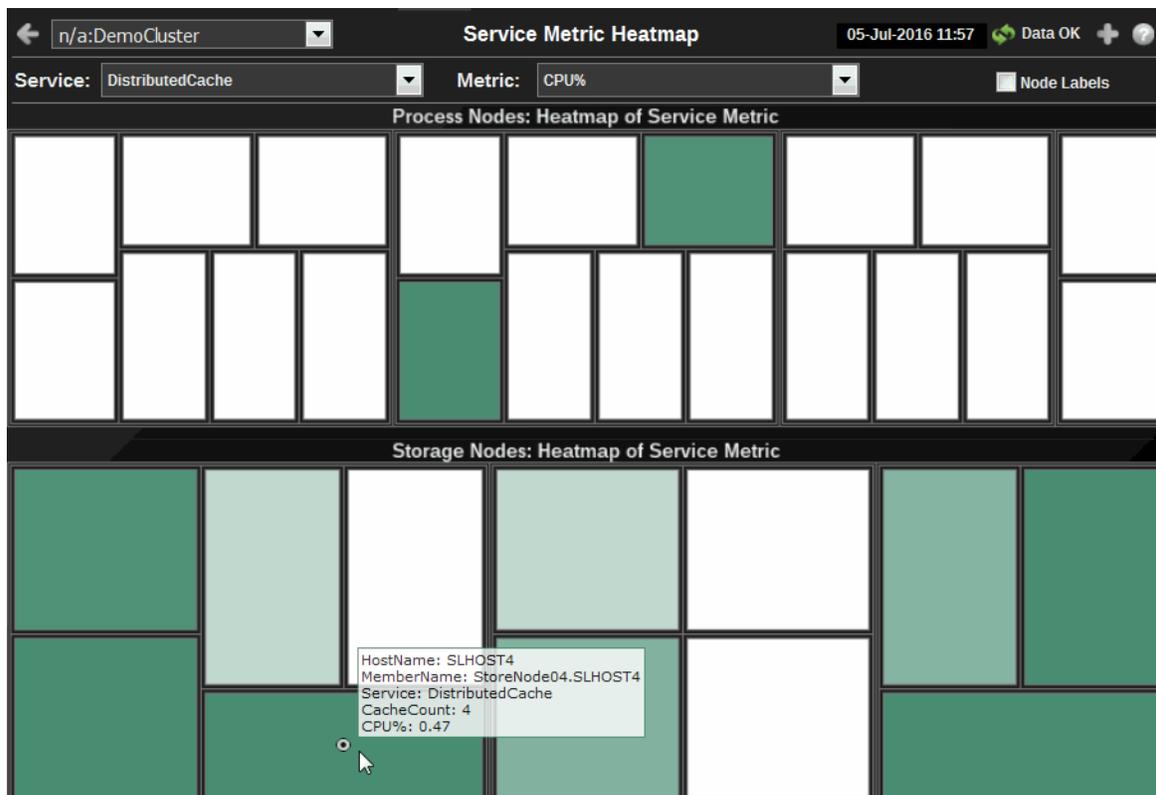
**Request Pending Count** Number of pending requests issued by the service.

**Task Backlog** Size of the backlog queue that holds tasks scheduled to be executed by one of the service threads.

**Active Threads** Number of threads in the service thread pool, not currently idle.

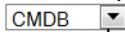
### Service Metric Heatmap

Heatmap of Process (non-storage enabled) Nodes and Storage (enabled) Nodes. Size = Number of Caches in Selected Service, Color = Relative Value of Selected Metric.



**Title Bar:**

Indicators and functionality might include the following:

  Open the previous and upper display.  and  navigate to displays commonly accessed from this display.

 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 The number of items in the display.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

**Cluster** Select a cluster to display.

**Service** Select a service to display.

**Node Labels** Select to display node labels.

**Metric**

- CPU%** Percent of CPU utilization on the given node.
- Requests** Number of requests issued by the service in the measured period.
- Request Average Duration** Average duration (in milliseconds) of an individual request issued by the service since the last time the statistics were reset.
- Request Pending Count** Number of pending requests issued by the service.
- Task Backlog** Size of the backlog queue that holds tasks scheduled to be executed by one of the service threads.
- Active Threads** Number of threads in the service thread pool, not currently idle.

**Node Labels** Select to view node locations.

**Process Nodes: Heatmap of Service Metric** Color of the cells represents the relative value of the selected Metric for a given process node; a darker shade is a larger value. Size of the cells is based the number of caches in the selected Service for that process node.

**Storage Nodes: Heatmap of Service Metric** Color of the cells represents the relative value of the selected Metric for a given process node; a darker shade is a larger value. Size of the cells is based the number of caches in the selected Service for that process node.

## Single Service History

Use this display to perform low-level analysis, node-by-node, of service capacity utilization. Heatmap of Process (non storage enabled) Nodes and Storage (enabled) Nodes. Color = Relative Value of Selected Metric.



### Title Bar:

Indicators and functionality might include the following:

Open the previous and upper display.  
**CMDB** and **Table** navigate to displays commonly accessed from this display.

**19-Feb-2014 16:50** The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

**Cls: 3,047** The number of items in the display.

**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

Open the online help page for this display.

**Cluster** Select a cluster to display.

**All** Click to view the "All Services History" display.

**Service** Select a service to display.

**Metric**

**CPU%** CPU Utilization (as a percent) on the given node.

**Requests** Number of requests issued by the service in the measured period.

**Request Average Duration** Average duration (in milliseconds) of an individual request issued by the service since the last time the statistics were reset.

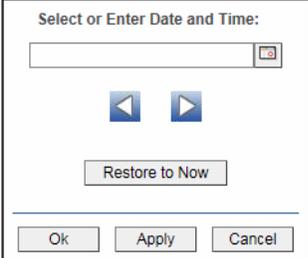
**Request Pending Count** Number of pending requests issued by the service.

**Task Backlog** Size of the backlog queue that holds tasks scheduled to be executed by one of the service threads.

**Active Threads** Number of threads in the service thread pool, not currently idle.

**Time Range**

Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

**Process Nodes:  
History Heatmap  
of Service Metric**

Color of the cells represents the relative value of the selected Metric for a given process node; a darker shade is a larger value.

The value of the Metric is displayed over the specified History for all process nodes in the selected Service.

**Storage Nodes:  
History Heatmap  
of Service Metric**

Color of the cells represents the relative value of the selected Metric for a given storage node; a darker shade is a larger value.

The value of the Metric is displayed over the specified History for all storage nodes in the selected Service.

## Cache Service Detail

This display provides a table view of attributes of a selected service for a selected host for nodes. Attribute values can be ordered to identify the nodes with the highest and lowest values of interest.

| Location                   | Service          | Running | StatusHA     | Storage | CPU % | Messages  |
|----------------------------|------------------|---------|--------------|---------|-------|-----------|
| JmxNode01.SLHOST1          | DistributedCache | ☑       | MACHINE-SAFE | ☐       | 0.0   | 195,635   |
| ProcessNode01.SLHOST2      | DistributedCache | ☑       | MACHINE-SAFE | ☐       | 0.0   | 376,689   |
| ProcessNode01.SLHOST3      | DistributedCache | ☑       | MACHINE-SAFE | ☐       | 0.0   | 1,149,263 |
| ProcessNode01.SLHOST4      | DistributedCache | ☑       | MACHINE-SAFE | ☐       | 0.0   | 1,131,618 |
| ProcessNode04.SLHOST2      | DistributedCache | ☑       | MACHINE-SAFE | ☐       | 0.0   | 188,285   |
| ProcessNode04.SLHOST3      | DistributedCache | ☑       | MACHINE-SAFE | ☐       | 0.0   | 574,088   |
| ProcessNode04.SLHOST4      | DistributedCache | ☑       | MACHINE-SAFE | ☐       | 0.0   | 564,263   |
| ProcessNode05.SLHOST3      | DistributedCache | ☑       | MACHINE-SAFE | ☐       | 0.0   | 1,150,706 |
| ProcessNode05.SLHOST4      | DistributedCache | ☑       | MACHINE-SAFE | ☐       | 0.0   | 1,134,618 |
| ProcessNode05n.SLHOST2     | DistributedCache | ☑       | MACHINE-SAFE | ☐       | 0.0   | 754,247   |
| ProcessNode05n.SLHOST3     | DistributedCache | ☑       | MACHINE-SAFE | ☐       | 0.0   | 2,334,486 |
| ProcessNode05n.SLHOST4     | DistributedCache | ☑       | MACHINE-SAFE | ☐       | 0.0   | 2,248,394 |
| ProcessNode08.SLHOST3      | DistributedCache | ☑       | MACHINE-SAFE | ☐       | 0.0   | 573,289   |
| ProcessNode08.SLHOST4      | DistributedCache | ☑       | MACHINE-SAFE | ☐       | 0.0   | 565,373   |
| ProxyNode01.SLHOST2        | DistributedCache | ☑       | MACHINE-SAFE | ☐       | 0.0   | 375,960   |
| ProxyNode01.SLHOST3        | DistributedCache | ☑       | MACHINE-SAFE | ☐       | 0.0   | 2,431     |
| ProxyNode01.SLHOST4        | DistributedCache | ☑       | MACHINE-SAFE | ☐       | 0.0   | 1,788     |
| ProxyNode02.SLHOST2        | DistributedCache | ☑       | MACHINE-SAFE | ☐       | 0.0   | 307       |
| ProxyNode02.SLHOST3        | DistributedCache | ☑       | MACHINE-SAFE | ☐       | 0.0   | 584,044   |
| ProxyNode02.SLHOST4        | DistributedCache | ☑       | MACHINE-SAFE | ☐       | 0.0   | 1,127,855 |
| RTViewOCDataServer.SLHOST1 | DistributedCache | ☑       | MACHINE-SAFE | ☐       | 0.0   | 92        |
| StoreNode01.SLHOST1        | DistributedCache | ☑       | MACHINE-SAFE | ☑       | 0.3   | 632,135   |
| StoreNode01.SLHOST2        | DistributedCache | ☑       | MACHINE-SAFE | ☑       | 0.0   | 1,223,758 |
| StoreNode01.SLHOST4        | DistributedCache | ☑       | MACHINE-SAFE | ☑       | 0.3   | 3,676,489 |
| StoreNode04.SLHOST1        | DistributedCache | ☑       | MACHINE-SAFE | ☑       | 0.1   | 640,945   |
| StoreNode04.SLHOST4        | DistributedCache | ☑       | MACHINE-SAFE | ☑       | 0.5   | 3,647,694 |

### Title Bar:

Indicators and functionality might include the following:

- Open the previous and upper display.
- CMDB** and **Table** navigate to displays commonly accessed from this display.
- 19-Feb-2014 16:50** The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
- Cls: 3,047** The number of items in the display.

- Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

- Cluster** Select a cluster to display.
- Summary** Click to view the ["Single Service Summary"](#) display.
- Service** Select a service to display.
- Host** Select a host.
- Class** Select the type of node to display: All, Storage or Process nodes.

**Cache Service Detail by Node:**

The columns in this table, with the exception of Location, come from Service and Node MBeans. For details on attributes of these MBeans go to: [http://download.oracle.com/otn\\_hosted\\_doc/coherence/350/com/tangosol/net/management/Registry.html](http://download.oracle.com/otn_hosted_doc/coherence/350/com/tangosol/net/management/Registry.html).

|                   |   |
|-------------------|---|
| <b>Location</b>   | The service location.   |
| <b>Service</b>    | The name of the service.  |
| <b>Running</b>    | Indicates that the service is running when checked.   |
| <b>Metric</b>     | <p>The high availability status of the service:</p> <ul style="list-style-type: none"> <li>● <b>ENDANGERED:</b> There is potential data loss in the cluster if a node goes offline.</li> <li>● <b>NODE-SAFE:</b> There is no risk of data loss in the cluster if a node goes offline (or is taken offline using kill-9). The data is replicated across multiple nodes and remains available in the cluster.</li> <li>● <b>MACHINE-SAFE:</b> There is no risk of data loss in the cluster if a machine goes offline (or is taken offline using kill-9). The data is replicated across multiple machines and remains available in the cluster.</li> <li>● <b>RACK-SAFE:</b> There is no risk of data loss in the cluster if a rack goes offline (or is taken offline using kill-9). The data is replicated across multiple racks and remains available in the cluster.</li> <li>● <b>SITE-SAFE:</b> There is no risk of data loss in the cluster if a site goes offline (or is taken offline using kill-9). The data is replicated across multiple sites and remains available in the cluster.</li> </ul> |
| <b>Time Range</b> | <p>Select a time range from the drop down menu varying from <b>2 Minutes</b> to <b>Last 7 Days</b>, or display <b>All Data</b>. To specify a time range, click Calendar <input type="text"/>.</p>   |



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

**Process Nodes:  
History Heatmap  
of Service Metric**

Color of the cells represents the relative value of the selected Metric for a given process node; a darker shade is a larger value.

The value of the Metric is displayed over the specified History for all process nodes in the selected Service.

**Storage Nodes:  
History Heatmap  
of Service Metric**

Color of the cells represents the relative value of the selected Metric for a given storage node; a darker shade is a larger value.

The value of the Metric is displayed over the specified History for all storage nodes in the selected Service.

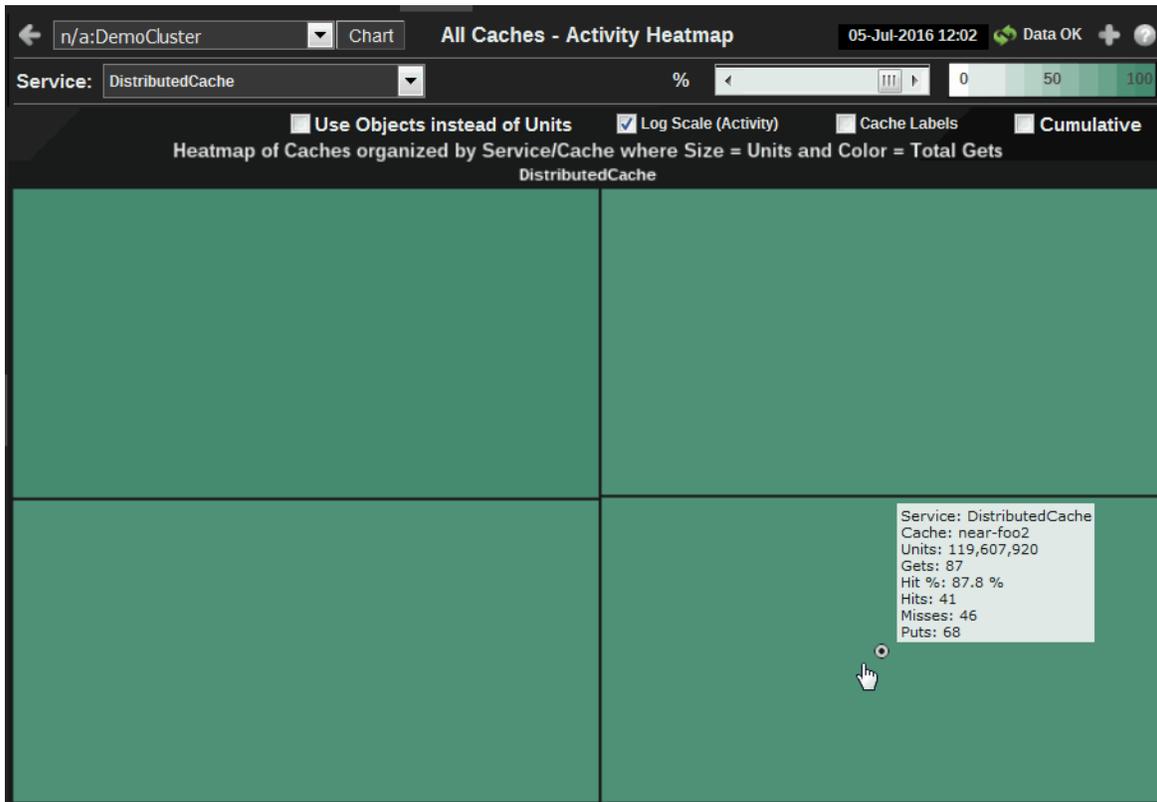
## All Caches

All Caches displays present high-level cache performance metrics for the cluster. Use the All Caches displays to quickly assess total utilization metrics for all caches in the cluster.

- [“All Caches Heatmap” on page 443](#): Heatmap of caches by service where size represents Units and color represents Total Gets%.
- [“Storage Nodes Cache Map” on page 444](#): Heatmap of memory usage on storage nodes by service where size represents Units and color represents Units Used%.
- [“Current Size Chart” on page 446](#): Bar chart/table sorted by caches with largest size displays current size/capacity metrics.
- [“Current Activity Chart” on page 447](#): Bar chart/table sorted by caches with greatest activity displays current activity metrics.

## All Caches Heatmap

Heatmap of cache size and activity organized by service: Size = Number of Units or Objects, Color = Percent of Total Gets.



### Title Bar:

Indicators and functionality might include the following:

← ↑ Open the previous and upper display.  
CMDB and Table navigate to displays commonly accessed from this display.

19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Cls: 3,047 The number of items in the display.

Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

! Open the **Alert Views - RTView Alerts Table** display.

+ Open an instance of this display in a new window.

? Open the online help page for this display.

**Cluster** Select a cluster to display.

**Chart** Toggle between heatmap view and chart view.

**Service** Select a service to display.

**%** Set the activity percentage that maps to the maximum color value. Percentages greater than this value map to the maximum color value.

**Use Objects Instead of Units** Select to use Objects instead of Units for heatmap cell sizing and mouseover tool-tips.

**Log Scale (Activity)**

Color of the cells represents the relative value of the selected Metric for a given process node; a darker shade is a larger value.  
The value of the Metric is displayed over the specified History for all process nodes in the selected Service.

**Storage Nodes: History Heatmap of Service Metric**

Color of the cells represents the relative value of the selected Metric for a given storage node; a darker shade is a larger value.  
The value of the Metric is displayed over the specified History for all storage nodes in the selected Service.

**Cache Labels**

Select to display cache labels.

**Cumulative**

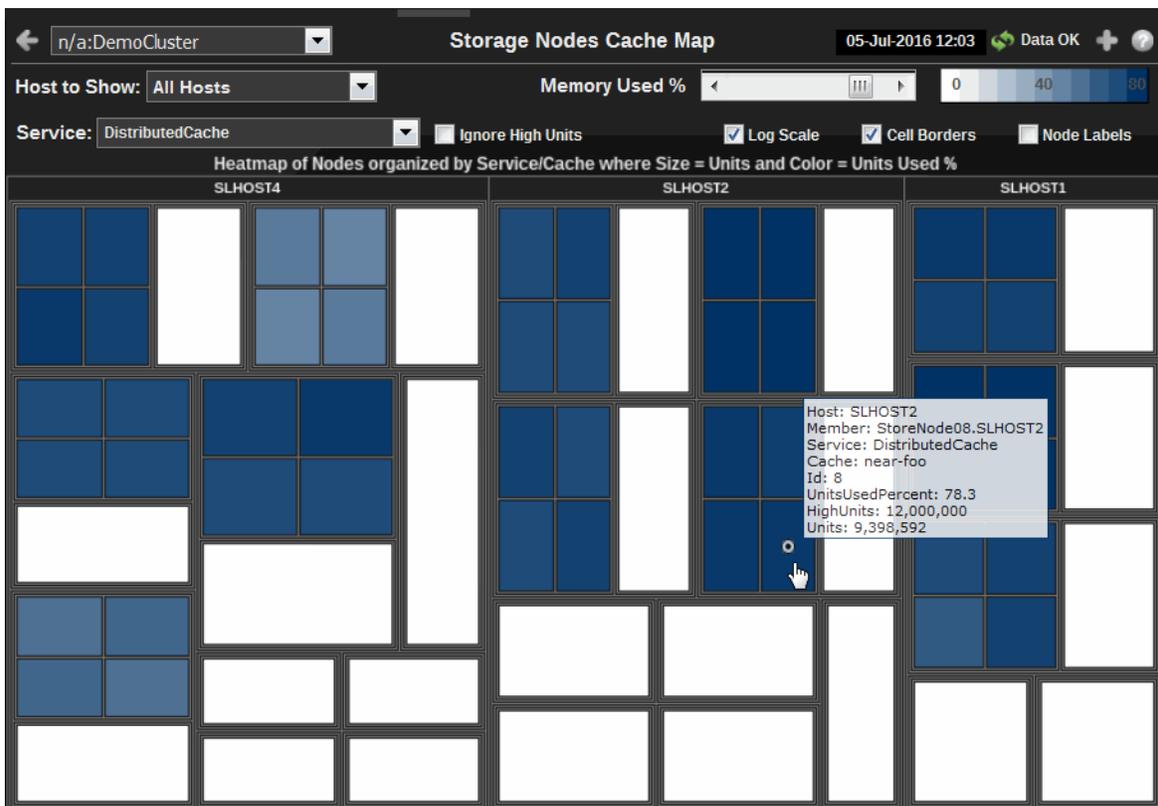
Select to show cumulative statistics for each cache.

**Heatmap of Caches organized by Service/Cache**

Activity heatmap where the activity metric is TotalGets. The levels of this heatmap are Service>Cache. The size of the cells is based on Units. The size of aggregate cells is based on the sum of the Units used by its component cells. The color of the cache cells is based on TotalGets.

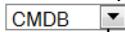
**Storage Nodes Cache Map**

Heatmap of memory usage on all storage nodes organized by service: Size = Number of Units, Color = Percent of Units Used.



**Title Bar:**

Indicators and functionality might include the following:

  Open the previous and upper display.  and  navigate to displays commonly accessed from this display.

 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 The number of items in the display.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

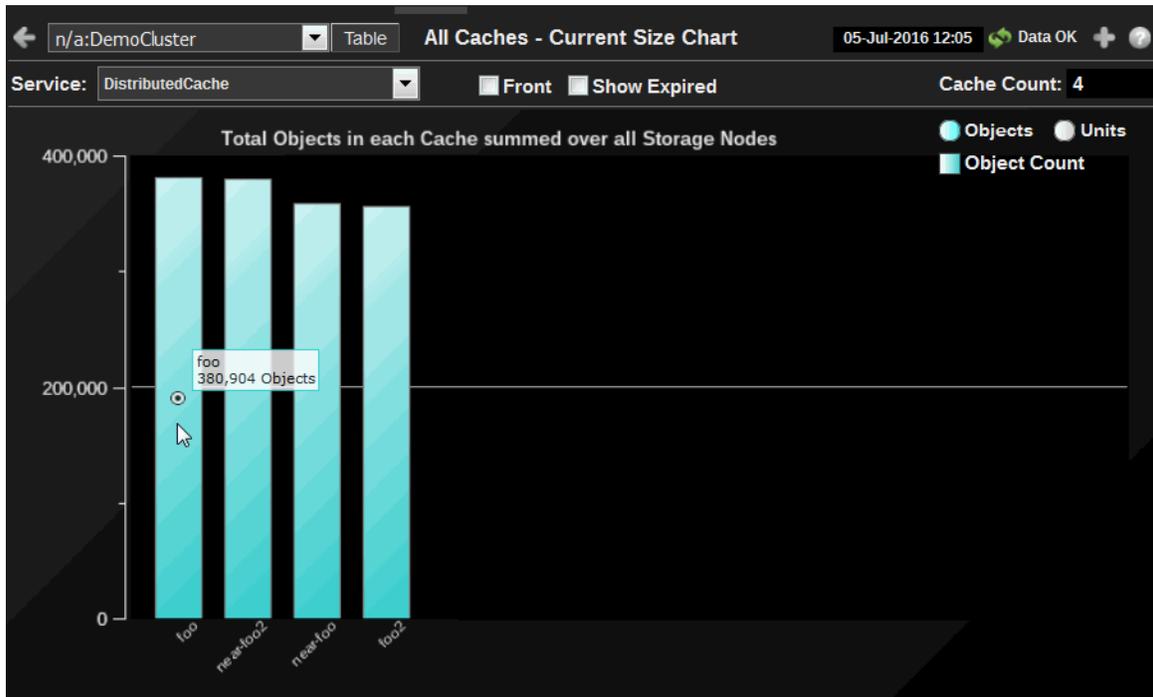
 Open an instance of this display in a new window.

 Open the online help page for this display.

|  |  |
|--|--|
| <b>Cluster</b>                                     | Select a cluster to display.   |
| <b>Host to Show</b>                                | Select a host to display.  |
| <b>Memory Used%</b>                                | Set the memory used percentage that maps to the maximum color value. Percentages greater than this value map to the maximum color value.   |
| <b>Service</b>                                     | Select a service to display, or select All Services.<br><br>NOTE: When you select a specific service, only data for nodes running that service is displayed. This enables you to view services that only run on a subset of nodes.   |
| <b>Ignore High Units</b>                           | Select to remove High Units from calculations. This results in all caches having 100% units used. The color of cache cells represents units used instead of percent Units used when this option is selected.   |
| <b>Log Scale</b>                                   | Enable to use a logarithmic scale for the Y axis. Use Log Scale to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. Log Scale makes data on both scales visible by applying logarithmic values rather than actual values to the data. |
| <b>Cell Borders</b>                                | Select to display heatmap cell borders.  |
| <b>Node Labels</b>                                 | Select to display node labels.   |
| <b>Heatmap of Nodes organized by Service/Cache</b> | A heatmap of memory usage. The levels of this heatmap are Host>Node>Service>Cache. The size of the cells is based on Units. The size of aggregate cells is based on the sum of the Units used by its component cells. The color of cache cells is based on the percent of Units used unless Ignore High Units is selected.   |

## Current Size Chart

Toggle between bar chart and table views that present the latest values of total objects and total nits for each cache in the selected service.



### Title Bar:

Indicators and functionality might include the following:

Open the previous and upper display.  
 and navigate to displays commonly accessed from this display.

The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

The number of items in the display.

The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

Open the online help page for this display.

|                    |   |
|--------------------|---|
| <b>Cluster</b>     | Select a cluster to display.  |
| <b>Table</b>       | Toggle between chart view and table view.   |
| <b>Service</b>     | Select a service to display.  |
| <b>Front</b>       | Select for front tier, deselect for back tier.                                    |
| <b>Cache Count</b> | Number of caches in the selected server. This is not available in the Table view. |

**Current Size Chart**

Total Objects in each Cache summed over all Storage Nodes. This is the default view. Toggle between totals for Object Count and Units Used.  
 Click the **Table** to view Current Size Table.  
**Objects** shows the total number of objects in this cache (Object Count).  
**Units** shows the highest number of units before evictions occur.  
**Ignore High Units** removes High Units bars from view.

**Current Size Table**

Totals for each Cache over all Storage Nodes. Click Chart to view Current Size Chart.  
**shortCacheName** Abbreviated name of cache  
**tier** Front or back  
**Objects** Total number of objects in this cache  
**Units** Total number of units (typically bytes) in this cache  
**LowUnits** Low limit for cache evictions  
**HighUnits** Highest number of units before evictions occur  
**Service Name** of selected service(s).  
**Name** Full name of cache

**Current Activity Chart**

Toggle between bar chart and table views that present the latest values for activity metrics for each cache in the selected service.



**Title Bar:**

Indicators and functionality might include the following:



Open the previous and upper display. **CMDB** and **Table** navigate to displays commonly accessed from this display.

19-Feb-2014 16:50

The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Cls: 3,047

The number of items in the display.



**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.



Open the **Alert Views - RTView Alerts Table** display.



Open an instance of this display in a new window.



Open the online help page for this display.

|                               |  |
|-------------------------------|--|
| <b>Cluster</b>                | Select a cluster to display.   |
| <b>Table</b>                  | Toggle between chart view and table view.  |
| <b>Service</b>                | Select a service to display.   |
| <b>Front</b>                  | Select for front tier, deselect for back tier.   |
| <b>Cache Count</b>            | Number of caches in the selected server. This is not available in the Table view.  |
| <b>Cumulative</b>             | Select to show cumulative statistics for each node since the start of the node.  |
| <b>Current Activity Chart</b> | Totals for Cache summed over all Storage Nodes. This is the default view. Toggle to Table view.<br>Sort by:<br><b>Objects</b> shows the total number of objects in this cache (Object Count).<br><b>Units</b> shows the highest number of units before evictions occur.<br><b>Ignore High Units</b> removes High Units bars from view.   |
| <b>Current Activity Table</b> | Totals for each Cache over all Storage Nodes. Toggle to Chart view. Sort by:<br><b>Cache</b> Abbreviated name of cache<br><b>tier</b> Front or back<br><b>Hits</b> Total number of successful gets<br><b>Misses</b> Total number of failed gets<br><b>Gets</b> Total requests for data from this cache<br><b>Puts</b> Total data stores into this cache<br><b>Hit%</b> Ratio of hits to gets<br><b>Service</b> Service Name<br><b>Cache Full Name</b> Full name of cache |

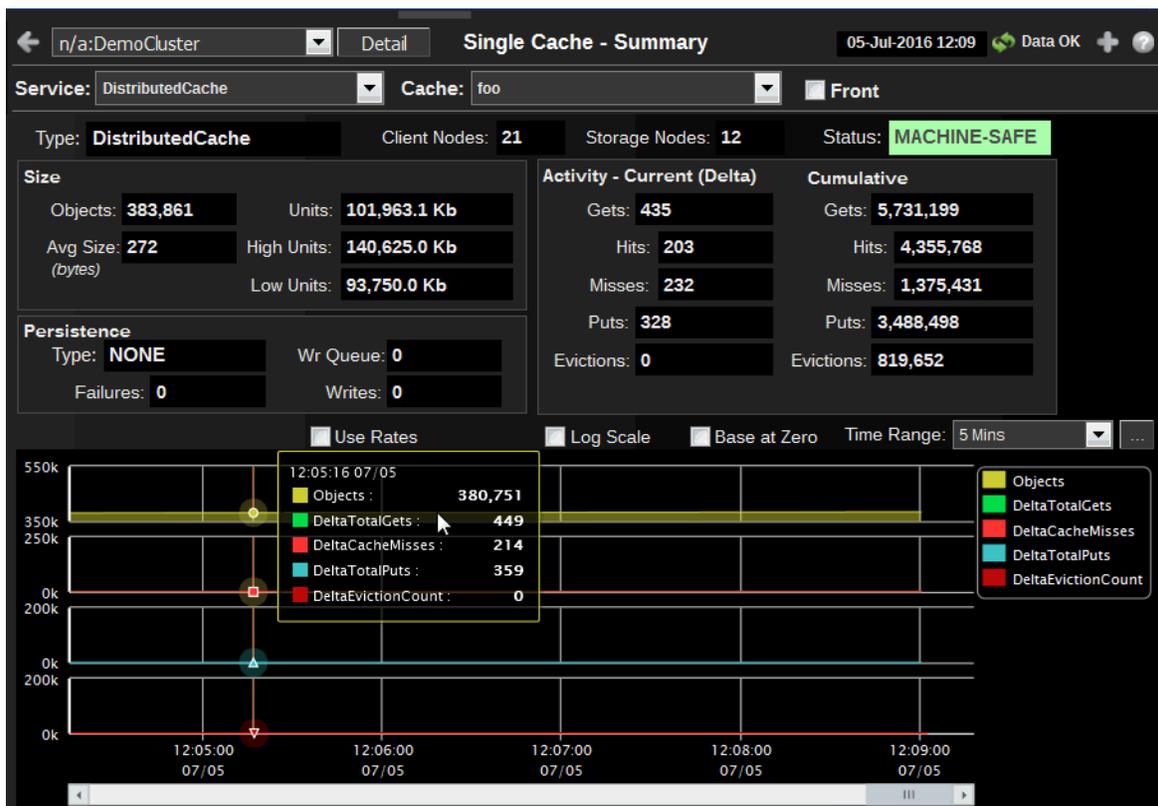
## Single Cache

Single Cache displays present detailed cache performance metrics for a single cache. Use the Single Cache displays to perform cache utilization analysis. The data in these displays can be sorted and viewed by service or cache.

- [“Single Cache Summary” on page 449](#): Perform low level utilization analysis on a single cache.
- [“Size Trends” on page 452](#): Trend chart displays size/capacity metrics.
- [“Activity Trends” on page 455](#): Trend chart displays activity metrics.
- [“Cache Detail Tables” on page 457](#): Table showing current detailed cache statistics by node.
- [“Storage Manager Detail” on page 459](#): Table showing store manager metrics.
- [“Node/Group Distribution” on page 461](#): Bar chart displays metrics showing distribution across cluster nodes or groups.
- [“Front/Back Analysis” on page 463](#): Displays metrics for the front and back tiers of a selected cache.

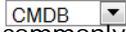
## Single Cache Summary

Use Single Cache - Summary display to do low level cache utilization analysis. Check the metrics for Size, Evictions and Misses to determine whether more capacity is needed. Cache Summary provides summary information about an individual cache.



**Title Bar:**

Indicators and functionality might include the following:

  Open the previous and upper display.  and  navigate to displays commonly accessed from this display.

 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 The number of items in the display.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

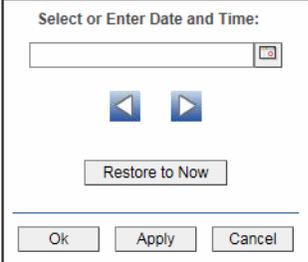
 Open the online help page for this display.

|                      |  |
|----------------------|--|
| <b>Cluster</b>       | Select a cluster to display.   |
| <b>Service</b>       | Select a service to display.   |
| <b>Cache</b>         | Select a cache. Click the Detail button to get information specific to the selected cache.   |
| <b>Front</b>         | Select for front tier, deselect for back tier.   |
| <b>Type</b>          | The type identifier string from the ServiceMBean (ReplicatedCache, DistributedCache, etc.).  |
| <b>Client Nodes</b>  | The number of cluster nodes that do not have storage enabled.  |
| <b>Storage Nodes</b> | Select to display storage node data in the trend graphs of this display.   |
| <b>Type</b>          | The type of cache.   |
| <b>Storage Nodes</b> | The number of storage nodes in the cache.  |
| <b>Status</b>        | The high availability status of the service: <ul style="list-style-type: none"> <li> <b>ENDANGERED:</b> There is potential data loss in the cluster if a node goes offline.</li> <li> <b>NODE-SAFE:</b> There is no risk of data loss in the cluster if a node goes offline (or is taken offline using kill-9). The data is replicated across multiple nodes and remains available in the cluster.</li> <li> <b>MACHINE-SAFE:</b> There is no risk of data loss in the cluster if a machine goes offline (or is taken offline using kill-9). The data is replicated across multiple machines and remains available in the cluster.</li> <li> <b>RACK-SAFE:</b> There is no risk of data loss in the cluster if a rack goes offline (or is taken offline using kill-9). The data is replicated across multiple racks and remains available in the cluster.</li> <li> <b>SITE-SAFE:</b> There is no risk of data loss in the cluster if a site goes offline (or is taken offline using kill-9). The data is replicated across multiple sites and remains available in the cluster.</li> </ul> |

|                     |  |
|---------------------|--|
| <b>Size</b>         | <p>Units indicates memory usage for the back tier and number of objects for the front tier.</p> <p><b>Objects</b> The number of objects in the selected cache. The value is the total across all storage nodes.</p> <p><b>Avg Size</b> The average size of objects in the selected cache (in bytes if it is the back tier).</p> <p><b>Units</b> The memory usage if back tier, or number of objects if front tier. The value is the total across all storage nodes.</p> <p><b>High Units</b> Maximum memory, or number of objects allowed before Coherence starts to evict objects from the selected cache. The value is the total across all storage nodes.</p> <p><b>Low Units</b> The level of memory, or number of objects to which Coherence will reduce the cache during the eviction process. The value is the total across all storage nodes.</p>  |
| <b>Persistence</b>  | <p><b>Type</b> The persistence type for the cache. Possible values include: <b>NONE</b>, <b>READ-ONLY</b>, <b>WRITE-THROUGH</b>, and <b>WRITE-BEHIND</b>.</p> <p><b>Failures</b> The number of write (cache store) failures, including load, store and erase operations. NOTE: This value is <b>-1</b> if the persistence type is <b>NONE</b>.</p> <p><b>Wr Queue</b> The size of the queue, in kilobytes, that holds data scheduled to be written to the cache store.</p> <p><b>Writes</b> The number of objects (cache entries) written to the cache store.</p>  |
| <b>Activity</b>     | <p><b>Current:</b><br/>Use the <b>Use Rates</b> checkbox to toggle between two value types: <b>Activity - Current (Rate)</b> and <b>Activity - Current (Delta)</b> (as labeled in the display upon selection). When the Use Rates (checkbox) is NOT selected the Delta values are shown in the Activity - Current (Delta) fields and trend graphs. Delta is the difference in the value since the last sample. When the Use Rates (checkbox) is selected the Rate values are shown in the Activity - Current (Rate) fields and trend graphs. Rate is the value per second. The Rate value is useful when the sampling time period is unknown, has changed, or has a long duration specified. For a given rate, the Rate value does not vary if the sample period changes (whereas the Delta value does vary). The Rate value enables you to directly compare rates on systems with different sample periods.</p> <p><b>Cumulative:</b><br/>The total since the service was started for the selected cache, or since statistics were reset.</p> <p><b>Gets</b> The number of requests for data from this cache.</p> <p><b>Hits</b> The number of successful gets.</p> <p><b>Misses</b> The number of failed gets.</p> <p><b>Puts</b> The number of data stores into this cache.</p> <p><b>Evictions</b> The number of objects removed to make room for other objects.</p> |
| <b>Use Rates</b>    | <p>Select <b>Use Rates</b> to show the Rate values in the Activity - Current (Rate) fields and trend graphs. Rate is the value per second. The Rate value is useful when the sampling time period is unknown, has changed, or has a long duration specified. For a given rate, the Rate value does not vary if the sample period changes (whereas the Delta value does vary). The Rate value enables you to directly compare rates on systems with different sample periods.</p> <p>Deselect Use Rates to show the Delta values in the <b>Activity - Current (Delta)</b> fields and trend graphs. Delta is the difference in the value since the last sample.</p>  |
| <b>Log Scale</b>    | <p>Enable to use a logarithmic scale for the Y axis. Use Log Scale to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. Log Scale makes data on both scales visible by applying logarithmic values rather than actual values to the data.</p>  |
| <b>Base at Zero</b> | <p>Use zero for the Y axis minimum for all graphs.</p>   |

**Time Range**

Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

**Trend Graphs**

Use the Use Rates checkbox to toggle between two value types: Activity - Current (Rate) and Activity - Current (Delta) (as labeled in the display upon selection).

**Objects** The number of objects in the selected cache. The value is the total across all storage nodes.

**TotalGets** Total requests for data from this cache.

**CacheMisses** Total number of failed gets.

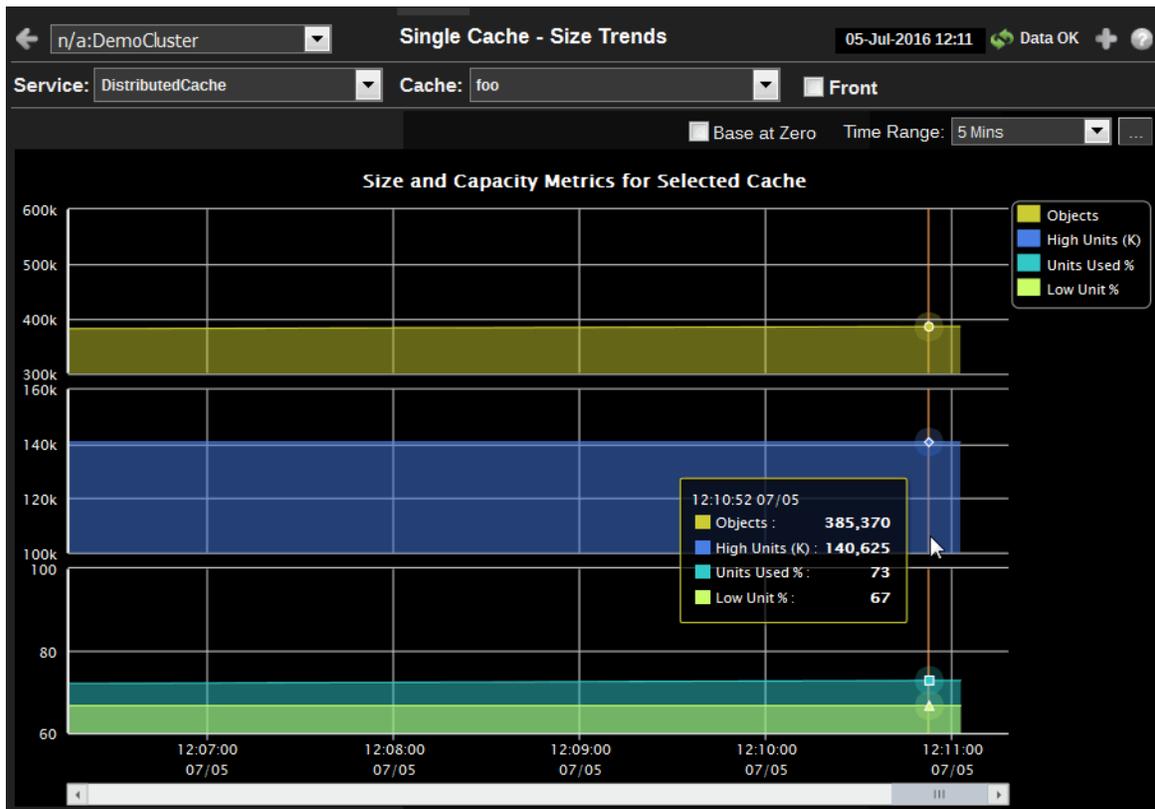
**TotalPuts** Total data stores into this cache.

**EvictionCounts** Number of objects removed from the cache to make room for other objects.

**Size Trends**

Size Trends provides a method of viewing the degree to which available cache size has been consumed. Under normal operations the cache will evict and reload objects into the cache. This will be displayed as a significant drop in the Units Used trend. However, if these drops are too frequent the application might not be performing optimally. Adding capacity and examining or modifying application usage patterns might be required. The data displayed here is a sum of all storage nodes in the cache filtered by the selected service and cache.

Try changing the High Units setting in the Cache Administration page to something like 100,000 and then see the effect on these trend charts.



**Title Bar:**

Indicators and functionality might include the following:

← ↑ Open the previous and upper display.  
 CMDB and Table navigate to displays commonly accessed from this display.

19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Cls: 3,047 The number of items in the display.

Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

⚠ Open the **Alert Views - RTView Alerts Table** display.

⊕ Open an instance of this display in a new window.

❓ Open the online help page for this display.

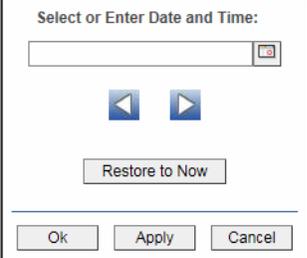
- Cluster** Select a cluster to display.
- Service** Select a service to display.
- Cache** Select a cache. Click the Detail button to get information specific to the selected cache.
- Front** Select for front tier, deselect for back tier.

**Base at Zero**

Use zero for the Y axis minimum for all graphs.

**Time Range**

Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

## Activity Trends

Activity Trends provides a set of trend graphs that show the magnitude of the cache usage and the effectiveness of the implementation. If the overall effectiveness is not as desired, increasing capacity, preloading the cache and increasing the eviction time may result in improvements in cache hits. The data displayed here is a sum of all storage nodes in the cache filtered by the selected service and cache.



### Title Bar:

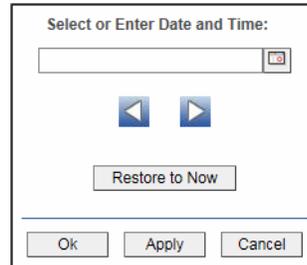
Indicators and functionality might include the following:

- Open the previous and upper display.
- CMDB** and **Table** navigate to displays commonly accessed from this display.
- 19-Feb-2014 16:50** The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
- Cls: 3,047** The number of items in the display.

- Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

|                |  |
|----------------|--|
| <b>Cluster</b> | Select a cluster to display.   |
| <b>Service</b> | Select a service to display.   |
| <b>Cache</b>   | Select a cache. Click the Detail button to get information specific to the selected cache. |

- Front** Select for front tier, deselect for back tier.
- Log Scale** Enable to use a logarithmic scale for the Y axis. Use Log Scale to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. Log Scale makes data on both scales visible by applying logarithmic values rather than actual values to the data.
- Base at Zero** Use zero for the Y axis minimum for all graphs.
- Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

### Activity Metrics for Selected Cache

**Hits** The number of successful gets from this cache.

**Total Gets** Requests for data from this cache.

**Cache Misses** The number of failed gets by this cache.

Total Puts The number of data stores into this cache.

**Evictions** The number of objects removed from the cache to make room for other objects.

**Write Queue** The size of the queue, in kilobytes, that holds data scheduled to be written to the cache store.

## Cache Detail Tables

This display presents detailed information about the contribution that each storage node makes to the cache. Select a node in the Statistics By Node for Selected Cache table to drill down to the “Node Summary” display for that node. The data displayed here is broken down for each storage nodes in the cache filtered by the selected service and cache.

| Objects | Units       | LowUnits   | HighUnits   | Hits      | Delta | Misses    | Delta | Gets      | Delta | Puts      | Delta |
|---------|-------------|------------|-------------|-----------|-------|-----------|-------|-----------|-------|-----------|-------|
| 389,542 | 105,955,424 | 96,000,000 | 144,000,000 | 4,366,039 | 282   | 1,383,079 | 193   | 5,749,118 | 475   | 3,500,956 | 310   |

| AvgSize | Units     | LowUnits  | HighUnits  | Hits    | Delta | Misses  | Delta | Gets    | Delta | Puts    | Delta |
|---------|-----------|-----------|------------|---------|-------|---------|-------|---------|-------|---------|-------|
| 272     | 8,829,618 | 8,000,000 | 12,000,000 | 363,836 | 23    | 115,256 | 16    | 479,093 | 39    | 291,746 | 25    |

| Location             | tier | Objects | AvgSize | Units      | LowUnits  | HighUnits  | Hits    |
|----------------------|------|---------|---------|------------|-----------|------------|---------|
| StoreNode01.SLHOST1  | back | 34,541  | 272     | 9,395,152  | 8,000,000 | 12,000,000 | 1,669   |
| StoreNode01.SLHOST2  | back | 37,492  | 272     | 10,197,824 | 8,000,000 | 12,000,000 | 183,778 |
| StoreNode01.SLHOST4  | back | 21,943  | 272     | 5,968,496  | 8,000,000 | 12,000,000 | 734,269 |
| StoreNode04.SLHOST1  | back | 33,379  | 272     | 9,079,088  | 8,000,000 | 12,000,000 | 1,628   |
| StoreNode04.SLHOST4  | back | 31,346  | 272     | 8,526,112  | 8,000,000 | 12,000,000 | 658,192 |
| StoreNode05.SLHOST2  | back | 32,555  | 272     | 8,854,960  | 8,000,000 | 12,000,000 | 202,794 |
| StoreNode05.SLHOST4  | back | 32,889  | 272     | 8,945,808  | 8,000,000 | 12,000,000 | 770,567 |
| StoreNode05n.SLHOST1 | back | 39,918  | 272     | 10,857,696 | 8,000,000 | 12,000,000 | 1,650   |
| StoreNode05n.SLHOST2 | back | 33,736  | 272     | 9,176,192  | 8,000,000 | 12,000,000 | 200,245 |
| StoreNode05n.SLHOST4 | back | 31,224  | 272     | 8,492,928  | 8,000,000 | 12,000,000 | 764,372 |
| StoreNode08.SLHOST2  | back | 35,390  | 272     | 9,626,080  | 8,000,000 | 12,000,000 | 151,865 |
| StoreNode08.SLHOST4  | back | 25,129  | 272     | 6,835,088  | 8,000,000 | 12,000,000 | 695,010 |

### Title Bar:

Indicators and functionality might include the following:

Open the previous and upper display.   

 and 
 navigate to displays commonly accessed from this display.

The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

The number of items in the display.

The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

Open the online help page for this display.

**Cluster** Select a cluster to display.

**Summary** Toggle between this display and Single Cache - Summary display.

**Service** Select a service to display.

**Cache** Select a cache. Click the Detail button to get information specific to the selected cache.

|  |  |
|--|--|
| <b>Front</b>                                 | Select for front tier, deselect for back tier.   |
| <b>Totals for Selected Cache</b>             | <p><b>Objects</b> Number of objects in this cache.</p> <p><b>Units</b> Total number of units (typically bytes) in this cache.</p> <p><b>LowUnits</b> Low limit for cache evictions.</p> <p><b>HighUnits</b> Highest number of units before evictions occur.</p> <p><b>Hits</b> Total number of successful gets.</p> <p><b>Misses</b> Total number of failed gets.</p> <p><b>Gets</b> Total requests for data from this cache.</p> <p><b>Puts</b> Total data stores into this cache.</p>  |
| <b>Average for Selected Cache</b>            | <p><b>Objects</b> Number of objects in this cache.</p> <p><b>AvgSize</b> Average size of objects in this cache.</p> <p><b>Units</b> Average number of units (typically bytes) in this cache.</p> <p><b>LowUnits</b> Low limit for cache evictions.</p> <p><b>HighUnits</b> Highest number of units before evictions occur.</p> <p><b>Hits</b> Average number of successful gets.</p> <p><b>Misses</b> Average number of failed gets.</p> <p><b>Gets</b> Average requests for data from this cache.</p> <p><b>Puts</b> Average data stores into this cache.</p> |
| <b>Statistics By Node for Selected Cache</b> | <p>The columns in this table, with the exception of Location, come from Cache and Node MBeans. For details on attributes of these MBeans go to: <a href="http://download.oracle.com/otn_hosted_doc/coherence/350/com/tangosol/net/management/Registry.html">http://download.oracle.com/otn_hosted_doc/coherence/350/com/tangosol/net/management/Registry.html</a>.</p> <p>Location is a unique identifier for each node. It is defined as:<br/> <b>member_name.machine.rack.site.</b></p>  |

## Storage Manager Detail

This display presents detailed information about the Storage Manager. The data displayed here is queried from the Coherence StorageManagerMBean, filtered by the selected service and cache. Click on a row in the table to open the ["Storage IndexInfo View"](#) window.

| Location             | EventsDispatched | EvictionCount | InsertCount | ListenerFilterCount | ListenerKeyCount |
|----------------------|------------------|---------------|-------------|---------------------|------------------|
| StoreNode01.SLHOST1  | 0                | 0             | 34,620      | 0                   | 0                |
| StoreNode01.SLHOST2  | 0                | 38,015        | 75,579      | 0                   | 0                |
| StoreNode01.SLHOST4  | 0                | 146,554       | 168,601     | 0                   | 0                |
| StoreNode04.SLHOST1  | 0                | 0             | 33,472      | 0                   | 0                |
| StoreNode04.SLHOST4  | 0                | 120,540       | 151,971     | 0                   | 0                |
| StoreNode05.SLHOST2  | 0                | 60,349        | 92,983      | 0                   | 0                |
| StoreNode05.SLHOST4  | 0                | 115,337       | 148,315     | 0                   | 0                |
| StoreNode05n.SLHOST1 | 0                | 0             | 40,006      | 0                   | 0                |
| StoreNode05n.SLHOST2 | 0                | 43,208        | 77,031      | 0                   | 0                |
| StoreNode05n.SLHOST4 | 0                | 130,074       | 161,389     | 0                   | 0                |
| StoreNode08.SLHOST2  | 0                | 44,379        | 79,849      | 0                   | 0                |
| StoreNode08.SLHOST4  | 0                | 121,196       | 146,401     | 0                   | 0                |

**Title Bar:**

Indicators and functionality might include the following:

Open the previous and upper display.  
 and navigate to displays commonly accessed from this display.

19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

3,047 The number of items in the display.

**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

Open the online help page for this display.

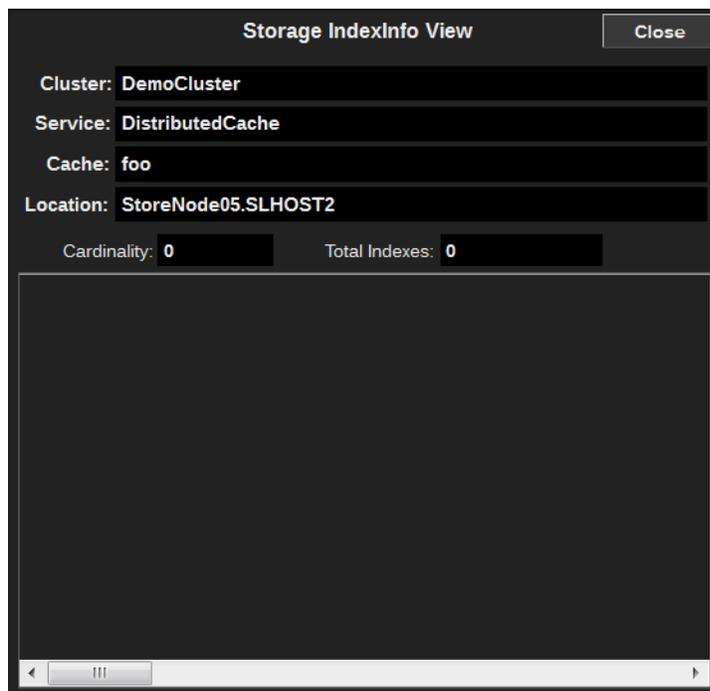
**Cluster** Select a cluster to display.

**Service** Select a service to display.

- Cache** Select a cache. Click the Detail button to get information specific to the selected cache.
- Storage Manager Data**
- Location** A unique identifier for each node. It is defined as `member_name.machine.rack.site`.
  - EventsDispatched** The total number of events dispatched by the Storage Manager since the last time the statistics were reset.
  - EvictionCount** The number of evictions from the backing map managed by this Storage Manager caused by entries expiry or insert operations that would make the underlying backing map to reach its configured size limit.
  - InsertCount** The number of inserts into the backing map managed by this Storage Manager. In addition to standard inserts caused by put and invoke operations or synthetic inserts caused by get operations with read-through backing map topology, this counter is incremented when distribution transfers move resources into the underlying backing map and is decremented when distribution transfers move data out.
  - ListenerFilterCount** The number of filter-based listeners currently registered with the Storage Manager.
  - ListenerKeyCount** The number of key-based listeners currently registered with the Storage Manager.
  - ListenerRegistrations** The total number of listener registration requests processed by the Storage Manager since the last time the statistics were reset.
  - LocksGranted** The number of locks currently granted for the portion of the partitioned cache managed by the Storage Manager.
  - LocksPending** The number of pending lock requests for the portion of the partitioned cache managed by the Storage Manager.
  - RemoveCount** The number of removes from the backing map managed by this Storage Manager caused by operations such as clear, remove or invoke.

### Storage IndexInfo View

Click on a row in the Storage Manager Data table to open the Storage IndexInfo View window.



**Service** The name of the service.

**Cache** The name of the cache.

**Location Manager Data** The location of the node associated with the cache.

**(Index Table)** Each row in the table represents a unique index, where:  
**Extractor** = the index name.  
**Ordered** = true/false to indicate whether or not the data is sorted (false means the data is not sorted).  
**Size** = the number of entries in that cache whose value matches that extractor.

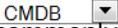
### Node/Group Distribution

This display presents the distribution of cache activity across all storage nodes in the cluster. The buttons on the left may be used to select the metric by which all six bar charts are to be sorted. Note that the Gets, Hits, Misses, and Puts are shown in the same color as on the other Cache Analysis displays. The data displayed here is broken down for each storage nodes in the cache filtered by the selected service and cache.



**Title Bar:**

Indicators and functionality might include the following:

  Open the previous and upper display.  and  navigate to displays commonly accessed from this display.

 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 The number of items in the display.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

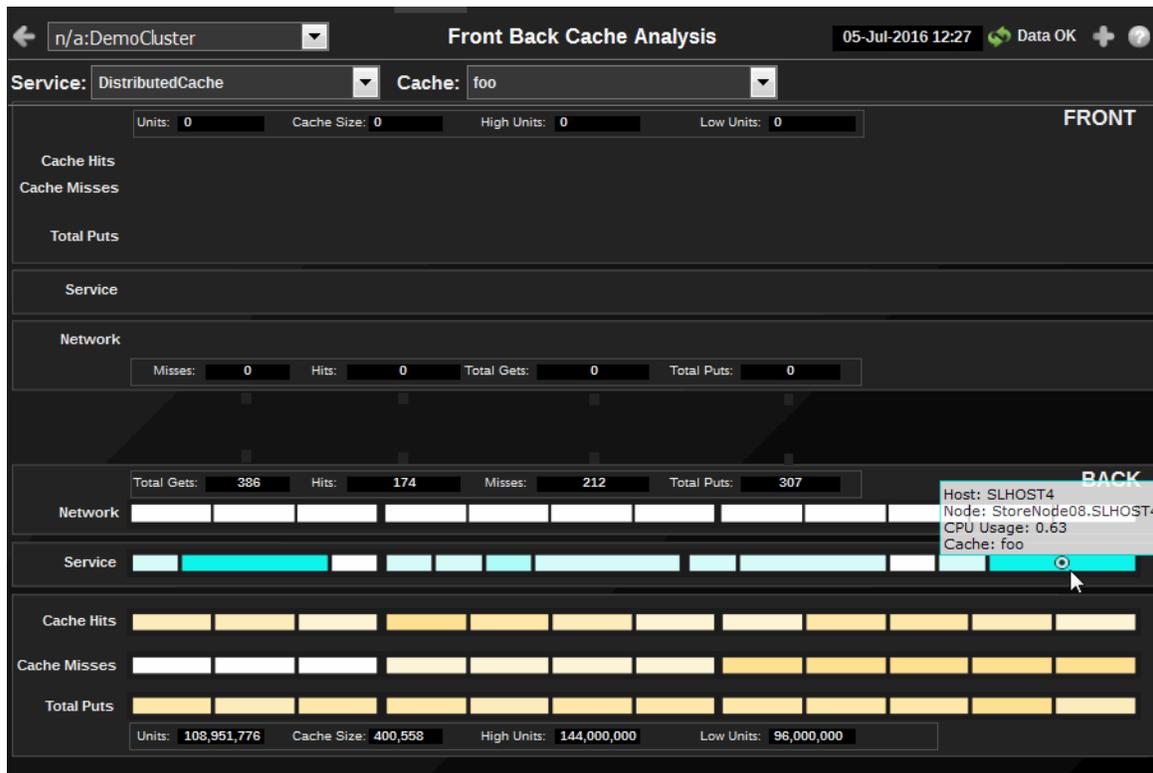
 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

|                 |  |
|-----------------|--|
| <b>Cluster</b>  | Select a cluster to display.   |
| <b>Service</b>  | Select a service to display.   |
| <b>Cache</b>    | Select a cache. Click the Detail button to get information specific to the selected cache.   |
| <b>Group By</b> | Select the node group by which the data are totaled.<br><b>Location</b> A unique identifier for each node, defined as <b>member_name.machine.rack.site</b> . This is the default setting.<br><b>Gets</b> Requests for data from this cache.<br><b>Hits</b> Number of successful gets.<br><b>Misses</b> Number of failed gets.<br><b>Puts</b> Data stores into this cache.<br><b>Mem%</b> Calculated percent of memory used divided by total memory.<br><b>K Units</b> Units in thousand bytes. |

## Front/Back Analysis



### Title Bar:

Indicators and functionality might include the following:

← ↑ Open the previous and upper display.  
CMDB and Table navigate to displays commonly accessed from this display.

19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Cls: 3,047 The number of items in the display.

Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

! Open the **Alert Views - RTView Alerts Table** display.

+ Open an instance of this display in a new window.

? Open the online help page for this display.

**Cluster** Select a cluster to display.

**Service** Select a service to display.

**Cache** Select a cache. Click the Detail button to get information specific to the selected cache.

**FRONT/BACK****Units:**

**Front** Number of objects. The value is the total across all storage nodes for the given tier.

**Back** Memory usage. The value is the total across all storage nodes for the given tier.

**Cache Size:**

Total number of objects in the cache for the given tier (Front or Back). NOTE: Same value as Units for Front tier.

**High Units:**

**Front** Number of objects allowed before Coherence starts to evict objects from the selected cache. The value is the total across all storage nodes for the given tier.

**Back** Maximum memory allowed before Coherence starts to evict objects from the selected cache. The value is the total across all storage nodes for the given tier.

**Low Units:**

**Front** Number of objects to which Coherence will reduce the cache during the eviction process. The value is the total across all storage nodes for the given tier.

**Back** The level of memory to which Coherence will reduce the cache during the eviction process. The value is the total across all storage nodes for the given tier.

|                     |   |
|---------------------|---|
| <b>Cache Hits</b>   | Number of successful gets   |
| <b>Cache Misses</b> | Number of failed gets   |
| <b>Total Puts</b>   | Data stores into this cache   |
| <b>Service</b>      | CPU usage (%) for the node.   |
| <b>Network</b>      | <b>Front</b> Sent Packet Failure Rate (%) for the node.<br><b>Back</b> Received Packet Failure Rate (%) for the node. |
| <b>Misses</b>       | Number of failed gets.  |
| <b>Hits</b>         | Number of successful gets.  |
| <b>Total Gets</b>   | Total requests for data from this cache.  |
| <b>Total Puts</b>   | Total data stores into this cache.  |

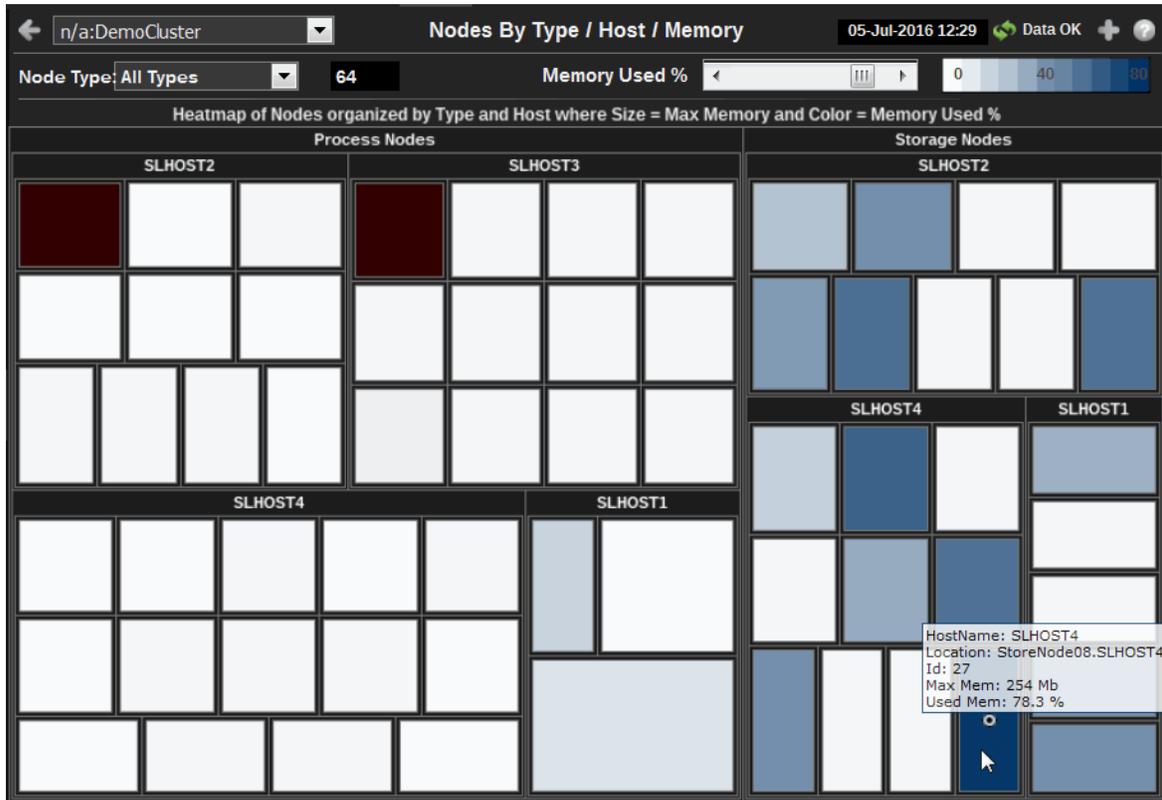
**All Nodes**

All Nodes displays present high-level node performance metrics for the cluster. Use the All Nodes displays to quickly assess total utilization metrics for all nodes in the cluster.

- [“All Nodes by Type/Host/Memory” on page 465](#): Heatmap of caches by service where size represents Max Memory and color represents percent of Memory Used.
- [“All Nodes CPU” on page 466](#): Heatmap shows CPU utilization for all nodes in the cluster.
- [“All Nodes Grid View” on page 467](#): Grid view showing information about all nodes.
- [“Communication Issues” on page 468](#): Bar chart displays current communication issues for all nodes.
- [“All Nodes - Detail” on page 470](#): Table shows current detailed statistics for all nodes.
- [“Invocation Service Detail” on page 472](#): Table shows invocation service detail for all nodes.

## All Nodes by Type/Host/Memory

Heatmap of nodes organized by Type and Host: Size = Max Memory, Color = Percent of Memory Used.



**Title Bar:**

Indicators and functionality might include the following:

- ← ↑ Open the previous and upper display.
   
CMDB and Table navigate to displays commonly accessed from this display.
   
19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
   
Cls: 3,047 The number of items in the display.

- Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
   
⚠ Open the **Alert Views - RTView Alerts Table** display.
   
+ Open an instance of this display in a new window.
   
? Open the online help page for this display.

|  |  |
|--|--|
| <b>Cluster</b>                                 | Select a cluster to display.   |
| <b>Nodes Type</b>                              | Select the type of node to display: Storage Nodes, Process Nodes or All Types.   |
| <b>Memory Used%</b>                            | Set the memory used percentage that maps to the maximum color value. Percentages greater than this value map to the maximum color value. |
| <b>Heatmap of Nodes organized by Type/Host</b> | A heatmap of memory usage per host.  |

## All Nodes CPU

Heatmap shows CPU utilization for all nodes in the cluster organized by Type and Host: Size = Max Memory, Color = Percent of CPU Used.



### Title Bar:

Indicators and functionality might include the following:

← ↑ Open the previous and upper display.  
 CMDB and Table navigate to displays commonly accessed from this display.

19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Cls: 3,047 The number of items in the display.

Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

🚨 Open the **Alert Views - RTView Alerts Table** display.

⊕ Open an instance of this display in a new window.

❓ Open the online help page for this display.

**Cluster** Select a cluster to display.

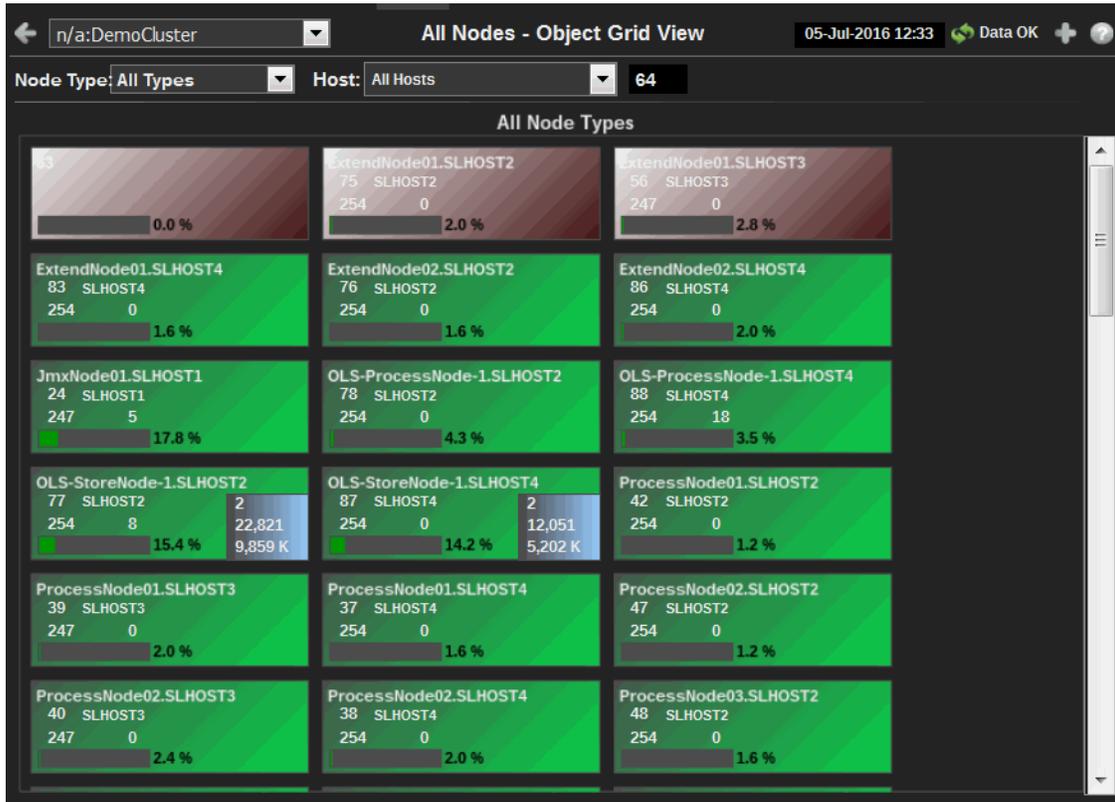
**Node Type** Select the type of node to display: Storage Nodes, Process Nodes or All Types.

**CPU Used%** Set the CPU used percentage that maps to the maximum color value. Percentages greater than this value map to the maximum color value.

**Heatmap of Nodes organized by Type/Host** A heatmap of CPU usage per host.

## All Nodes Grid View

This display shows a grid view of all of the nodes in the selected Node Type.



### Title Bar:

Indicators and functionality might include the following:

- Open the previous and upper display.
- and navigate to displays commonly accessed from this display.
- The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
- The number of items in the display.

- Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

- Cluster** Select a cluster to display.
- Node Type** Select the type of node to display: Storage Nodes, Process Nodes or All Types.
- Host** Select a host to display.
- Heatmap of Nodes organized by Type/Host** A heatmap of CPU usage per host.

The following icon is shown for each node in the cluster:



The icon describes the node:

- Location (StoreNode04.VMXP-7)
- Id (4)
- Host name or IP (vmpx-7)
- Max megabytes (247)
- Messages queued (0)
- Meter and label indicating the percent of memory utilization(12.1%)

For storage nodes, the following are also shown (in the lower right portion of the icon):

- Number of supported caches (13),
- Number of objects (32,944)
- Amount of memory used (8,935 K).

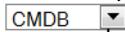
### Communication Issues

This display presents detail information about communication issues by node or group. Both bar charts show the same data as the Packet Detail table. Click on a bar in either chart to drill down to the "Node Summary" display for that node.



**Title Bar:**

Indicators and functionality might include the following:

  Open the previous and upper display.  and  navigate to displays commonly accessed from this display.

 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 The number of items in the display.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

|  |   |
|--|---|
| <b>Cluster</b>   | Select a cluster to display.  |
| <b>Node Count</b>  | Number of nodes in the cluster.   |
| <b>Packets Repeated Recently</b>                             | Total number of repeated packets since the last update. The update rate is set by the Reporting Period. |
| <b>Resent Recently</b>                                       | Total number or resent packets since the last update. The update rate is set by the Reporting Period.   |
| <b>Reporting Period</b>                                      | Select period varying from 30 Seconds to Last 7 Days, or display All Data.                              |
| <b>Sort By</b>   | Select Packets Sent, Packets Received, Sent Failure Rate or Received Failure Rate.                      |
| <b>Sent Failure Rate/Received Failure Rate by Node/Group</b> | Packets failed to be sent by each node.<br>Packets failed to be received by each node.                  |
| <b>Packets Sent/Received by Node/Group</b>                   | Packets sent by each node.<br>Packets received by each node.  |

## All Nodes - Detail

This display presents detailed information about each node. This display includes information from the Coherence ClusterNodeMBean for both storage and processing nodes. Select a node in the All Node Data table to drill down to the "Node Summary" display for that node.

| Location             | Id | Avail MB | Max MB | Pkts Sent  | Delta | Pkts Rcvd  | Delta | Pkts |
|----------------------|----|----------|--------|------------|-------|------------|-------|------|
| StoreNode08.SLHOST4  | 27 | 56       | 254    | 20,680,021 | 1,881 | 19,769,956 | 1,759 | 13   |
| StoreNode08.SLHOST2  | 8  | 112      | 254    | 7,207,444  | 1,755 | 6,920,285  | 1,629 | 2    |
| StoreNode07.SLHOST4  | 16 | 248      | 254    | 8,479,585  | 814   | 7,596,866  | 703   | 3    |
| StoreNode07.SLHOST2  | 7  | 249      | 254    | 2,954,996  | 811   | 2,652,154  | 693   | 4    |
| StoreNode06.SLHOST4  | 15 | 245      | 254    | 14,413,751 | 1,289 | 13,550,004 | 1,187 | 5    |
| StoreNode06.SLHOST2  | 6  | 246      | 254    | 4,998,465  | 1,519 | 4,697,421  | 1,386 | 6    |
| StoreNode05n.SLHOST4 | 13 | 144      | 254    | 9,240,557  | 832   | 8,292,349  | 717   | 7    |
| StoreNode05n.SLHOST2 | 4  | 106      | 254    | 3,215,830  | 818   | 2,917,402  | 698   | 8    |
| StoreNode05n.SLHOST1 | 17 | 145      | 247    | 145,793    | 890   | 146,745    | 749   | 9    |
| StoreNode05.SLHOST4  | 14 | 112      | 254    | 9,045,804  | 734   | 8,096,728  | 619   | 10   |
| StoreNode05.SLHOST2  | 5  | 149      | 254    | 3,130,043  | 799   | 2,826,880  | 694   | 11   |
| StoreNode04.SLHOST4  | 12 | 163      | 254    | 20,767,959 | 1,825 | 19,859,593 | 1,720 | 12   |
| StoreNode04.SLHOST1  | 19 | 141      | 247    | 351,071    | 1,934 | 350,140    | 1,798 | 13   |
| StoreNode03.SLHOST4  | 11 | 249      | 254    | 8,452,999  | 915   | 7,564,521  | 800   | 14   |
| StoreNode03.SLHOST2  | 3  | 249      | 254    | 2,911,819  | 901   | 2,606,105  | 784   | 15   |
| StoreNode03.SLHOST1  | 22 | 236      | 247    | 151,367    | 890   | 132,011    | 751   | 16   |
| StoreNode02.SLHOST4  | 10 | 247      | 254    | 14,330,435 | 1,265 | 13,452,552 | 1,148 | 17   |
| StoreNode02.SLHOST2  | 2  | 245      | 254    | 4,873,858  | 1,357 | 4,569,689  | 1,226 | 18   |
| StoreNode02.SLHOST1  | 23 | 234      | 247    | 243,086    | 1,248 | 223,462    | 1,109 | 19   |
| StoreNode01.SLHOST4  | 9  | 97       | 254    | 9,003,123  | 710   | 8,202,539  | 600   | 20   |
| StoreNode01.SLHOST2  | 1  | 139      | 254    | 3,074,838  | 682   | 2,822,646  | 572   | 21   |
| StoreNode01.SLHOST1  | 18 | 169      | 247    | 145,132    | 848   | 147,525    | 718   | 22   |

### Title Bar:

Indicators and functionality might include the following:

← ↑ Open the previous and upper display.

CMDB and Table navigate to displays commonly accessed from this display.

19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Cls: 3,047 The number of items in the display.

Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

⚠ Open the **Alert Views - RTView Alerts Table** display.

⊕ Open an instance of this display in a new window.

❓ Open the online help page for this display.

**Cluster** Select a cluster to display.

**Node Type** Select the type of nodes for which to display data: Storage Nodes, Process Nodes or All Types.

**Host** Select the host for which to display data, or select All Hosts.

**Node Count** Number of nodes for which data is currently displayed.

**Total Avail MB** Total available memory of all nodes in the cluster.

**Max** Total max memory of all nodes in the cluster.

### All Node Types (MBean Detail Data)

- **Location** A unique identifier for each node. It is defined as: member\_name.machine.rack.site.
- **Id** The short member id that uniquely identifies this member.
- **Avail MB** The amount of available memory for this node in MB.
- **Max MB** The maximum amount of memory for this node in MB.
- **Pkts Sent** The cumulative number of packets sent by this node since the node statistics were last reset.
- **Delta** The number of packets sent by this node since the last update.
- **Pkts Rcvd** The cumulative number of packets received by this node since the node statistics were last reset.
- **Delta** The number of packets received by this node since the last update.
- **Pkts Rptd** The cumulative number of duplicate packets received by this node since the node statistics were last reset.
- **Delta** The number of duplicate packets received by this node since the last update.
- **Pkts Resent** The cumulative number of packets resent by this node since the node statistics were last reset.
- **Delta** The number of packets resent by this node since the last update.
- **Timestamp** The date and time (in cluster time) that this member joined the cluster.
- **Pub Succ Rate** The publisher success rate for this node since the node statistics were last reset. Publisher success rate is a ratio of the number of packets successfully delivered in a first attempt to the total number of sent packets. A failure count is incremented when there is no ACK received within a timeout period. It could be caused by either very high network latency or a high packet drop rate.
- **Rec Succ Rate** The receiver success rate for this node since the node statistics were last reset. Receiver success rate is a ratio of the number of packets successfully acknowledged in a first attempt to the total number of received packets. A failure count is incremented when a re-delivery of previously received packet is detected. It could be caused by either very high inbound network latency or lost ACK packets.
- **Member** The member name for this node.
- **Machine** The machine name for this node.
- **Rack** The rack name for this node.
- **Site** The site name for this node.
- **Process** The process name for this node.
- **Uni Addr** The unicast address. This is the IP address of the node's DatagramSocket for point-to-point communication.
- **Uni Port** The unicast port. This is the port of the node's DatagramSocket for point-to-point communication.
- **RoleName** The role name for this node.
- **ProductEdition** The product edition this node is running. Possible values are: Standard Edition (SE), Enterprise Edition (EE), Grid Edition (GE).
- **Send Queue** The number of packets currently scheduled for delivery, including packets sent and still awaiting acknowledgment. Packets that do not receive an acknowledgment within the ResendDelay interval are automatically resent.

#### Packet Transmission Totals

- **Pkts Sent** - Total cumulative packets sent by all nodes in the cluster since the node statistics were last reset.
- **Delta** - Total packets sent by all nodes in the cluster since the last update.
- **Pkts Rcvd** - Total cumulative packets received by all nodes in the cluster since the node statistics were last reset.
- **Delta** - Total packets received by all nodes in the cluster since the last update.
- **Pkts Rptd** - Total cumulative packets repeated by all nodes in the cluster since the node statistics were last reset.

- **Delta** - Total packets repeated by all nodes in the cluster since the last update.
- **Pkts Resent** - Total cumulative packets resent by all nodes in the cluster since the node statistics were last reset.

**Delta** - Total packets resent by all nodes in the cluster since the last update.

### Invocation Service Detail

This display presents detailed information about invocation services. The data displayed here is queried from the Coherence ServiceMBean filtered to only display services of type Invocation. Click on a node in the table to drill down to the "Node Summary" display for that node.

| Location                  | name       | Running                             | CPU % | Messages | Delta | Requests | Delta | Rec |
|---------------------------|------------|-------------------------------------|-------|----------|-------|----------|-------|-----|
| ExtendNode01.SLHOST2      | Management | <input checked="" type="checkbox"/> | 0.1   | 183,053  | 26    | 2        | 0     |     |
| ExtendNode01.SLHOST3      | Management | <input checked="" type="checkbox"/> | 0     | 636,820  | 30    | 2        | 0     |     |
| ExtendNode01.SLHOST4      | Management | <input checked="" type="checkbox"/> | 0.3   | 558,849  | 48    | 2        | 0     |     |
| ExtendNode02.SLHOST2      | Management | <input checked="" type="checkbox"/> | 0.5   | 193,035  | 50    | 2        | 0     |     |
| ExtendNode02.SLHOST4      | Management | <input checked="" type="checkbox"/> | 0.8   | 559,564  | 50    | 2        | 0     |     |
| JmxNode01.SLHOST1         | Management | <input checked="" type="checkbox"/> | 11.5  | 841,145  | 4,790 | 839,383  | 4,790 |     |
| OLS-ProcessNode-1.SLHOST2 | Management | <input checked="" type="checkbox"/> | 0.2   | 207,174  | 54    | 2        | 0     |     |
| OLS-ProcessNode-1.SLHOST4 | Management | <input checked="" type="checkbox"/> | 0.2   | 599,986  | 52    | 2        | 0     |     |
| OLS-StoreNode-1.SLHOST2   | Management | <input checked="" type="checkbox"/> | 0.1   | 263,598  | 69    | 2        | 0     |     |
| OLS-StoreNode-1.SLHOST4   | Management | <input checked="" type="checkbox"/> | 0.2   | 763,897  | 69    | 2        | 0     |     |
| ProcessNode01.SLHOST2     | Management | <input checked="" type="checkbox"/> | 0.6   | 207,681  | 52    | 2        | 0     |     |
| ProcessNode01.SLHOST3     | Management | <input checked="" type="checkbox"/> | 0.2   | 691,792  | 62    | 2        | 0     |     |
| ProcessNode01.SLHOST4     | Management | <input checked="" type="checkbox"/> | 0.1   | 600,603  | 53    | 2        | 0     |     |
| ProcessNode02.SLHOST2     | Management | <input checked="" type="checkbox"/> | 0.2   | 207,370  | 53    | 2        | 0     |     |
| ProcessNode02.SLHOST3     | Management | <input checked="" type="checkbox"/> | 0     | 691,971  | 59    | 2        | 0     |     |
| ProcessNode02.SLHOST4     | Management | <input checked="" type="checkbox"/> | 0.2   | 600,699  | 53    | 2        | 0     |     |
| ProcessNode03.SLHOST2     | Management | <input checked="" type="checkbox"/> | 0.3   | 221,989  | 57    | 2        | 0     |     |
| ProcessNode03.SLHOST3     | Management | <input checked="" type="checkbox"/> | 0.3   | 733,684  | 66    | 2        | 0     |     |
| ProcessNode03.SLHOST4     | Management | <input checked="" type="checkbox"/> | 0.5   | 642,766  | 59    | 2        | 0     |     |
| ProcessNode04.SLHOST2     | Management | <input checked="" type="checkbox"/> | 0.3   | 235,858  | 61    | 2        | 0     |     |
| ProcessNode04.SLHOST3     | Management | <input checked="" type="checkbox"/> | 0.5   | 775,442  | 67    | 2        | 0     |     |
| ProcessNode04.SLHOST4     | Management | <input checked="" type="checkbox"/> | 0.2   | 683,213  | 62    | 2        | 0     |     |
| ProcessNode05.SLHOST3     | Management | <input checked="" type="checkbox"/> | 0.2   | 689,541  | 59    | 2        | 0     |     |
| ProcessNode05.SLHOST4     | Management | <input checked="" type="checkbox"/> | 0.3   | 599,289  | 52    | 2        | 0     |     |
| ProcessNode05n.SLHOST2    | Management | <input checked="" type="checkbox"/> | 0.5   | 235,663  | 61    | 2        | 0     |     |
| ProcessNode05n.SLHOST3    | Management | <input checked="" type="checkbox"/> | 0.2   | 774,342  | 67    | 2        | 0     |     |

#### Title Bar:

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- Open the previous and upper display.
- and navigate to displays commonly accessed from this display.
- The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
- The number of items in the display.

- The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

- Cluster** Select a cluster to display.
- Host** Select the host for which to display data, or select All Hosts.

### Invocation Service Information

- **Location** A unique identifier for each node. It is defined as: member\_name.machine.rack.site.
- **name** The name of the invocation service.
- **Running** Indicates that the invocation service is running when checked.
- **CPU%** The percent (%) of CPU used by the node.
- **Messages** The number of messages issued by the service to the node in a given time period.
- **Delta** The number of messages received by the node since the last update.
- **Requests** The number of requests issued by the service to the node in a given time period.
- **Delta** The number of requests received by the node since the last update.
- **RequestAverageDuration** The average duration (in milliseconds) of an individual synchronous request issued by the service since the last time the statistics were reset.
- **RequestMaxDuration** The maximum duration (in milliseconds) of a synchronous request issued by the service since the last time the statistics were reset.
- **RequestPendingCount** The number of pending synchronous requests issued by the service.
- **RequestPendingDuration** The duration (in milliseconds) of the oldest pending synchronous request issued by the service.
- **RequestTimeoutCount** The total number of timed-out requests since the last time the statistics were reset.
- **RequestTimeoutMillis** The default timeout value in milliseconds for requests that can be timed-out (e.g. implement the com.tangosol.net.PriorityTask interface), but do not explicitly specify the request timeout value.
- **TaskAverageDuration** The average duration (in milliseconds) of an individual task execution.
- **TaskBacklog** The size of the backlog queue that holds tasks scheduled to be executed by one of the service pool threads.
- **TaskCount** The total number of executed tasks since the last time the statistics were reset.
- **TaskHungCount** The total number of currently executing hung tasks.
- **TaskHungDuration** The longest currently executing hung task duration in milliseconds.
- **TaskHungTaskId** The id of the of the longest currently executing hung task.
- **TaskHungThresholdMillis** The amount of time in milliseconds that a task can execute before it is considered hung. Note that a posted task that has not yet started is never considered as hung.
- **TaskMaxBacklog** The maximum size of the backlog queue since the last time the statistics were reset.
- **TaskTimeoutCount** The total number of timed-out tasks since the last time the statistics were reset.
- **TaskTimeoutMillis** The default timeout value in milliseconds for tasks that can be timed-out (e.g. implement the com.tangosol.net.PriorityTask interface), but do not explicitly specify the task execution timeout value.
- **ThreadAbandonedCount** The number of abandoned threads from the service thread pool. A thread is abandoned and replaced with a new thread if it executes a task for a period of time longer than execution timeout and all attempts to interrupt it fail.
- **ThreadAverageActiveCount** The average number of active (not idle) threads in the service thread pool since the last time the statistics were reset.
- **ThreadCount** The number of threads in the service thread pool.
- **ThreadIdleCount** The number of currently idle threads in the service thread pool.

- **HostName** Name of the host machine on which the service resides.
- **Throughput** The amount of data (in kilobytes) that is transferred by the service to the node.

## Single Node

Single Node displays present detailed node performance metrics for a single node. Use the Single Node displays to perform node utilization analysis.

- **"Node Summary"**: Summary view showing details about a single node.
- **"Service Trends"**: Trend graphs showing metrics on a selected node of a selected service. Allows you to visually compare the behavior of metrics over time, for a given node.
- **"Node Detail"**: Tables showing metrics for Node, Cache, Invocation Service, Cache Service, and Storage Manager MBeans.
- **"JVM Summary"**: Runtime, class loader, thread, OS and input arguments.
- **"JVM Memory Trends"**: Heap and non-heap memory trends.
- **"JVM GC Trends"**: Memory usage before and after garbage collection and Garbage Collector activity.
- **"System Properties"**: Table of Java properties for a selected node.

## Node Summary

This display presents summary information about an individual node.



**Title Bar:**

Indicators and functionality might include the following:



Open the previous and upper display. **CMDB** and **Table** navigate to displays commonly accessed from this display.

19-Feb-2014 16:50

The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Cls: 3,047

The number of items in the display.



**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.



Open the **Alert Views - RTView Alerts Table** display.



Open an instance of this display in a new window.



Open the online help page for this display.

|                     |   |
|---------------------|---|
| <b>Cluster</b>      | Select a cluster to display.  |
| <b>Detail</b>       | View <a href="#">"Node Detail"</a> display.   |
| <b>Host</b>         | Select a host from the drop-down menu.  |
| <b>Location</b>     | Select a location from the drop-down menu.  |
| <b>Id</b>           | The id for the selected node.   |
| <b>Member</b>       | The member name for this node.  |
| <b>Machine</b>      | The machine name for this node.   |
| <b>Rack</b>         | The rack name for this node.  |
| <b>Site</b>         | The site name for this node.  |
| <b>Role</b>         | The role name for this node.  |
| <b>Process</b>      | The process name for this node.   |
| <b>Uni Address</b>  | The unicast address. This is the IP address of the node's DatagramSocket for point-to-point communication.  |
| <b>Unicast Port</b> | The unicast port. This is the port of the node's DatagramSocket for point-to-point communication.   |
| <b>CPU Count</b>    | Number of CPU cores for the machine this node is running on.  |
| <b>Start Time</b>   | The date and time that the selected node joined the cluster.  |
| <b>Cache Data</b>   | <p><b>Cache Name</b> Name of Cache.</p> <p><b>Tier</b> Front or Back.</p> <p><b>Objects</b> Number of objects.</p> <p><b>Units</b> Number of units (typically bytes).</p> |

**Packet Communication**

**Sent** Cumulative number of packets sent by this node since the node statistics were last reset.

**Rcvd** Cumulative number of packets received by this node since the node statistics were last reset.

**Resent%** Cumulative number of packets resent by this node since the node statistics were last reset.

**Rptd%** Cumulative number of packets repeated by this node since the node statistics were last reset.

**Send Queue** The number of packets currently scheduled for delivery, including packets sent and still awaiting acknowledgment. Packets that do not receive an acknowledgment within the ResendDelay interval are automatically resent.

**Memory**

**Max MB** Total memory allocated.

**Avail MB** Total memory available.

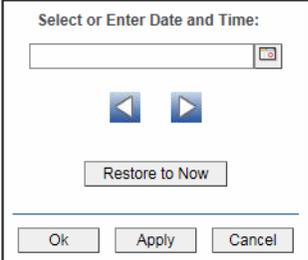
**Used%** Percent of allocated memory being used.

**Base at Zero**

Use zero as the Y axis minimum for all graph traces.

**Time Range**

Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

**Sent Fail Rate**

Percentage of communication packages on this node that failed and needed to be resent.

**Rcvd Fail Rate**

Percentage of received communication packages that failed and needed to be repeated.

**Mem Used%**

Percent of memory used by the node.

**CPU%**

Percent of CPU used by the node.

## Service Trends

Trend graphs showing metrics on a selected node of a selected service. Allows you to visually compare the behavior of metrics over time, for a given node.



### Title Bar:

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← ↑ Open the previous and upper display.  
 CMDB and Table navigate to displays commonly accessed from this display.

19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Cls: 3,047 The number of items in the display.

Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

🚨 Open the **Alert Views - RTView Alerts Table** display.

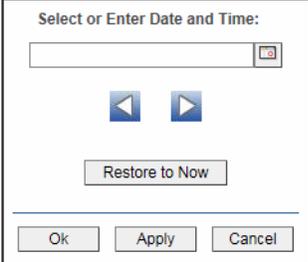
⊕ Open an instance of this display in a new window.

🔗 Open the online help page for this display.

- Cluster** Select a cluster to display.
- Service** Select a service to display.
- Host** Select a host to display.
- Location** Select a location to display.
- Base at Zero** Use zero as the Y axis minimum for all graph traces.

**Time Range**

Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

**Metrics for Service selected by Location**

Trend chart displays the values of labeled Metrics for the selected Location (for example, node) over the specified Time Range.

**CPU%** CPU Utilization (as a percent) on the selected Location (for example, node).

**Requests** Number of requests issued by the service in the measured period.

**Messages** The number of messages for the given node in the measured interval.

**Request Average** Duration Average duration (in milliseconds) of an individual request issued by the service since the last time the statistics were reset.

**Request Pending** Count Number of pending requests issued by the service.

**Task Backlog** Size of the backlog queue that holds tasks scheduled to be executed by one of the service threads.

**Active Threads** Number of threads in the service thread pool, not currently idle.

## Node Detail

This display presents detailed information about invocation services per node. The data on this display is queried from the Coherence MBeans. NOTE: For details on attributes of these MBeans go to: [http://download.oracle.com/otn\\_hosted\\_doc/coherence/350/com/tangosol/net/management/Registry.html](http://download.oracle.com/otn_hosted_doc/coherence/350/com/tangosol/net/management/Registry.html).

**Title Bar:**

Indicators and functionality might include the following:

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- 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
- Cis: 3,047 The number of items in the display.

- Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

- Cluster** Select a cluster to display.
- Summary** View "Node Summary" display.
- Host** Select a host.
- Location** Select a location.

|                                      |   |
|--------------------------------------|---|
| <b>Node MBean Data</b>               | This table contains data from the Node MBean for the selected node.   |
| <b>Invocation Service MBean Data</b> | <p>This table contains data from the Invocation Services MBean for the selected node.</p> <p><b>StatusHA:</b></p> <p>The high availability status of the service:</p> <ul style="list-style-type: none"> <li> <b>ENDANGERED:</b> There is potential data loss in the cluster if a node goes offline.</li> <li> <b>NODE-SAFE:</b> There is no risk of data loss in the cluster if a node goes offline (or is taken offline using kill-9). The data is replicated across multiple nodes and remains available in the cluster.</li> <li> <b>MACHINE-SAFE:</b> There is no risk of data loss in the cluster if a machine goes offline (or is taken offline using kill-9). The data is replicated across multiple machines and remains available in the cluster.</li> <li> <b>RACK-SAFE:</b> There is no risk of data loss in the cluster if a rack goes offline (or is taken offline using kill-9). The data is replicated across multiple racks and remains available in the cluster.</li> <li> <b>SITE-SAFE:</b> There is no risk of data loss in the cluster if a site goes offline (or is taken offline using kill-9). The data is replicated across multiple sites and remains available in the cluster.</li> </ul> |
| <b>Cache Service MBean Data</b>      | This table contains data from the Cache Service and Node MBeans associated with the selected node, as well as the following data.   |
| <b>Cache MBean Data</b>              | This table contains data from the Cache MBeans associated with the selected node.   |
| <b>Storage Manager MBean Data</b>    | This table contains data from the Storage Manager MBeans associated with the selected node.   |

## JVM Summary

Runtime, class loader, thread, OS and input arguments. NOTE: Platform MBean information is available at: [http://java.sun.com/javase/6/docs/api/java/lang/management/package-summary.html#package\\_description](http://java.sun.com/javase/6/docs/api/java/lang/management/package-summary.html#package_description).

The screenshot shows the 'Single Node - JVM Summary' display. At the top, there is a navigation bar with a back arrow, a dropdown menu showing 'n/a:DemoCluster', and a title 'Single Node - JVM Summary'. On the right of the title bar, there is a date and time '05-Jul-2016 12:47', a 'Data OK' indicator with a green arrow, and a close button. Below the title bar, there are three dropdown menus: 'Host: All Hosts', 'Location: StoreNode01.SLHOST2', and 'Id: 1'. The main content area is divided into several sections:

- Runtime:** Start Time: 7/5/16 12:31 AM; Up Time: 0d 12:15.
- Class Loader:** Loaded Classes: 2333; Unloaded Classes: 77; Total Loaded Classes: 2410.
- Compilation:** Compilation Time: .757 s.
- Threads:** Live Threads: 16; Daemon Threads: 15; Peak Threads: 16.
- Operating System:** Operating System Name: Windows XP; Version: 5.1; Architecture: x86; Available Processors: 2; Percent CPU: 0.5; Total Swap Space Size: 4,096 MB; Free Swap Space Size: 2,630 MB; Total Physical Memory: 2,048 MB; Free Physical Memory: 716 MB; Committed Virtual Memory: 193 MB.
- Command Line Arguments:** -Xmx256m; -Dtangosol.coherence.mbeans=/sl-custom-mbeans.xml; -Dcom.sun.management.jmxremote.

### Title Bar:

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- Cls: 3,047 The number of items in the display.

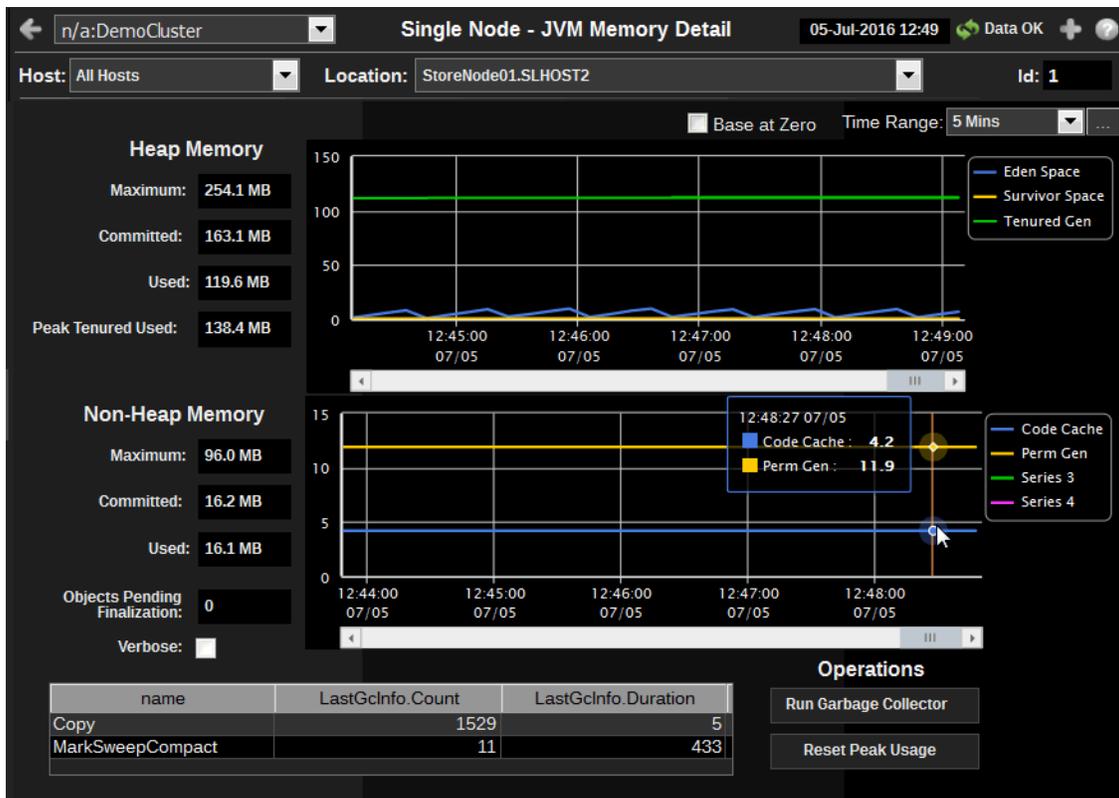
- Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

|                 |  |
|-----------------|--|
| <b>Cluster</b>  | Select a cluster to display.   |
| <b>Host</b>     | Select a host to display.  |
| <b>Location</b> | Select a node id.  |
| <b>Id</b>       | This table contains data from the Node MBean for the selected node.                                |
| <b>Runtime</b>  | <b>Start Time</b> The date and time that the JVM started.<br><b>Up Time</b> The uptime of the JVM. |

|   |   |
|---|---|
| <b>Class Loader</b>   | <b>Loaded Classes</b> The number of classes that are currently loaded in the JVM.   |
|   | <b>Unloaded Classes</b> The total number of classes unloaded since the JVM started execution.   |
|   | <b>Total Loaded Classes</b> The total number of classes that have been loaded since the JVM started execution.  |
| <b>Compilation Time</b>   | <p>The approximate accumulated elapsed time (in milliseconds) spent in compilation. If multiple threads are used for compilation, then this value is a summation of the approximate time that each thread spent in compilation.</p> <p>NOTE: Compilation Time monitoring may not be supported depending on the platform (for example, a Java virtual machine implementation).</p> |
| <b>Threads</b>  | <b>Live Threads</b> The number of live threads.   |
|   | <b>Daemon Threads</b> The number of live daemon threads.  |
|   | <b>Peak Threads</b> The peak live thread count since the Java virtual machine started or peak was reset.  |
| <b>Operating System</b>   | <b>Operating System Name</b> The operating system name.   |
|   | <b>Version</b> The operating system version.  |
|   | <b>Architecture</b> The operating system architecture.  |
|   | <b>Available Processors</b> The number of processors available to the JVM.  |
|   | <b>Percent CPU</b> Percent of CPU used by the JVM.  |
|   | <b>Total Swap Space Size</b> The value of the OperatingSystemMXBean's TotalSwapSpaceSize attribute.   |
|   | <b>Free Swap Space Size</b> The value of the OperatingSystem MXBean's FreeSwapSpaceSize attribute.  |
|   | <b>Total Physical Memory</b> The value of the OperatingSystemMXBean's TotalPhysicalMemorySize attribute   |
|   | <b>Free Physical Memory</b> The value of the OperatingSystemMXBean's FreePhysicalMemorySize attribute   |
| <b>Committed Virtual Memory</b> The value of the OperatingSystemMXBean's CommittedVirtualMemorySize attribute |   |
| <b>Input Arguments</b>  | The list of JVM arguments in the RuntimeMXBean's InputArguments attribute.  |

## JVM Memory Trends

Heap and non-heap memory trends. NOTE: Platform MBean information is available at: [http://java.sun.com/javase/6/docs/api/java/lang/management/package-summary.html#package\\_description](http://java.sun.com/javase/6/docs/api/java/lang/management/package-summary.html#package_description).



### Title Bar:

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← ↑ Open the previous and upper display.  
 CMDB and Table navigate to displays commonly accessed from this display.

19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Cls: 3,047 The number of items in the display.

Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

⚠ Open the **Alert Views - RTView Alerts Table** display.

⊕ Open an instance of this display in a new window.

❓ Open the online help page for this display.

**Cluster** Select a cluster to display.

**Host** Select a host to display.

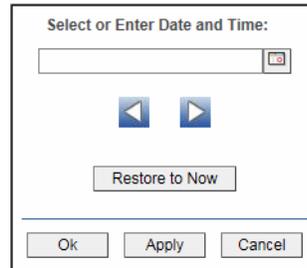
**Location** Select a node id.

**Id** This table contains data from the Node MBean for the selected node.

**Base at Zero** Use zero as the Y axis minimum for all graph traces.

**Time Range**

Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

**Heap Memory**

**Maximum** The value of the max field within the MemoryMXBean HeapMemoryUsage attribute.

**Committed** The value of the committed field within the MemoryMXBean HeapMemoryUsage attribute.

**Used** The value of the used field within the MemoryMXBean HeapMemoryUsage attribute.

**Peak Tenured Used** The value of the used field within the TenuredGen MemoryPoolMXBean PeakUsage attribute.

**Non-Heap Memory**

**Maximum** The value of the max field within the MemoryMXBean NonHeapMemoryUsage attribute.

**Committed** The value of the committed field within the MemoryMXBean NonHeapMemoryUsage attribute.

**Used** The value of the used field within the MemoryMXBean NonHeapMemoryUsage attribute.

**Objects Pending Finalization** The value of the MemoryMXBean ObjectPendingFinalizationCount attribute.

**Verbose** The value of the MemoryMXBean Verbose attribute.

**Garbage Collection**

**name** Name of the Garbage Collector MBean.

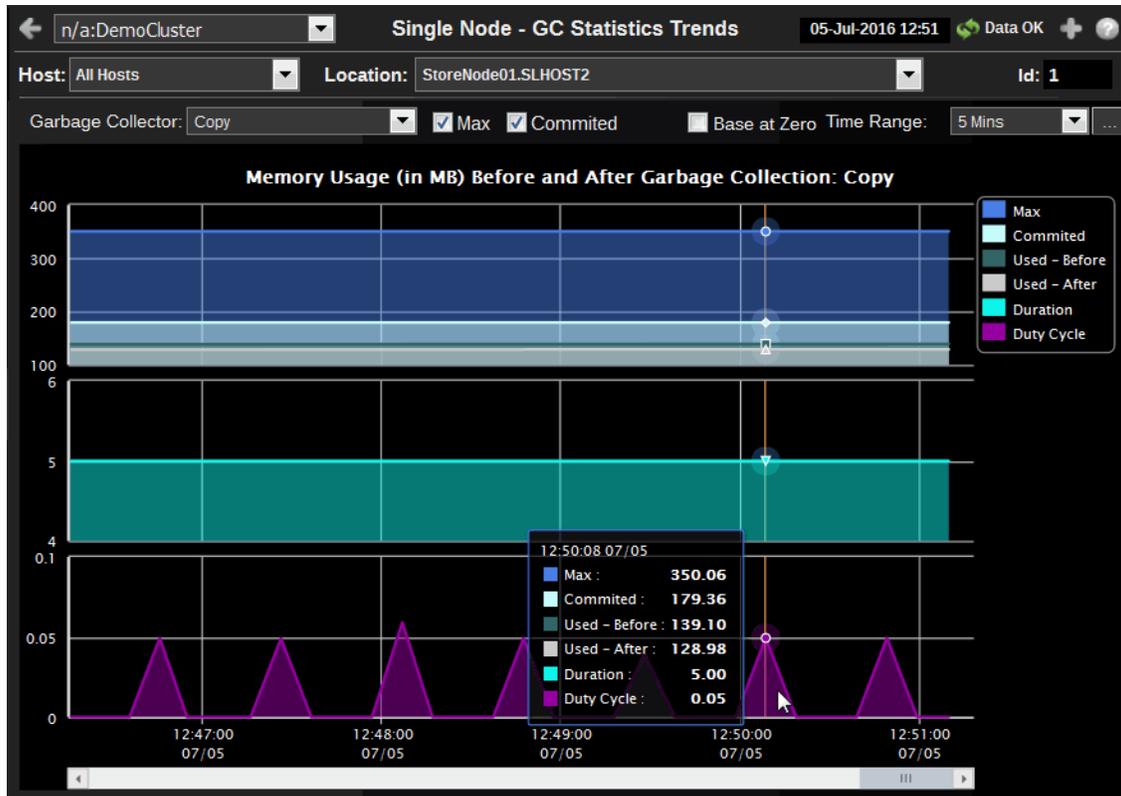
**LastGcInfo.Count** The GcThreadCount from the Garbage Collector's LastGcInfo MBean.

**LastGcInfo.Duration** The Duration from the Garbage Collector's LastGcInfo MBean.

**Operations Run Garbage Collector** Executes the MemoryMXBean garbage collection operation, Reset Peak Usage Executes the TenuredGen resetPeakUsage operation.

## JVM GC Trends

Memory usage before and after garbage collection and Garbage Collector activity. NOTE: Platform MBean information is available at: [http://java.sun.com/javase/6/docs/api/java/lang/management/package-summary.html#package\\_description](http://java.sun.com/javase/6/docs/api/java/lang/management/package-summary.html#package_description).



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Cls: 3,047 The number of items in the display.

Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

🚨 Open the **Alert Views - RTView Alerts Table** display.

⊕ Open an instance of this display in a new window.

🔗 Open the online help page for this display.

**Cluster** Select a cluster to display.

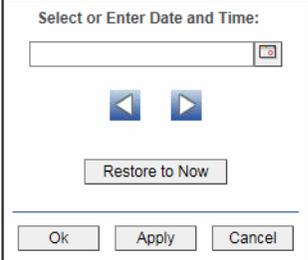
**Host** Select a host to display.

**Location** Select a node id.

**Id** This table contains data from the Node MBean for the selected node.

**Garbage Collector** Select a Garbage Collector.

- Max** Select to add the Max trace (graph will rescale if necessary).
- Committed** Select to add the Committed trace (graph will rescale if necessary).
- Base at Zero** Use zero as the Y axis minimum for all graph traces.
- Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

**Memory Usage (in MB) Before and After Garbage Collection**

**Max** The maximum amount of memory used by the node or nodes.

**Committed** The amount of memory guaranteed to be available for use by the JVM.

**Used - Before** The amount of memory used by the node or nodes before garbage collection.

**Used - After** The amount of memory used by the node or nodes after garbage collection.

**Duration** The duration, in seconds, that memory is used by the node or nodes.

**Duty** Cycle Percent of time spent by the node or nodes in garbage collection.

## System Properties

Table of Java properties for a selected node.

| key                          | value  | Connection |
|------------------------------|--|------------|
| awt.toolkit                  | sun.awt.windows.WToolkit                               | DemoCluste |
| com.sun.management.jmxremote | true   | DemoCluste |
| file.encoding                | Cp1252   | DemoCluste |
| file.encoding.pkg            | sun.io   | DemoCluste |
| file.separator               | \  | DemoCluste |
| java.awt.graphicsenv         | sun.awt.Win32GraphicsEnvironment                       | DemoCluste |
| java.awt.printerjob          | sun.awt.windows.WPrinterJob                            | DemoCluste |
| java.class.path              | .;C:\rtvdemos\rtvoc_57c1\conf;C:\rtvdemos\rtvoc_57c1   | DemoCluste |
| java.class.version           | 50.0   | DemoCluste |
| java.endorsed.dirs           | C:\Program Files\Java\jre6\lib\endorsed                | DemoCluste |
| java.ext.dirs                | C:\Program Files\Java\jre6\lib\ext;C:\WINDOWS\Sun\Java | DemoCluste |
| java.home                    | C:\Program Files\Java\jre6                             | DemoCluste |
| java.io.tmpdir               | C:\DOCUME~1\m\LOCALS~1\Temp\                           | DemoCluste |
| java.library.path            | C:\WINDOWS\system32;.;C:\WINDOWS\Sun\Java\bin;C        | DemoCluste |
| java.rmi.server.randomIDs    | true   | DemoCluste |
| java.runtime.name            | Java(TM) SE Runtime Environment                        | DemoCluste |
| java.runtime.version         | 1.6.0_11-b03   | DemoCluste |
| java.specification.name      | Java Platform API Specification                        | DemoCluste |
| java.specification.vendor    | Sun Microsystems Inc.                                  | DemoCluste |
| java.specification.version   | 1.6  | DemoCluste |
| java.vendor                  | Sun Microsystems Inc.                                  | DemoCluste |
| java.vendor.url              | http://java.sun.com/                                   | DemoCluste |
| java.vendor.url.bug          | http://java.sun.com/cgi-bin/bugreport.cgi              | DemoCluste |
| java.version                 | 1.6.0_11   | DemoCluste |

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- The number of items in the display.

- The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

- Cluster** Select a cluster to display.
- Host** Select a host to display.
- Location** Select a node id.
- Id** This table contains data from the Node MBean for the selected node.

**java.runtime.version** The value of the RuntimeMXBeans's VmVersion attribute.

**System Properties** This table contains the attribute/value pairs from the RuntimeMXBean's SystemProperties attribute.

## Time Range Analysis

These displays allow you to compare data between two sets of time ranges.

- “Service Comparison” on page 488: Analyze service data for two sets of time ranges.
- “Cache Comparison” on page 490: Analyze cache data for two sets of time ranges.

## Service Comparison

This display allows for analysis of service data for two sets of time ranges.

| Metric Name            | Time Range 1 Value | Time Range 2 Value | Percentage Change |
|------------------------|--------------------|--------------------|-------------------|
| DeltaMessages          | 444,734,253        | 444,734,253        | 0.00              |
| DeltaRequestTotalCount | 123,883,421        | 123,883,421        | 0.00              |
| DeltaTaskCount         | 0                  | 0                  | 0.00              |
| TaskBacklog            | 22,701             | 22,701             | 0.00              |

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Cls: 3,047 The number of items in the display.

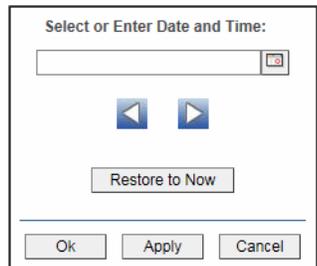
Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

🚨 Open the **Alert Views - RTView Alerts Table** display.

⊕ Open an instance of this display in a new window.

❓ Open the online help page for this display.

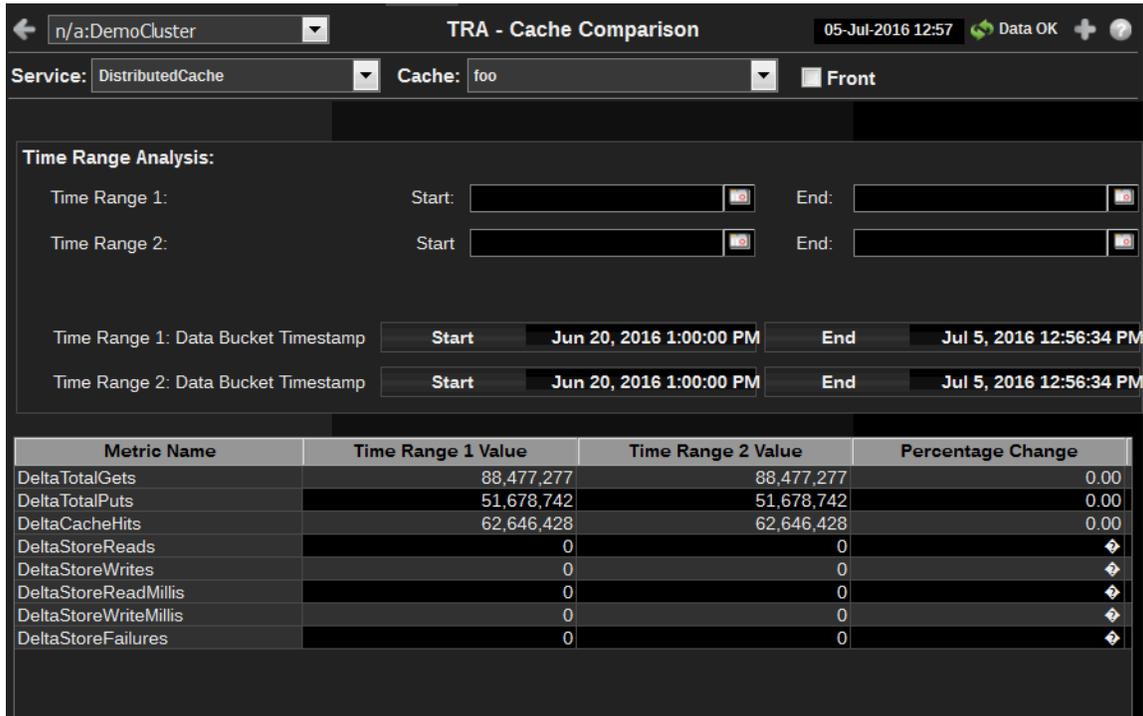
- Cluster**                      Select a cluster to display.
- Service**                     Select a service to display.
- Storage Nodes**            Select to display storage node data in the trend graphs of this display.
- Process Nodes**            Select to display process node data in the trend graphs of this display.
- Time Range Analysis**      **Time Range 1:** Set Start and End times for Time Range 1  
**Time Range 2:** Set Start and End times for Time Range 2  
 Time Range 1: Data Bucket Timestamp and Time Range 2: Data Bucket Timestamp displays the Start and End timestamps for the actual data buckets used in the comparison, since data may be compacted into buckets with different Start and End times from the specified values.
- Time Range**                Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**. Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu. Click **Restore to Now** to reset the time range end point to the current time.

## Cache Comparison

This display allows for analysis of cache data for two sets of time ranges.



### Title Bar:

Indicators and functionality might include the following:

- Open the previous and upper display.
- CMDB** and **Table** navigate to displays commonly accessed from this display.
- 19-Feb-2014 16:50** The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
- Cis: 3,047** The number of items in the display.

- Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

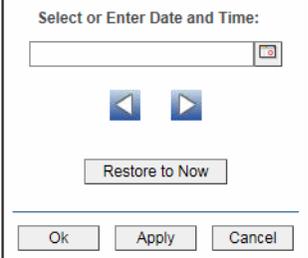
- Cluster** Select a cluster to display.
- Service** Select a service to display.
- Storage Nodes** Select to display storage node data in the trend graphs of this display.
- Process Nodes** Select to display process node data in the trend graphs of this display.

**Time Range Analysis****Time Range 1:** Set Start and End times for Time Range 1**Time Range 2:** Set Start and End times for Time Range 2

Time Range 1: Data Bucket Timestamp and Time Range 2: Data Bucket Timestamp displays the Start and End timestamps for the actual data buckets used in the comparison, since data may be compacted into buckets with different Start and End times from the specified values.

**Time Range**

Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

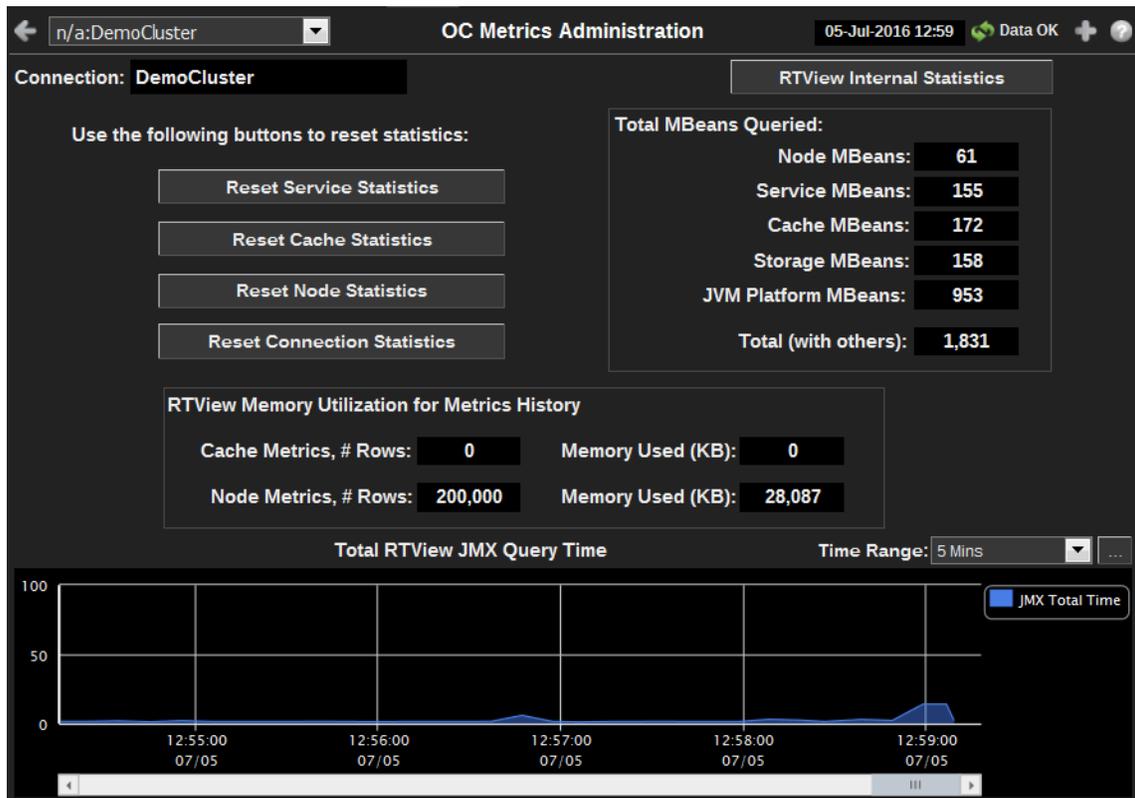
## OC Administration

These displays allow you to manage your Oracle Coherence metrics, nodes and caches. Some of these displays might be read-only depending on your login.

- ["OC Metrics Administration" on page 492](#): OCM information on metrics acquisition. Permits user to reset system metrics.
- ["Management Settings" on page 494](#): OCM information about Coherence JMX management settings.
- ["Node Administration" on page 496](#): Permits user to modify node parameters.
- ["Cache Administration" on page 498](#): Permits user to modify cache parameters.

## OC Metrics Administration

This display allows various statistics to be reset, so that cumulative data can be visualized more meaningfully. It is read-only unless you are logged in as admin or super.



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The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

The number of items in the display.

**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

Open the online help page for this display.

**Cluster** Select a cluster to display.

**Connection** The name of the JMX connection used to access the cluster data.

**Reset Service Statistics** Click to reset the cumulative counts of the service statistics.

**Reset Cache Statistics** Click to reset the cumulative counts of the cache statistics.

**Reset Node Statistics**

Click to reset the cumulative counts of the node statistics.

**Reset Connection Statistics**

Click to reset the cumulative counts of the connection statistics.

**Total number of cache MBeans queried.  
Storage MBeans T**

**Node MBeans** Total number of node MBeans queried.  
**Service MBeans** Total number of service MBeans queried.  
**Cache MBeans** Total number of cache MBeans queried.  
**Storage MBeans** Total number of storage MBeans queried.  
**JVM Platform MBeans** Total number of JVM platform MBeans queried.  
**Total** Total number of MBeans queried.

**RTView Memory Utilization for Metrics History**

By default, the Oracle Coherence Monitor stores several hours of data using in-memory tables.  
**Cache Metrics, # Rows** The number of table rows used by the OC Monitor to store cache metrics data.  
**Cache Metrics, Memory Used (KB)** The amount of memory (KB) used by the OC Monitor to store cache metrics data.  
**Node Metrics, # Rows** The number of table rows used by the OC Monitor to store node metrics data.  
**Node Metrics, Memory Used (KB)** The amount of memory (KB) used by the OC Monitor to store node metrics data.

**Total RTView JMX Query Time**

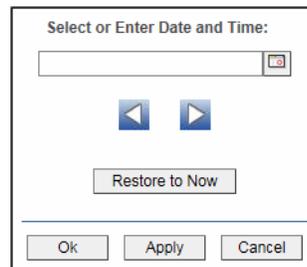
Total amount of time, in milliseconds, to query the monitoring MBeans from Coherence.

**Time Range Analysis**

**Time Range 1:** Set Start and End times for Time Range 1  
**Time Range 2:** Set Start and End times for Time Range 2  
 Time Range 1: Data Bucket Timestamp and Time Range 2: Data Bucket Timestamp displays the Start and End timestamps for the actual data buckets used in the comparison, since data may be compacted into buckets with different Start and End times from the specified values.

**Time Range**

Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



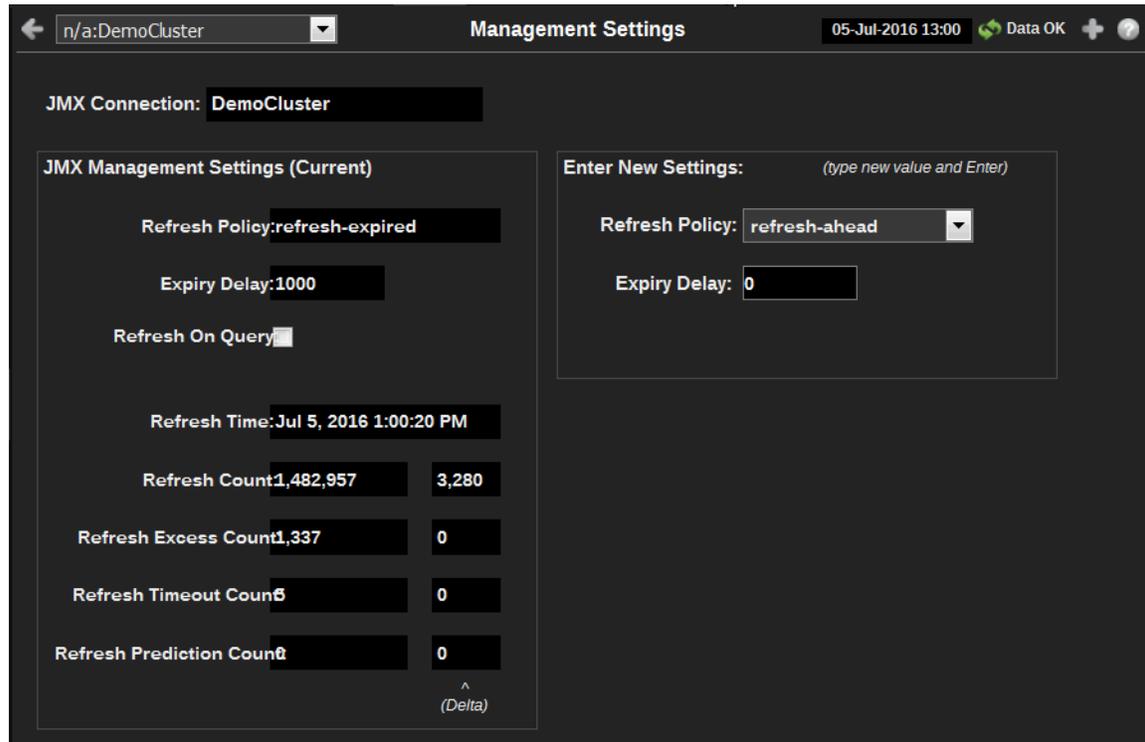
By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

## Management Settings

This display is read-only unless you are logged in as admin or super.



### Title Bar:

Indicators and functionality might include the following:

Open the previous and upper display. and navigate to displays commonly accessed from this display.

The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

The number of items in the display.

**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

Open the online help page for this display.

**Cluster** Select a cluster to display.

**JMX Connection** The name of the JMX connection used to access the cluster data.

**JMX Management Settings****Refresh Policy:**

Select a refresh policy from the drop-down list.

**refresh-expired** Each MBean will be refreshed from the remote node when it is accessed and the expiry delay has passed from the last refresh (same functionality as in pre-3.4 Coherence releases. This option is the default setting and is best used when MBeans are accessed in a random pattern.

**refresh-ahead** MBeans are refreshed before they are requested based on prior usage patterns after the expiry delay has passed, reducing latency of management information with a minor increase in network consumption. This option is best when MBeans are accessed in a repetitive/programmatic pattern.

**refresh-behind** Each MBean will be refreshed after the data is accessed, ensuring optimal response time. However, note that the information returned will be offset by the last refresh time.

**refresh-onquery** Select this option if the refresh-on-query MBeanServer is configured.

**Expiry Delay:**

Duration (in milliseconds) that the MBeanServer will keep a remote model snapshot before refreshing.

**Refresh on Query:**

Specifies whether or not the refresh-on-query MBeanServer is configured. If so, then set the RefreshPolicy to refresh-onquery.

**Refresh Time** The timestamp when this model was last retrieved from a corresponding node. For local servers it is the local time.

**Refresh Count\*** The total number of snapshots retrieved since the statistics were last reset.

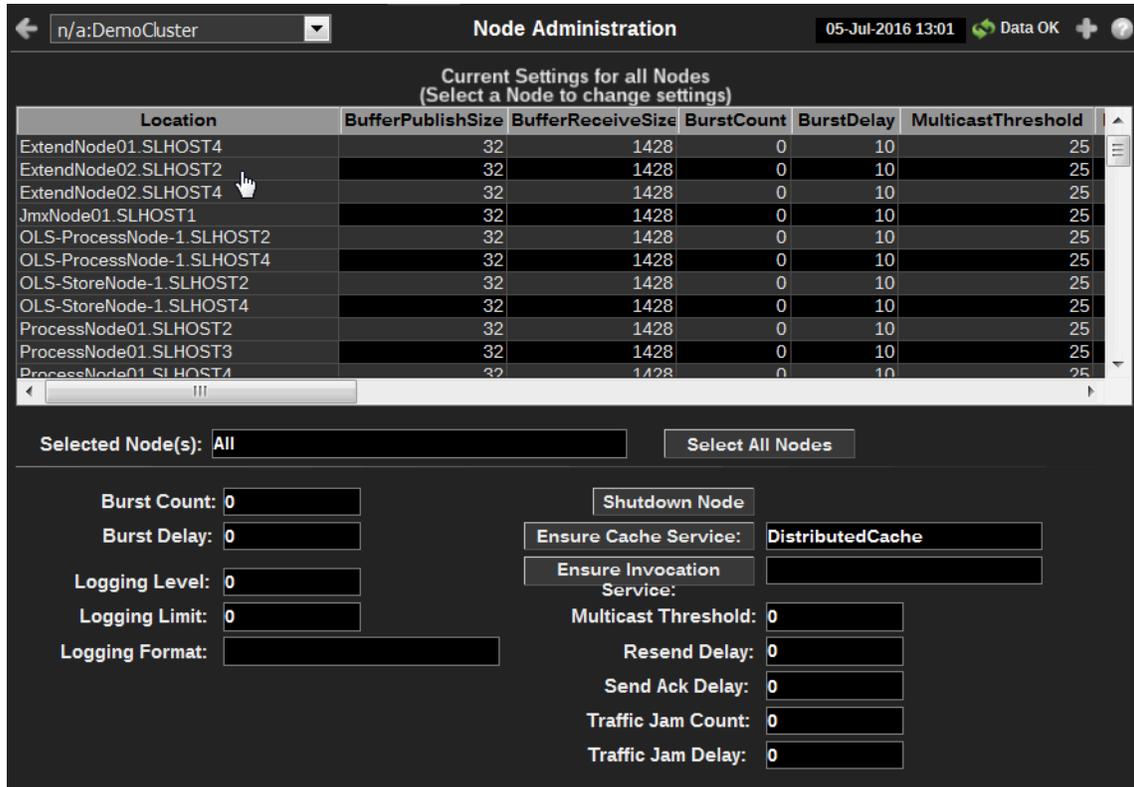
**Refresh Excess Count** The number of times the MBean server predictively refreshed information and the information was not accessed. Delta values show the change in the counts within the most recent JMX retrieval period.

**Refresh Timeout Count\*** The number of times this management node has timed out while attempting to refresh remote MBean attributes.

**Refresh Prediction Count\*** The number of times the MBeanServer used a predictive (refresh-behind, refresh-ahead, refresh-onquery) algorithm to refresh MBean information.

## Node Administration

This display allows the user to view and change settings for individual Nodes. It is read-only unless you are logged in as super. Click on the desired Node to select that Node. Change the data item in the bottom half of the display and press Return to make the change. All data on this display is queried from and set on the Coherence ClusterNodeMBean.



### Title Bar:

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- and navigate to displays commonly accessed from this display.
- The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
- The number of items in the display.

- Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

**Cluster** Select a cluster to display.

**JMX Connection** The name of the JMX connection used to access the cluster data.

**Current Settings for All Nodes**

**Location** A unique identifier for each node. It is defined as: member\_name.machine.rack.site.

**BufferPublishSize** The buffer size of the unicast datagram socket used by the Publisher, measured in the number of packets. Changing this value at runtime is an inherently unsafe operation that will pause all network communications and may result in the termination of all cluster services.

**BufferReceiveSize** The buffer size of the unicast datagram socket used by the Receiver, measured in the number of packets. Changing this value at runtime is an inherently unsafe operation that will pause all network communications and may result in the termination of all cluster services.

**BurstCount** The maximum number of packets to send without pausing. Anything less than one (e.g. zero) means no limit.

**BurstDelay** The number of milliseconds to pause between bursts. Anything less than one (e.g. zero) is treated as one millisecond.

**MulticastThreshold** The percentage (0 to 100) of the servers in the cluster that a packet will be sent to, above which the packet will be multicasted and below which it will be unicasted.

**ResendDelay** The minimum number of milliseconds that a packet will remain queued in the Publisher's re-send queue before it is resent to the recipient(s) if the packet has not been acknowledged. Setting this value too low can overflow the network with unnecessary repetitions. Setting the value too high can increase the overall latency by delaying the re-sends of dropped packets. Additionally, change of this value may need to be accompanied by a change in SendAckDelay value.

**SendAckDelay** The minimum number of milliseconds between the queueing of an Ack packet and the sending of the same. This value should be not more than a half of the ResendDelay value

**TrafficJamCount** The maximum total number of packets in the send and resend queues that forces the publisher to pause client threads. Zero means no limit.

**TrafficJamDelay** The number of milliseconds to pause client threads when a traffic jam condition has been reached. Anything less than one (e.g. zero) is treated as one millisecond.

**LoggingLevel** Specifies which logged messages will be output to the log destination. Valid values are non-negative integers or -1 to disable all logger output.

**LoggingLimit** The maximum number of characters that the logger daemon will process from the message queue before discarding all remaining messages in the queue. Valid values are integers in the range [0...]. Zero implies no limit.

**LoggingFormat** Specifies how messages will be formatted before being passed to the log destination

**LoggingDestination** The output device used by the logging system. Valid values are **stdout**, **stderr**, **jdk**, **log4j**, or a file name.

**nodeId** The short Member id that uniquely identifies the Member at this point in time and does not change for the life of this Member.

**ProcessName** A configured name that should be the same for Members that are in the same process (JVM), and different for Members that are in different processes. If not explicitly provided, for processes running with JRE 1.5 or higher the name will be calculated internally as the Name attribute of the system RuntimeMXBean, which normally represents the process identifier (PID).

**Selected Node(s)** Lists the nodes selected in the table.

**Select All Nodes** Click to select all nodes.

**Shutdown Node** Stop all the clustered services running at this node (controlled shutdown). The management of this node will not be available until the node is restarted (manually or by programming).

**Ensure Cache Service**

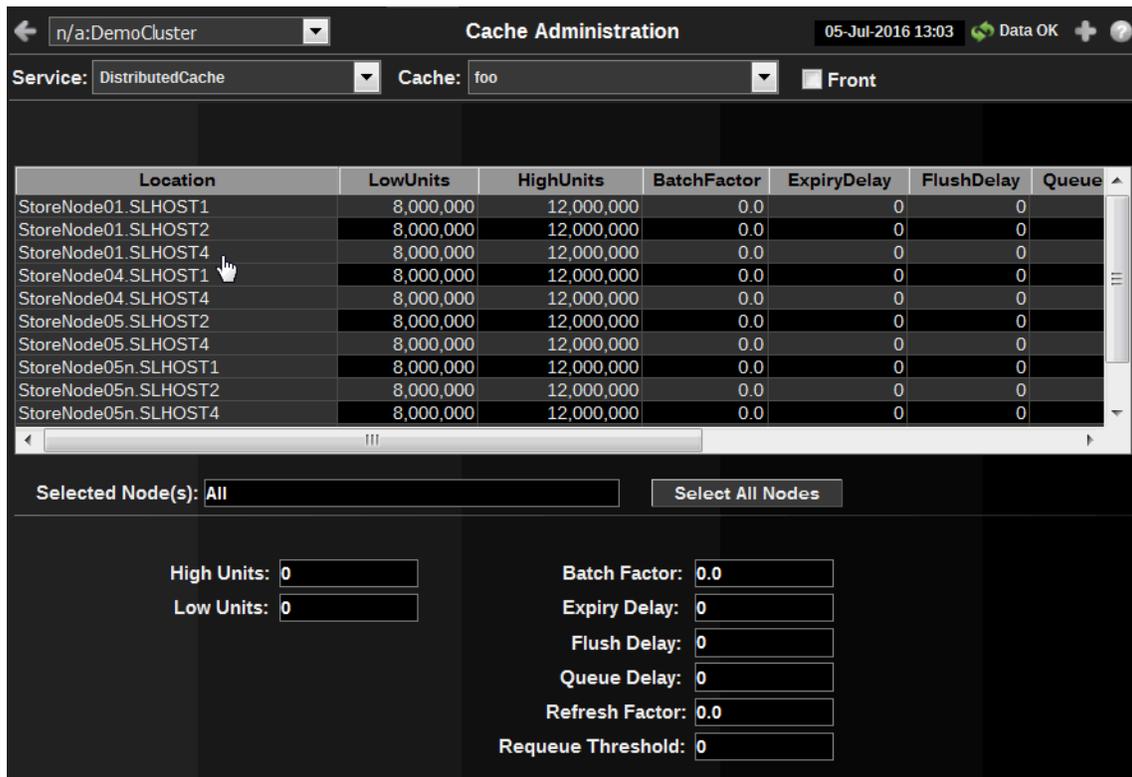
Ensure that a CacheService for the specified cache runs at the cluster node represented by this MBean. This method will use the configurable cache factory to find out which cache service to start if necessary. Return value indicates the service name; null if a match could not be found.

**Ensure Invocation**

Ensure that an InvocationService with the specified name runs at the cluster node represented by this MBean.

**Cache Administration**

This display allows the user to view and change settings for individual caches. It is read-only unless you are logged in as super. Click on the desired cache to select that cache. Change the data item in the bottom half of the display and press Return to make the change. The data on this display is queried from and set on the Coherence CacheMBean.



**Title Bar:**

Indicators and functionality might include the following:

← ↑ Open the previous and upper display.  
 CMDB and Table navigate to displays commonly accessed from this display.

19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Cls: 3,047 The number of items in the display.

Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

⚠ Open the **Alert Views - RTView Alerts Table** display.

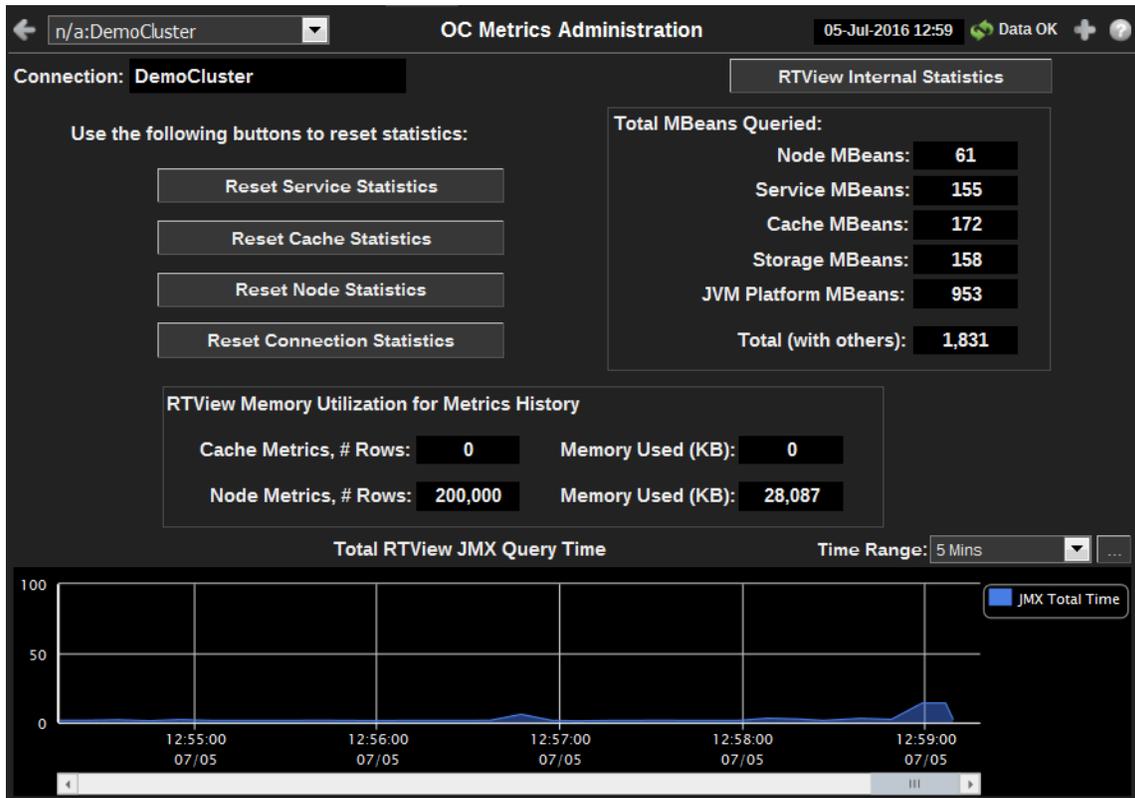
⊕ Open an instance of this display in a new window.

❓ Open the online help page for this display.

|   |   |
|---|---|
| <b>Cluster</b>  | Select a cluster to display.  |
| <b>Service</b>  | Select the service to display.  |
| <b>Cache</b>  | Select the cache to display.  |
| <b>Front</b>  | Select for front tier, deselect for back tier.  |
| <b>Current Settings for all Nodes on Selected Cache</b> | <p><b>Location</b> A unique identifier for each node. It is defined as: member_name.machine.rack.site.</p> <p><b>LowUnits</b> The number of units to which the cache will shrink when it prunes. This is often referred to as a `low water mark` of the cache.</p> <p><b>HighUnits</b> The limit of the cache size measured in units. The cache will prune itself automatically once it reaches its maximum unit level. This is often referred to as the `high water mark` of the cache.</p> <p><b>BatchFactor</b> The BatchFactor attribute is used to calculate the `soft-ripe` time for write-behind queue entries. A queue entry is considered to be `ripe` for a write operation if it has been in the write-behind queue for no less than the QueueDelay interval. The `soft-ripe` time is the point in time prior to the actual `ripe` time after which an entry will be included in a batched asynchronous write operation to the CacheStore (along with all other `ripe` and `soft-ripe` entries). This attribute is only applicable if asynchronous writes are enabled (for example, the value of the QueueDelay attribute is greater than zero) and the CacheStore implements the storeAll() method. The value of the element is expressed as a percentage of the QueueDelay interval. Valid values are doubles in the interval [0.0, 1.0].</p> <p><b>ExpiryFactor</b> The time-to-live for cache entries in milliseconds. Value of zero indicates that the automatic expiry is disabled. Change of this attribute will not affect already-scheduled expiry of existing entries.</p> <p><b>FlushDelay</b> The number of milliseconds between cache flushes. Value of zero indicates that the cache will never flush.</p> <p><b>QueueDelay</b> The number of seconds that an entry added to a write-behind queue will sit in the queue before being stored via a CacheStore. Applicable only for WRITE-BEHIND persistence type.</p> <p><b>RefreshFactor</b> The RefreshFactor attribute is used to calculate the `soft-expiration` time for cache entries. Soft-expiration is the point in time prior to the actual expiration after which any access request for an entry will schedule an asynchronous load request for the entry. This attribute is only applicable for a ReadWriteBackingMap which has an internal LocalCache with scheduled automatic expiration. The value of this element is expressed as a percentage of the internal LocalCache expiration interval. Valid values are doubles in the interval[0.0, 1.0]. If zero, refresh-ahead scheduling will be disabled.</p> <p><b>Requeue</b> Threshold The maximum size of the write-behind queue for which failed CacheStore write operations are requeued. If zero, the write-behind requeueing will be disabled. Applicable only for WRITE-BEHIND persistence type.</p> <p><b>nodeId</b> The node ID.</p> |
| <b>Selected Node(s)</b>                                 | Lists the nodes selected in the table.  |
| <b>Select All Nodes</b>                                 | Click to select all nodes in the table.   |

## Metrics Administration

Verify when metrics were last queried by the OC Monitor. The data in this display is predominantly used for debugging by SL Technical Support.



### Title Bar:

Indicators and functionality might include the following:

- ← ↑ Open the previous and upper display.
- CMDB and Table navigate to displays commonly accessed from this display.
- 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
- Cls: 3,047 The number of items in the display.

- Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- ⚠ Open the **Alert Views - RTView Alerts Table** display.
- ⊕ Open an instance of this display in a new window.
- 🔗 Open the online help page for this display.

**RTView Internal Statistics** Select to open the RTView MBeans for Status and Timing Info display (in a separate window).

**RTView JMX Query Statistics** This table lists all JMX data objects.

**Admin Query Key** The dsString used for the data attachment to this data object.

**Count** The number of listeners for this data object. For example, graphical objects and function arguments.

**Filter Objects** The number of filtered data objects in this data object.

**hasParent** True if the data object is a filtered data object.

**Last Exec Time** The last time we queried for the metric associated with this data object.

**Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .

By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

**Trend Graph** Traces the cumulative and maximum execution times, in seconds, for all Admin Query Keys in the table.

**Max JMX Time** The maximum execution time, in seconds, for all Admin Query Keys in the table.

**Total JMX Time** The cumulative execution time, in seconds, for all Admin Query Keys in the table.

## RTView Cache Tables

View data that RTView is capturing and maintaining. Drill down and view details of RTView Cache Tables. Use this data for debugging. This display is typically used for troubleshooting with Technical Support.

Choose a cache table from the upper table to see cached data.

| CacheTable               | TableType | Rows | Columns | Memory  |
|--------------------------|-----------|------|---------|---------|
| JmxStatsTotals           | current   | 1    | 4       | 441     |
| OcBadCommunicationNodes  | current   | 140  | 6       | 14,999  |
| OcCacheServiceStats      | current   | 88   | 58      | 62,666  |
| OcCacheServiceTotals     | current   | 8    | 26      | 4,441   |
| OcCacheStats             | current   | 172  | 80      | 206,148 |
| OcCacheTotals            | current   | 17   | 52      | 13,406  |
| OcClusterOverview        | current   | 1    | 7       | 791     |
| OcClusterStats           | current   | 1    | 19      | 14,103  |
| OcExtendConnections      | current   | 112  | 30      | 68,304  |
| OclnvoationServiceStats  | current   | 63   | 60      | 62,252  |
| OclnvoationServiceTotals | current   | 1    | 26      | 2,841   |
| OcJmxConnection          | current   | 2    | 7       | 1,254   |
| OcJmxHostData            | current   | 1    | 15      | 1,754   |

| TIME_STAMP        | BackupCou | OwnedParti | OwnedParti | RefreshTim    | RequestAvc | RequestMa | RequestPei | RequestPei | Reques |
|-------------------|-----------|------------|------------|---------------|------------|-----------|------------|------------|--------|
| 07/05/16 13:09:06 | -1        | -1         | -1         | Jul 5, 2016 1 | 85.5       | 109       | 0          | 0          |        |
| 07/05/16 13:09:06 | -1        | -1         | -1         | Jul 5, 2016 1 | 8          | 16        | 0          | 0          |        |
| 07/05/16 13:09:06 | -1        | -1         | -1         | Jul 5, 2016 1 | 8          | 16        | 0          | 0          |        |
| 07/05/16 13:09:06 | -1        | -1         | -1         | Jul 5, 2016 1 | 8          | 16        | 0          | 0          |        |
| 07/05/16 13:09:06 | -1        | -1         | -1         | Jul 5, 2016 1 | 7.5        | 15        | 0          | 0          |        |
| 07/05/16 13:09:06 | -1        | -1         | -1         | Jul 5, 2016 1 | 16         | 16        | 0          | 0          |        |
| 07/05/16 13:09:06 | -1        | -1         | -1         | Jul 5, 2016 1 | 15.5       | 16        | 0          | 0          |        |
| 07/05/16 13:09:06 | -1        | -1         | -1         | Jul 5, 2016 1 | 24         | 32        | 0          | 0          |        |
| 07/05/16 13:09:06 | -1        | -1         | -1         | Jul 5, 2016 1 | 31.5       | 47        | 0          | 0          |        |
| 07/05/16 13:09:06 | -1        | -1         | -1         | Jul 5, 2016 1 | 39.5       | 63        | 0          | 0          |        |
| 07/05/16 13:09:06 | -1        | -1         | -1         | Jul 5, 2016 1 | 8          | 16        | 0          | 0          |        |
| 07/05/16 13:09:06 | -1        | -1         | -1         | Jul 5, 2016 1 | 16         | 16        | 0          | 0          |        |
| 07/05/16 13:09:06 | -1        | -1         | -1         | Jul 5, 2016 1 | 8          | 16        | 0          | 0          |        |

**Title Bar:**

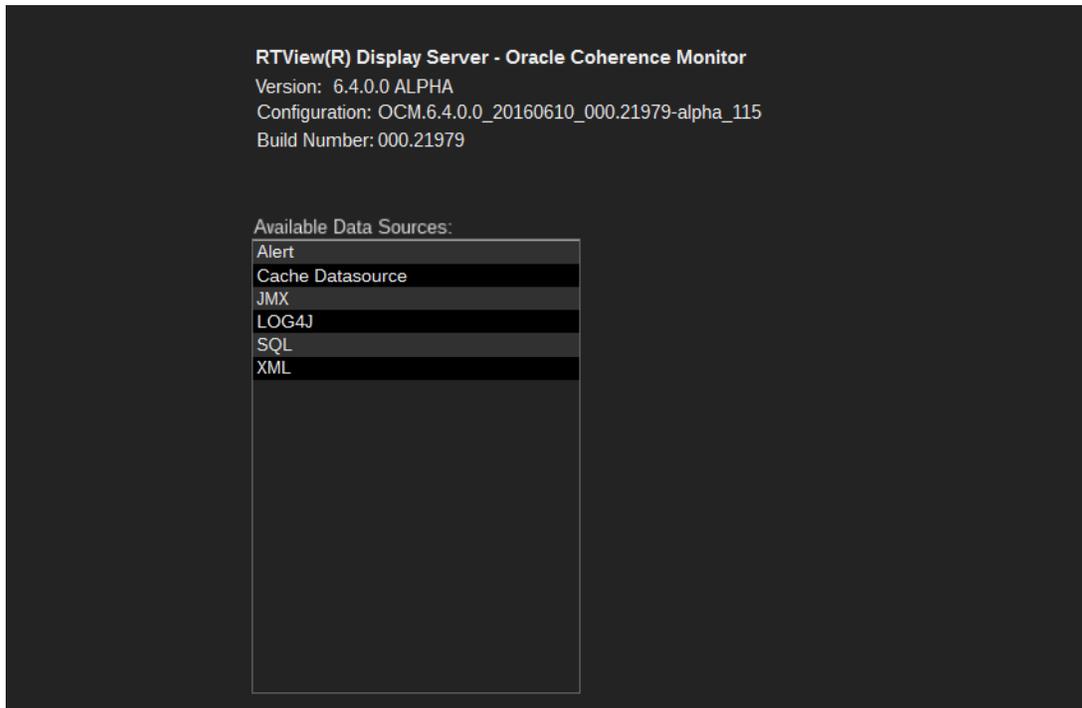
Indicators and functionality might include the following:

- Open the previous and upper display.
- and navigate to displays commonly accessed from this display.
- The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
- The number of items in the display.

- Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

## About

This display shows details about the Solution Package version and data sources available to your system.

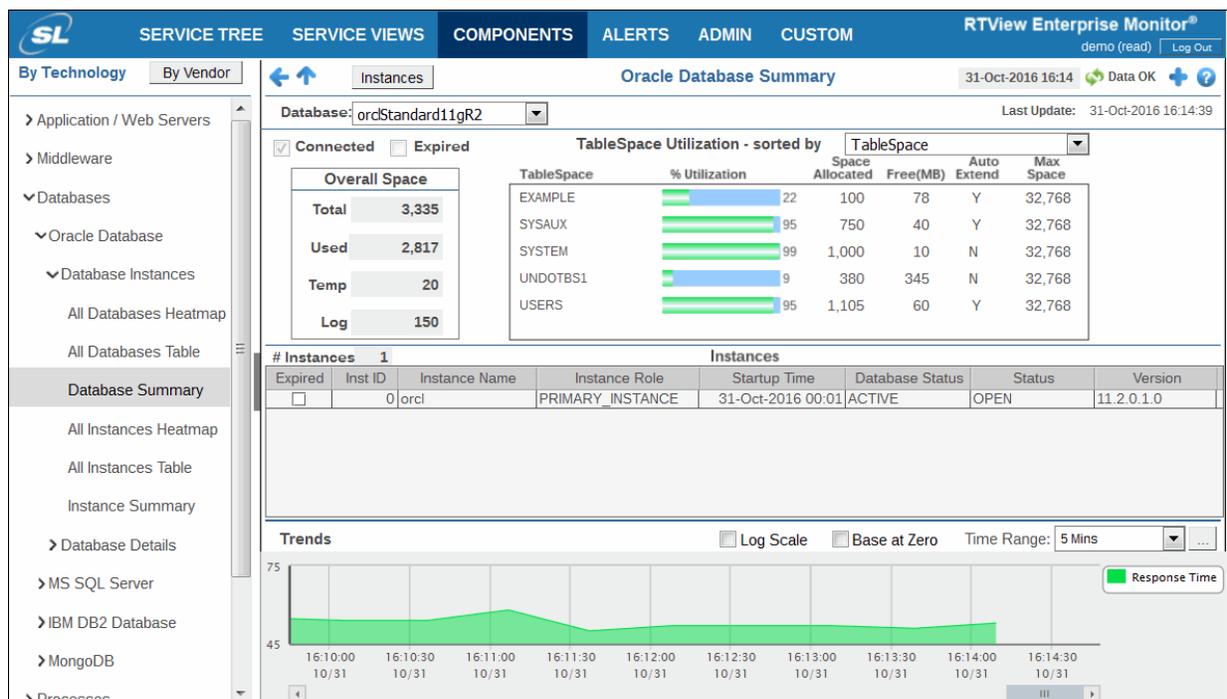




## CHAPTER 16 Solution Package for Oracle Database

RTView Enterprise Monitor® Solution Packages to gather and process performance metrics from a wide variety of different technologies, including Oracle Databases.

With the Solution Package for Oracle® Database, you are able to drill down from a high level alert at a business service or application health level into the supporting Oracle database infrastructure, to determine what is causing the alert and to take corrective action. This service centric approach makes it easy for application support teams and Oracle DBAs to prioritize incidents and based on the impact to the business.



Solution Packages include a data adapter, real-time memory cache, alert rule engine, pre-configured displays, and a data historian for persisting of real-time performance metrics.

See the **README.txt** file, located in the root directory of each Solution Package, for instructions about configuring and working with the Solution Package.

See **README\_sysreq.txt** for the full system requirements for RTView®.



## CHAPTER 17 Solution Package for Oracle WebLogic

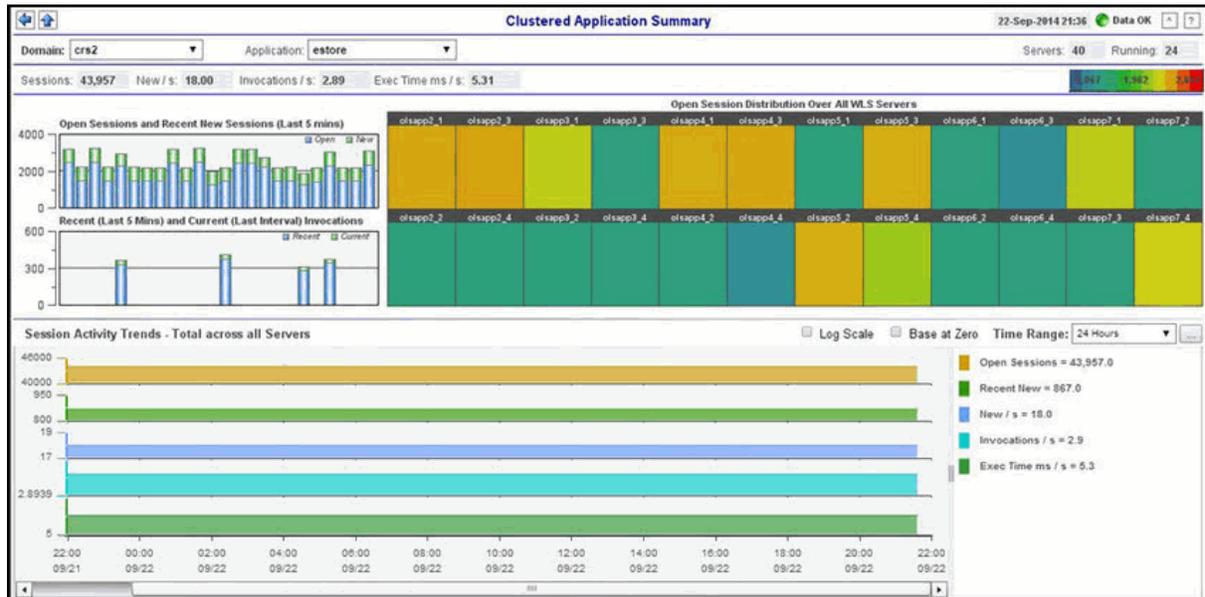
Oracle® WebLogic has long been a leading player in the Enterprise Application Server market and is a mainstay of many Oracle-powered IT organizations and projects. For many enterprise IT organizations and development shops it is a permanent part of their application runtime environments as well as a key component in their construction of a standard Platform as a Service (PaaS).

With its broad use in distributed, N-tier applications and its architectural organization into clusters and domains it is often a challenge to understand and diagnose the performance and resource consumption of these complex runtime environments. While the WebLogic console and Oracle Enterprise Manager provide excellent tools for managing at the server or domain level, Dev Ops managers and IT Applications Support professionals sometimes struggle to monitor and diagnose larger, multi-domain installations that may contain hundreds or thousands of nodes.

The Solution Package for Oracle® WebLogic was designed and developed to provide enterprise developers, application architects and IT operations professionals powerful diagnostics capabilities and real-time insight into large-scale WebLogic environments.

## Features

- Real-Time intelligence at the server, cluster and application levels
- Within seconds, enterprise developers and applications support teams can navigate through the WebLogic runtime environment from the broadest view of the environment to a precise drill down to the individual WebLogic server instance.
- Out of the box discovery and monitoring of key metrics and resources



Within minutes of installation the Solution Package for Oracle WebLogic presents intuitive views of WebLogic metrics such as heap, sockets, threads, CPU usage, queues, JDBC performance, sessions, invocations and execution time.

- Powerful diagnostics and correlations for complex performance analysis

Application developers and App Support teams must solve complex and often deceptive performance challenges that can lead to application downtime, brown-outs and erratic behaviors. The Solution Package for Oracle WebLogic can provide insights to diagnose tough challenges like:

- Are clusters load balanced properly?
- Is there a proper balance between destinations and consumers?
- Are pending messages or queue lengths causing slow-downs?
- Are destinations balanced across servers?
- View Weblogic in an application context

While developers and application support teams want to have technical detail and a good understanding of how their WebLogic components are operating, it is also important and valuable to assess how the WebLogic subsystem affects performance and resource consumption at the application level. RTView® provides both the detailed technical intelligence for their WebLogic runtime and a holistic view of how WebLogic operation affects the application as a whole.

- Instant insight for Weblogic resource management

Applications Support teams can quickly assess available resources and avoid bottlenecks and outages. The Solution Package for Oracle WebLogic can provide insights to understand resource utilization questions like:

- During peak loads, do I have enough resources?
- Are one or more applications becoming the hogs for resources?
- Are there an abnormally high number of connections?
- Does the JMS server have unusually large traffic or memory consumption?
- How does current resource usage compare to historical usage
- Application-centric monitoring of Weblogic operations

Oracle WebLogic is increasingly found as part of a standardized Enterprise PaaS. With developer and IT ops professionals awash in different administrative and management interfaces, the intuitive end-to-end RTView monitoring interface provides a consistent, scalable view into even the largest application architectures.

When used in conjunction with an established Service Model, it enables understanding of how WebLogic performance issues affect the overall health and response time of the business application as a whole.

- Lightweight footprint viewable on any device

With today's mobile workforce, even IT professionals need to get a view of their online world in any location from any device. Because RTView and Solution Packages are written in Java, users are able to take all of their insights with them. RTView users can also quickly and easily share diagnostic views with other team members by sharing URLs or easily designing custom views for business or technical users.

## Benefits

Gain Real-time Insight into WebLogic Performance and Resource Utilization at Scale by moving from reactive monitoring to proactive monitoring, where you are able to identify potential problems before they become critical and impact overall application performance.

Provides an Intuitive View of How WebLogic Interacts with other Enterprise PaaS Components including Oracle (Coherence, Database, Glassfish) and non-Oracle IBM (Websphere, DB2), TIBCO, VMware, etc.) products.

Designed and Developed for Large Scale, Mission Critical Environments SL developers worked directly with large enterprise customers running vast WebLogic deployments to gain the intelligence needed to operate at cloud scale.

Minimal Training, Highly Configurable by Business and Technical Users. Typical installations of RTView® and its Solution Packages take only a few hours, while developing custom views for a variety of IT and development roles can be achieved in just days.

- Extended RTView Visibility

The Solution Package for Oracle WebLogic has been designed to extend the reach of RTView end-to-end monitoring of enterprise applications and PaaS deeper into the vast and complex world of large scale WebLogic installations. Built upon the underlying RTView real-time platform, the Solution Package for Oracle WebLogic provides an intuitive WebLogic-aware window into large scale IT environments and their most mission critical applications.

## Solution Package for Oracle WebLogic

Without this deeper view, WebLogic administrators and application support teams are forced to take Oracle Enterprise Manager or the WebLogic console beyond the extremes of their practical usage. Powerful and useful though they are, these tools were not designed to visualize, diagnose and monitor operations in heterogeneous environments at cloud scale. Because Oracle Coherence has become such an integral part of the WebLogic product line, the ability to extend the depth of monitoring using Solution Packages for both WebLogic and Coherence provides developer and IT professional powerful capabilities to tame and optimize the critical applications they power.

See the **README.txt** file, located in the root directory of each Solution Package, for instructions about configuring and working with the Solution Package.

See **README\_sysreq.txt** for the full system requirements for RTView®.

## CHAPTER 18 Solution Package for Red Hat JBoss

Gain real-time insight into JBoss performance and resource utilization and the performance in Red Hat JBoss pack on adjacent middleware technologies by moving from reactive monitoring to proactive monitoring.

With the Solution Package for Red Hat® JBoss® you are able to identify potential problems before they become critical and impact overall application performance. Typical installations of RTView Enterprise Monitor® and its Solution Packages take only a few hours, while developing custom views for a variety of IT and development roles can be achieved in just days.



### Key Features

- Monitor real-time performance for early warning
- Analyze historical performance to differentiate trends and spikes
- Out of the box discovery and monitoring of key metrics and resources
- Powerful diagnostics and correlations for complex performance analysis
- View JBoss in an application context
- Instant insight for JBoss resource management
- Application-centric monitoring of JBoss operations
- Minimal training, highly configurable by business and technical users

## Metrics for JBoss JVMs

- **Server Information for easy identification:**  
Uptime, Version, Mode, Arch, Processors, Edition, Last Updated
- **Performance metrics:**  
Process & System CPU Load  
Thread Usage & Loaded Classes
- **Memory Usage (% and MB):**  
Swap / Free / Used / Total
- **Session Totals and Rates:**  
Created / Rejected / Active / Expired / Avg. Alive Time
- **Alert Status / Level:**  
Server & Web Apps  
Alert Impact, Alert Severity, Alert Count and Criticality
- **Performance Time-series:**  
Displayable with configurable time ranges (Add data, 2 mins, 5 mins, 20 mins, 1 hour, 2 hours, 4 hours, 8 hours, 24 hours, 2 days, 7 days)
- **Prebuilt Displays:**  
All Servers Heatmap, Table & Individual Server Summary  
Applications Heatmap, Table and Applications Summary

## End-to-End Context for JBoss

- Custom flow diagrams help visualize complex applications and JBoss's place in that architecture
- Troubleshoot bottlenecks between app server and middleware messaging
- Provides an Intuitive View of How JBoss Interacts with other Enterprise PaaS Components
- Designed and Developed for Large Scale, Mission Critical Environments

See the **README.txt** file, located in the root directory of each Solution Package, for instructions about configuring and working with the Solution Package.

See **README\_sysreq.txt** for the full system requirements for RTView®.

## CHAPTER 19 Solution Package for Solace Message Router

The Solution Package for Solace enables Solace users to continually assess and analyze the health and performance of their infrastructure, gain early warning of issues with historical context, and effectively plan for capacity of their messaging system. It does so by aggregating and analyzing key performance metrics across all routers, bridges, endpoints and clients, and presents the results, in real time, through meaningful displays as data is collected. Users also benefit from predefined displays and alerts that pin-point critical areas to monitor in most environments, and allow for customization of thresholds to let users fine-tune when alert events should be activated. The Solution Package for Solace also contains alert management features so that the life cycle of an alert event can be managed to proper resolution. All of these features allow you to know exactly what is going on at any given point, analyze the historical trends of the key metrics, and respond to issues before they can degrade service levels in high-volume, hightransaction environments.

This section describes how to install and setup a web browser deployment of the Solution Package for Solace. This section also describes the displays available for Solace.

This document assumes you created a project directory, **rtvapm\_projects**, when you installed RTView Enterprise Monitor. All examples (of configurations, property settings, command execution and so forth) refer to the project directory. The Solution Package configuration files which you modify are located in the **rtvapm\_projects/emsample/servers/solmon** folder.

See **README\_sysreq.txt** for the full system requirements for RTView®.

For Linux, these instructions require a Bourne-compatible shell.

This section includes:

- “Getting Started”
- “Solace Monitor Views/Displays”: Describes the displays that come with RTView® Monitor for Solace®.

---

## Getting Started

Perform these instructions if you downloaded, installed and configured the *standard* RTView Enterprise Monitor (**rtvapm\_std\_<version>.zip**), rather than the *full* RTView Enterprise Monitor, and now wish to install the Solution Package for Solace (**rtvapm\_solmon\_<version>.zip**).

**Note:** If you downloaded and installed the *full* RTView Enterprise Monitor (**rtvapm\_full\_<version>.zip**), refer to [Chapter 2, “Configuration and Deployment”](#) .

This section includes:

- “Install and Setup”
- “Obtain SEMP Version”
- “Connect Your Message Routers”
- “Configure Sender / Receiver”
- “Start the Monitor”
- “Stop the Monitor”
- “Troubleshoot”

## Install and Setup

Prerequisite: RTView Enterprise Monitor 3.5 must be installed on your system.

1. Download the **rtvapm\_solmon\_<version>.zip** archive to your local Windows/UNIX/Linux server.
2. Extract the files:

**Note:** The RTView directory is where your Standard RTView Enterprise Monitor is installed. It is the parent directory above the **rtvapm** directory.

### Windows:

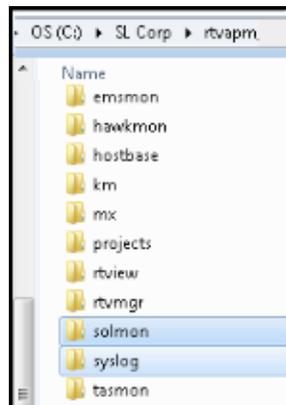
Type **unzip rtvapm\_solmon\_<version>.zip** and save the files to the **C:\RTView** directory.

### UNIX/Linux:

Type **unzip -a rtvapm\_solmon\_<version>.zip** and save the files to the **/opt/RTView** directory.

**Important:** In Linux, use the **-a** option to convert text files.

3. Set JAVA\_HOME to the location of your Java installation and include it in the path.
4. Verify that you do not have an **rtvapm** directory, and that the **solmon** directory and the **syslog** directory were created and extracted under **rtvapm** correctly.



Proceed to “Obtain SEMP Version,” next.

## Obtain SEMP Version

In order to properly request monitored data, the Solution Package for Solace requires the exact SEMP version on your message routers. These instructions describe how to use SolAdmin to determine the SEMP version for each of your Solace Message Routers or VMRs. You will need this information when you “[Connect Your Message Routers](#)” and edit connection properties.

**Note:** These instructions are for SolAdmin on Windows. For Linux, only the path to the log file changes.

1. Navigate to the SolAdmin installation folder. For example, **C:\Program Files (x86)\SolAdmin\**.
2. Change directory (**cd**) to the **bin** directory and open the **log4j.properties** file in a text editor.
3. Change the logging level to **DEBUG** and provide the full path to the logging file (for example, **C:\Logs**) while retaining all other setting. The edited properties are as follows:  

```
# full path to the location where you want the log file to be stored. In this example C:\Logs
log4j.appender.A1.File=C:\Logs\soladmin.log
# Set the logging category to DEBUG
log4j.category.com.solacesystems=DEBUG, A1
```
4. Save the **log4j.properties** file.
5. Start SolAdmin and add your message routers or VMRs as a managed instance.
6. Open the **soladmin.log** file and locate the semp-version tag in SEMP requests. The SEMP version that will be used by the Solution Package for Solace should replace underscores ( **\_** ) with dots ( **.** ). For example, if the SEMP request in the SolAdmin log file is **7\_2VMR**, you should use **7.2VMR** for the **\$solSempVersion** substitution of the Solution Package for Solace connection property.

Proceed to “[Connect Your Message Routers](#),” next.

## Connect Your Message Routers

**To connect your message routers and enable them for data collection:**

1. Open the **sample.properties** file, located in your project directory (**rtvapm\_projects/ emsample/solmon**), and edit the following lines for each Solace message router or VMR you want to monitor:

```
collector.sl.rtvview.http.conn=__name=<UNIQUE_APPLIANCE_NAME> url=http://<IP or
hostname>:<port>/SEMP username=<user> password=<pass>
collector.sl.rtvview.cache.config=sol_cache_source.rtv
$solConn: <UNIQUE_APPLIANCE_NAME> $solSempVersion: <SEMP_version>
```

where

- **<UNIQUE\_APPLIANCE\_NAME>** is a unique string to identify the connection of each monitored message router.
- **<IP or host-name>** is either an IP address or the host name that can be resolved by your network name resolution method.
- **<port>** is the SEMP port number configured for your message router.
- **<user>** and **<pass>** are the user credentials to log into the message router.
- **<SEMP-version>** is the SEMP Version value you previously obtained for each Message Router or VMR.

**Example:**

(where **xxx.xxx.xxx.xxx** = IP address)

```
collector.sl.rtvview.http.conn=__name=example url=http://xxx.xxx.xxx.xxx:8080/SEMP
username=rtviewadmin password=rtview
collector.sl.rtvview.cache.config=sol_cache_source.rtv $solConn:example
$solSempVersion: 7.2VMR
```

2. If you do *not* have Syslog configured to capture event messages from your Solace message routers, skip this step and proceed to ["Start the Monitor"](#). If you *do* have Syslog configured, uncomment the lines under **SYSLOG CONNECTIONS** that apply and edit the connection parameters if needed. The following are the lines to edit:

```
#
# Configure connections to Syslog
#
#For messages sent via TCP, use
#collector.sl.rtvview.syslogds.conn=__name=syslogTCP protocol=TCP host=localhost
port=601
#collector.sl.rtvview.cache.config=sol_syslog_cache_source.rtv $conn:syslogTCP
#For messages sent via UDP, use
#collector.sl.rtvview.syslogds.conn=__name=syslogUDP protocol=UDP host=localhost
port=514
#collector.sl.rtvview.cache.config=sol_syslog_cache_source.rtv $conn:syslogUDP
```

**NOTE:** The syslog listener configuration requires the IP address assigned to the physical network interface. **host** refers to the physical network interface that will be used to receive Syslog messages (there might be more than one network interface available on the receiving system). Typically, this will be the IP address assigned to the selected network interface. If the system where the Monitor Data Server is running is also the Syslog receiver, then **localhost** can be used.

Proceed to ["Configure Sender / Receiver,"](#) next.

## Configure Sender / Receiver

If you have decided to deploy the Solution Package for Solace as a sender/receiver configuration, continue with instructions in this section. Otherwise, skip these steps and go to ["Start the Monitor"](#).

Depending on the network architecture and accessibility of the hosts that will execute the sender and the receiver, there are two options for connecting to a receiver Data Server. These instructions describe how to configure both options, which are:

- **Option 1:** Connect to the receiver Data Server through host name or IP address and port number. This option requires a higher degree of accessibility between sender and receiver.
- **Option 2:** Connect to the receiver Data Server through the RTView agent servlet. This option requires an application server running in the receiver host with the **solmon\_rtvagent** deployed.

These instructions describe how to configure both.

### To configure a sender/receiver Data Server for the Solace Message Router or Solace VMR:

1. On your sender host, copy the **sample.properties** file in your project directory (**rtvapm\_projects/emsample/solmon**) and save it with a name that is meaningful to you. For example, you might name the file **my\_solace\_prod.properties**.

2. Do one of the following options and replace **bolded** string with your choosing:

- **Option 1:** Connect to the receiver through host name or IP address and port number

# Sender properties

sender.sl.rtvview.sub=\$rtvAgentName: **MyVMRInstance**

sender.sl.rtvview.sub=\$rtvAgentTarget: '**YourReceiverIpOrHostname:4172**'

- **Option 2:** Connect to the receiver through the agent servlet

# Sender properties

sender.sl.rtvview.sub=\$rtvAgentName: **MyVMRInstance**

sender.sl.rtvview.sub=\$rtvAgentTarget: '**http://**

**ApplicationServerAddress:ApplicationServerPort/solmon\_rtvagent**'

3. On the sender host, initialize a command line window by executing the **rtvapm\_init** script. For example:

#### Windows

Go to your RTView Enterprise Monitor installation directory and type:

**rtvapm\_init**

#### UNIX

Go to your Enterprise Monitor installation directory and type:

**./rtvapm\_init.sh**

4. Initialize the user project directory by executing the **rtvapm\_user\_init** script. For example:

#### Windows

Change directory (**cd**) to **RTView\rtvapm\_projects\emsample** and type:

**rtvapm\_user\_init**

#### UNIX

Change directory (**cd**) to **RTView/rtvapm\_projects/emsample** and type:

**./rtvapm\_user\_init.sh**

5. Change directory (**cd**) to **project directory/servers** directory and start the sender as follows:

```
start_rtv solmon dataserver -properties:sample -propfilter:sender
```

or

```
rundata.sh/.bat -properties:sample -propfilter:sender
```

6. Repeat the setup instructions on the receiver host.
7. On the receiver host, change directory (**cd**) to your **project directory/servers** directory and start the receiver as follows:

```
start_rtv solmon dataserver -propfilter:receiver
```

8. Verify that you are receiving data from the sender by opening a browser window to reach your deployed Solution Package for Solace.

**Note:** Syslog data is not sent from sender hosts. You must configure Syslog data from your VMRs and message routers to be collected on the receiver host.

Proceed to [“Start the Monitor,”](#) next.

## Start the Monitor

**Note:** If you have a sender/receiver setup, you must execute these steps on both the sender host and the receiver host.

### To start the Solution Package for Solace (in RTView Enterprise Monitor):

Use the configuration defined in the **rtvservers.dat** file, which is located in the **RTView/rtvapm\_projects/emsample/servers** directory.

1. Initialize a command line window by executing the **rtvapm\_init** script. For example:

#### Windows

Go to your RTView Enterprise Monitor installation directory and type:

```
rtvapm_init
```

#### UNIX

Go to your Enterprise Monitor installation directory and type:

```
./rtvapm_init.sh
```

2. Initialize the user project directory by executing the **rtvapm\_user\_init** script. For example:

#### Windows

Change directory (**cd**) to **RTView\rtvapm\_projects\emsample** and type:

```
rtvapm_user_init
```

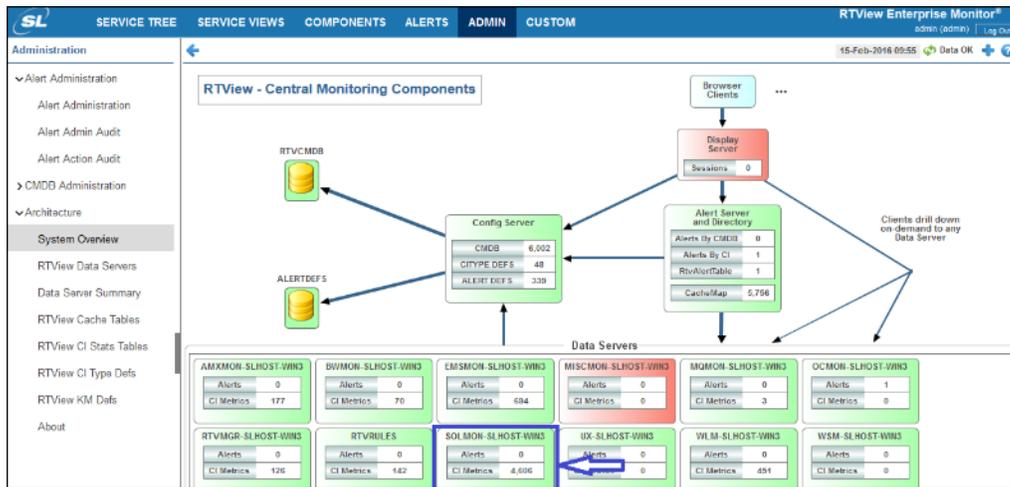
#### UNIX

Change directory (**cd**) to **RTView/rtvapm\_projects/emsample** and type:

```
./rtvapm_user_init.sh
```

3. Change directory (**cd**) to **rtvapm\_projects/emsample/servers**.

- Execute **start\_rtv.sh solmon –properties:sample** (or **start\_rtv solmon –properties:sample** for Windows) to start all components of the Solution Package for Solace.
- Open a browser and go to your RTView Enterprise Monitor deployment.
- In the Monitor, open the Architecture->System Overview display to verify that the Data Server (named **SOLMON-LOCAL**, by default) is collecting data. The Data Server should be green and the **CI Metrics** value greater than zero (**0**). For example:



## Stop the Monitor

### To stop the Solution Package for Solace (in RTView Enterprise Monitor):

- Initialize a command line window by executing the **rtvadm\_init** script. For example:

#### Windows

Go to your RTView Enterprise Monitor installation directory and type:

```
rtvadm_init
```

#### UNIX

Go to your Enterprise Monitor installation directory and type:

```
./rtvadm_init.sh
```

- Initialize the user project directory by executing the **rtvadm\_user\_init** script. For example:

#### Windows

Change directory (**cd**) to **RTView\rtvadm\_projects\emsample** and type:

```
rtvadm_user_init
```

#### UNIX

Change directory (**cd**) to **RTView/rtvadm\_projects/emsample** and type:

```
./rtvadm_user_init.sh
```

- Change directory (**cd**) to **rtvadm\_projects/emsample/servers**.

4. Execute **stop\_rtv.sh solmon** (or **stop\_rtv solmon** for Windows) to stop all components of the Solution Package for Solace.
5. Optionally, you can use **grep** or **Task Manager** to ensure that all Solution Package for Solace-related services are stopped.
  - **UNIX:** Execute **ps -ef |grep solmon\_** to determine the Process Identifier of processes still running and **kill -9 <ProcessId>** to terminate any that remain active.
  - **Windows:** Open Task Manager and look for Java sessions with **hsqldb** or **rtv** in the execute statement and terminate any that remain active.

## Troubleshoot

This section includes:

- [“Log Files,”](#) next
- [“JAVA\\_HOME”](#)
- [“Permissions”](#)
- [“Network/DNS”](#)
- [“Verify Data Received from Data Server”](#)
- [“Verify Port Assignments”](#)

## Log Files

When a Monitor component encounters an error, it outputs an error message to the console and/or to the corresponding log file. If you encounter issues, look for errors in the following log files:

- **dataserver.log**
- **displayserver.log**
- **historian.log**

which are located in the **rtvapm\_projects/emsample/servers/solmon/logs** directory.

Logging is enabled by default. If you encounter issues with log files, verify the **logs** directory exists in the **rtvapm\_projects/emsample/servers/solmon** directory.

## JAVA\_HOME

If the terminal window closes after executing the **start\_rtv** command, verify that **JAVA\_HOME** is set correctly.

## Permissions

If there are permissions-related errors in the response from the **start\_rtv** command, check ownership of the directory structure.

## Network/DNS

If any log file shows reference to an invalid URL, check your system's hosts file and confirm with your Network Administrator whether your access to the remote system is being blocked.

## Verify Data Received from Data Server

If you encounter problems collecting data, restart the Data Server, start the Monitor and go to Administration>RTView Cache Tables in the navigation tree. You should see all caches being populated with monitoring data (the number of rows in the table is greater than 0). If not, there is a problem with the connection to the Data Server.

## Verify Port Assignments

If the Viewer, Display Server or Historian fail to connect to the Data Server or they receive no data, verify the ports are assigned correctly in your properties files and restart the Data Server.

---

# Solace Monitor Views/Displays

The following Solution Package for Solace Views (and their associated displays) can be found under **Components** tab > **Middleware** > **Solace Message Router** after installation:

This section contains the following:

- [“Message Routers” on page 522](#): The displays in this View present views of message router-level metrics, which reflect configuration settings, total throughput, current status, errors, and value-added calculations that summarize metrics across all of the VPNs.
- [“VPNs” on page 548](#): The displays in this View present views of the VPN-level metrics.
- [“Clients” on page 561](#): The displays in this View present views of all clients for the message router. These views can be filtered to limit the displays to clients for a single VPN.
- [“Bridges” on page 571](#): The displays in this View present views of all bridges for the message router. These views can be filtered to limit the displays to bridges for a single VPN.
- [“Endpoints” on page 579](#): The displays in this View present views of all topics and queues for the message router, which can be filtered to limit the displays to topics and queues for a single VPN.
- [“Capacity Analysis” on page 588](#): The displays in this View present current metrics, alert count and severity at the message router level.
- [“Syslog” on page 599](#): View all Syslog events for your Solace message routers.

## Message Routers

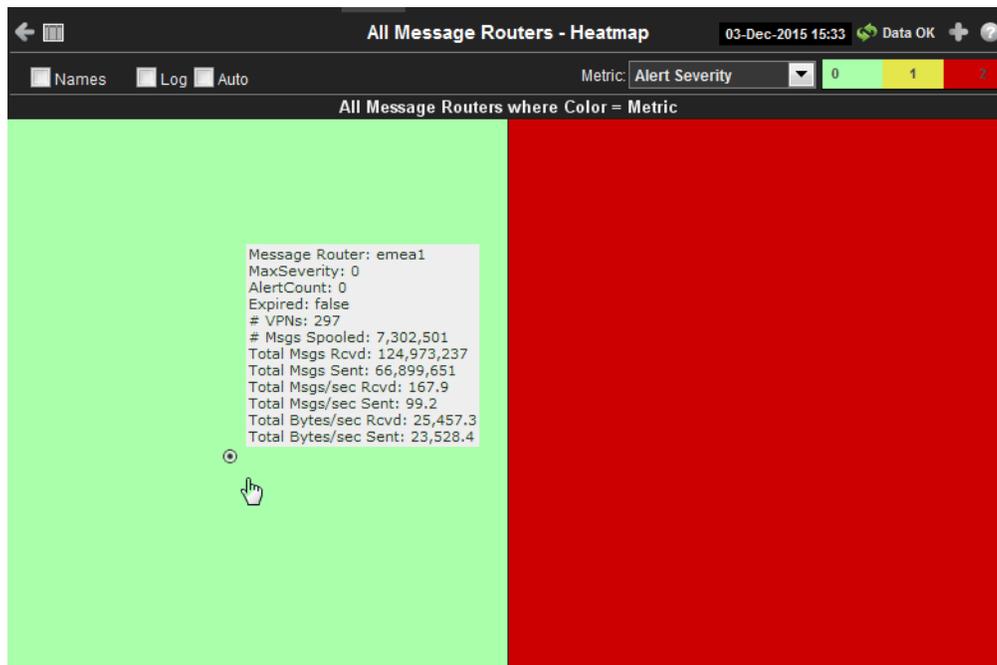
These displays provide detailed data and statuses for message routers and their connected message routers. Displays in this View are:

- [“All Message Routers Heatmap” on page 522](#): A color-coded heatmap view of the current status of each of your message routers.
- [“All Message Routers Table” on page 525](#): A tabular view of all available message router performance data.
- [“Message Router Summary” on page 532](#): Current and historical metrics for a single message router.
- [“Environmental Sensors” on page 536](#): Provides value and status information for all sensors on a single message router or for all sensors for all message routers.
- [“Message Router Provisioning” on page 537](#): Provides message router host, chassis, redundancy, memory, and fabric data for a particular message router.
- [“Interface Summary” on page 540](#): Provides detailed data and status information for the interfaces associated with one or all message router(s). You can also view current and historical amounts of incoming and outgoing packets and bytes for a selected interface in a trend graph.
- [“Message Spool Table” on page 542](#): Provides status and usage data for message spools associated with one or all message router(s).
- [“Message Router VPN Activity” on page 544](#): Provides the number of connections for each client connected to a specific message router and lists the average incoming and outgoing bytes per minute for each of the connected clients.
- [“CSPF Neighbors Table” on page 546](#): View metrics for Solace “neighbor” message routers that use the Content Shortest Path First (CSPF) routing protocol to determine the shortest path in which to send messages from one message router to another message router in the Solace network.

### All Message Routers Heatmap

This heatmap shows the current status of all message routers for the selected metric. Use this to quickly identify the current status of each of your message routers for each available metric: the current alert severity, alert count, number of spooled messages, total messages received, total messages sent, total number of messages received per second, total number of messages sent per second, total bytes received per second, and the total bytes sent per second. By default, this display shows the heatmap based on the **Alert Severity** metric.

You can use the **Names** check-box  to include or exclude labels in the heatmap, and you can mouse over a rectangle to see additional metrics for an message router. Clicking one of the rectangles in the heatmap opens the “Message Router Summary” display, which allows you to see additional details for the selected message router.



**Title Bar:** Indicators and functionality might include the following:

  Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

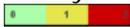
 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

### Fields and Data:

|               |  |
|---------------|--|
| <b>Names</b>  | Select this check box to include labels in the heatmap.  |
| <b>Log</b>    | Select to this check box to enable a logarithmic scale. Use <b>Log Scale</b> to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. <b>Log Scale</b> makes data on both scales visible by applying logarithmic values rather than actual values to the data. |
| <b>Auto</b>   | Select to enable auto-scaling. When auto-scaling is activated, the color gradient bar's maximum range displays the highest value.<br><b>Note:</b> Some metrics auto-scale automatically, even when <b>Auto</b> is not selected.  |
| <b>Metric</b> | Choose a metric to view in the display.  |

|                            |  |
|----------------------------|--|
| <b>Alert Severity</b>      | <p>The current alert severity. Values range from <b>0</b> - <b>2</b>, as indicated in the color gradient  bar, where <b>2</b> is the highest Alert Severity:</p> <ul style="list-style-type: none"> <li> Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.</li> <li> Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.</li> <li> Green indicates that no metrics have exceeded their alert thresholds.</li> </ul> |
| <b>Alert Count</b>         | <p>The total number of critical and warning unacknowledged alerts in the message router. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average alert count.</p>  |
| <b># Msgs Spooled</b>      | <p>The total number of spooled messages in the message router. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the defined alert threshold of <b>SolMsgRouterSpoolUtilization</b>. The middle value in the gradient bar indicates the middle value of the range.</p> <p>When <b>Auto</b> is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.</p>  |
| <b>Total Msgs Rcvd</b>     | <p>The total number of received messages in the message router. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of total messages received in the heatmap. The middle value in the gradient bar indicates the average count.</p> <p>The <b>Auto</b> flag does not have any impact on this metric.</p>   |
| <b>Total Msgs Sent</b>     | <p>The total number of sent messages in the message router. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of total messages sent in the heatmap. The middle value in the gradient bar indicates the average count.</p> <p>The <b>Auto</b> flag does not have any impact on this metric.</p>   |
| <b>Total Msgs/sec Rcvd</b> | <p>The total number of messages received per second in the message router. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the defined alert threshold of <b>SolMsgRouterInboundMsgRateHigh</b>. The middle value in the gradient bar indicates the middle value of the range.</p> <p>When <b>Auto</b> is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.</p>   |
| <b>Total Msgs/sec Sent</b> | <p>The total number of messages sent per second in the message router. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the defined alert threshold of <b>SolMsgRouterOutboundMsgRateHigh</b>. The middle value in the gradient bar indicates the middle value of the range.</p> <p>When <b>Auto</b> is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.</p>  |

**Total Bytes/  
sec Rcvd**

The total number of bytes received per second in the message router. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the defined alert threshold of **SolMsgRouterInboundByteRateHigh**. The middle value in the gradient bar indicates the middle value of the range.

When **Auto** is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.

**Total Bytes/  
sec Sent**

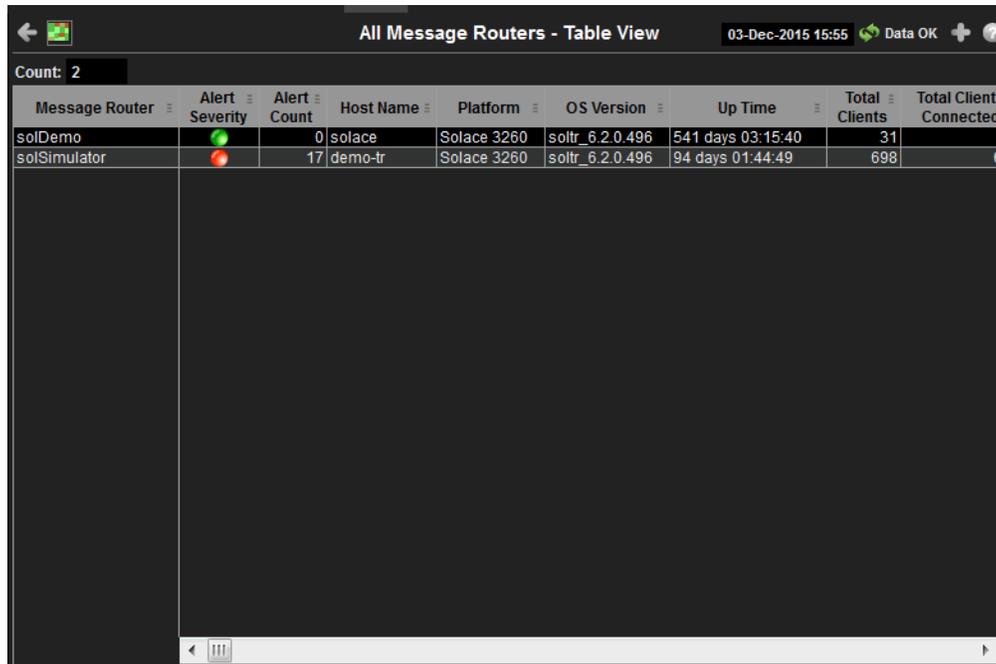
The total number of bytes sent per second in the message router. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the defined alert threshold of **SolMsgRouterOutboundByteRateHigh**. The middle value in the gradient bar indicates the middle value of the range.

When **Auto** is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.

## All Message Routers Table

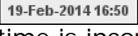
View current status data for all message routers in a tabular format. Data shown in the “All Message Routers Heatmap” is included here with additional details. Each row in the table is a different message router. You can click a column header to sort column data in numerical or alphabetical order.

Drill-down and investigate by clicking a row to view details for the selected message router in the “Message Router Summary” display



| Message Router | Alert Severity  | Alert Count | Host Name | Platform    | OS Version      | Up Time           | Total Clients | Total Clients Connected |
|----------------|---|-------------|-----------|-------------|-----------------|-------------------|---------------|-------------------------|
| solDemo        |  | 0           | solace    | Solace 3260 | soltr_6.2.0.496 | 541 days 03:15:40 | 31            |                         |
| solSimulator   |  | 17          | demo-tr   | Solace 3260 | soltr_6.2.0.496 | 94 days 01:44:49  | 698           | 6                       |

**Title Bar:** Indicators and functionality might include the following:

 Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

## Fields and Data:

**Count** Total number of message routers found.

### Table:

Each row in the table is a different message router.

**Message Router** The name of the message router.

**Alert Severity** The current alert severity. Values range from **0** - **2**, as indicated in the color gradient  bar, where **2** is the highest Alert Severity:

-  Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.
-  Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.
-  Green indicates that no metrics have exceeded their alert thresholds.

**Alert Count** The total number of alerts.

**Host Name** The name of the host.

**Platform** The name of the platform.

**OS Version** The version of the operating system.

**Up Time** The amount of time that the message router has been up and running.

**Total Clients** The total number of clients associated with the message router.

**Total Clients Connected** The total number of clients that are currently connected to the message router.

**Clients Using Compression** The number of clients who send/receive compressed messages.

**Clients Using SSL** The number of clients using SSL for encrypted communications.

**Max Client Connections** The maximum number of available client connections.

**# VPNs** The total number of VPNs configured on the message router.

**# Endpoints** The total number of Endpoints configured on the message router.

**# Bridges** The total number of bridges configured on the message router.

**# Local Bridges** The total number of local bridges configured on the message router.

|  |   |
|--|---|
| <b># Remote Bridges</b>                  | The total number of remote bridges configured on the message router.  |
| <b># Remote Bridge Subscriptions</b>     | The total number of remote bridge subscriptions configured on the message router.                           |
| <b>Routing Enabled</b>                   | This check box is checked when the message router is configured to route messages to other message routers. |
| <b>Routing Interface</b>                 | The name of the interface configured to support message routing.  |
| <b>Total # Conflicting Destinations</b>  | The total number conflicting destinations.  |
| <b>Pending Messages</b>                  | The number of pending messages on the message router.   |
| <b>Total Client Msgs Rcvd</b>            | The total number of client messages received on the message router.   |
| <b>Total Client Msgs Sent</b>            | The total number of client messages sent by the message router.   |
| <b>Total Client Msgs Rcvd/sec</b>        | The total number of client messages received per second by the message router.                              |
| <b>Total Client Msgs Sent/ sec</b>       | The total number of client messages sent by the message router.   |
| <b>Total Client Bytes Rcvd</b>           | The total number of client bytes received by the message router.  |
| <b>Total Client Bytes Sent</b>           | The total number of client bytes sent by the message router.  |
| <b>Total Client Bytes Rcvd/sec</b>       | The total number of client bytes received per second by the message router.                                 |
| <b>Total Client Bytes Sent/sec</b>       | The total number of client bytes sent per second by the message router.                                     |
| <b>Total Client Direct Msgs Rcvd</b>     | The total number of direct client messages received by the message router.                                  |
| <b>Total Client Direct Msgs Sent</b>     | The total number of direct client messages sent from the message router.                                    |
| <b>Total Client Direct Msgs Rcvd/sec</b> | The total number of direct client messages received per second by the message router.                       |
| <b>Total Client Direct Msgs Sent/sec</b> | The total number of direct client messages sent per second by the message router.                           |
| <b>Total Client Direct Bytes Rcvd</b>    | The total number of direct client bytes received by the message router.                                     |
| <b>Total Client Direct Bytes Sent</b>    | The total number of direct client bytes sent by the message router.   |

|  |   |
|--|---|
| <b>Total Client Direct Bytes Rcvd/sec</b>          | The total number of direct client bytes received per second by the message router.            |
| <b>Total Client Direct Bytes Sent/sec</b>          | The total number of direct client bytes sent per second by the message router.                |
| <b>Total Client Non-Persistent Msgs Rcvd</b>       | The total number of non-persistent client messages received by the message router.            |
| <b>Total Client Non-Persistent Msgs Sent</b>       | The total number of non-persistent client messages sent by the message router.                |
| <b>Total Client Non-Persistent Msgs Rcvd/sec</b>   | The total number of non-persistent client messages received per second by the message router. |
| <b>Total Client Non-Persistent Msgs Sent/ sec</b>  | The total number of non-persistent client messages sent per second by the message router.     |
| <b>Total Client Non-Persistent Bytes Rcvd</b>      | The total number of non-persistent client bytes received by the message router.               |
| <b>Total Client Non-Persistent Bytes Sent</b>      | The total number of non-persistent client bytes sent by the message router.                   |
| <b>Total Client Non-Persistent Bytes Rcvd/sec</b>  | The total number of non-persistent client bytes received per second by the message router.    |
| <b>Total Client Non-Persistent Bytes Sent/ sec</b> | The total number of non-persistent client bytes sent per second by the message router.        |
| <b>Total Client Persistent Msgs Rcvd</b>           | The total number of persistent client messages received by the message router.                |
| <b>Total Client Persistent Msgs Sent</b>           | The total number of persistent client messages sent by the message router.                    |
| <b>Total Client Persistent Msgs Rcvd/sec</b>       | The total number of persistent client messages received per second by the message router.     |
| <b>Total Client Persistent Msgs Sent/ sec</b>      | The total number of persistent client messages sent per second by the message router.         |
| <b>Total Client Persistent Bytes Rcvd</b>          | The total number of persistent client bytes received by the message router.                   |
| <b>Total Client Persistent Bytes Sent</b>          | The total number of persistent client bytes sent by the message router.                       |
| <b>Total Client Persistent Bytes Rcvd/sec</b>      | The total number of persistent client bytes received per second by the message router.        |

|  |  |
|--|--|
| <b>Total Client Persistent Bytes Sent/ sec</b> | The total number of persistent client bytes sent per second by the message router.               |
| <b>Avg Egress Bytes/min</b>                    | The average number of outgoing bytes per minute.   |
| <b>Avg Egress Compressed Msgs/min</b>          | The average number of outgoing compressed messages per minute.                                   |
| <b>Avg Egress Msgs/min</b>                     | The average number of outgoing messages per minute.  |
| <b>Avg Egress SSL Msgs/min</b>                 | The average number of outgoing messages per minute being sent via SSL-encrypted connections.     |
| <b>Avg Egress Uncompressed Msgs/min</b>        | The average number of uncompressed outgoing messages per minute.                                 |
| <b>Avg Ingress Bytes/min</b>                   | The average number of incoming bytes per minute.   |
| <b>Avg Ingress Compressed Msgs/min</b>         | The average number of compressed incoming message per minute.                                    |
| <b>Avg Ingress Msgs/min</b>                    | The average number of incoming messages per minute.  |
| <b>Average Ingress SSL Msgs/min</b>            | The average number of incoming messages per minute being received via SSL-encrypted connections. |
| <b>Avg Ingress Uncompressed Msgs/min</b>       | The average number of uncompressed messages per minute.  |
| <b>Current Egress Bytes/sec</b>                | The current number of outgoing bytes per second.   |
| <b>Current Egress Compressed Msgs/sec</b>      | The current number of outgoing compressed messages per second.                                   |
| <b>Current Egress Msgs/sec</b>                 | The current number of outgoing messages per second.  |
| <b>Current Egress SSL Msgs/sec</b>             | The current number of outgoing messages per second sent via SSL-encrypted connections.           |
| <b>Current Egress Uncompressed Msgs/sec</b>    | The current number of outgoing uncompressed messages per second.                                 |
| <b>Current Ingress Bytes/sec</b>               | The current number of incoming bytes per second.   |
| <b>Current Ingress Compressed Msgs/sec</b>     | The current number of incoming compressed messages per second.                                   |
| <b>Current Ingress Msgs/sec</b>                | The current number of incoming messages per second.  |
| <b>Current Ingress SSL Msgs/sec</b>            | The current number of incoming messages per second received via SSL-encrypted connections.       |

|  |   |
|--|---|
| <b>Current Ingress Uncompressed Msgs/sec</b> | The current number of incoming uncompressed messages per second.  |
| <b>Ingress Comp Ratio</b>                    | The percentage of incoming messages that are compressed.  |
| <b>Egress Comp Ratio</b>                     | The percentage of outgoing messages that are compressed.  |
| <b>Egress Compressed Bytes</b>               | The number of outgoing compressed bytes.  |
| <b>Egress SSL Bytes</b>                      | The number of outgoing compressed bytes being sent via SSL-encrypted connections.   |
| <b>Egress Uncompressed Bytes</b>             | The number of outgoing uncompressed bytes.  |
| <b>Ingress Compressed Bytes</b>              | The number of incoming compressed bytes.  |
| <b>Ingress SSL Bytes</b>                     | The number of incoming bytes via SSL-encrypted connections.   |
| <b>Ingress Uncompressed Bytes</b>            | The number of incoming uncompressed bytes.  |
| <b>Total Egress Discards</b>                 | The total number of outgoing messages that have been discarded by the message router.   |
| <b>Total Egress Discards/sec</b>             | The total number of outgoing messages per second that have been discarded by the message router.  |
| <b>Total Ingress Discards</b>                | The total number of incoming messages that have been discarded by the message router.   |
| <b>Total Ingress Discards/sec</b>            | The total number of incoming messages per second that have been discarded by the message router.  |
| <b>Client Authorization Failures</b>         | The number of failed authorization attempts   |
| <b>Client Connect Failures (ACL)</b>         | The number of client connection failures caused because the client was not included in the defined access list.   |
| <b>Subscribe Topic Failures</b>              | The number of failed attempts at subscribing to topics.   |
| <b>TCP Fast Retrans Sent</b>                 | The total number of messages that were retransmitted as a result of TCP Fast Retransmission (one or more messages in a sequence of messages that were not received by their intended party that were sent again). |
| <b>Memory (KB)</b>                           | The total available memory (in kilobytes) on the message router.  |
| <b>Memory Free (KB)</b>                      | The total amount of available memory (in kilobytes) on the message router.  |
| <b>Memory Used (KB)</b>                      | The total amount of memory used (in kilobytes) on the message router.   |
| <b>Memory Used %</b>                         | The percentage of total available memory that is currently being used.  |

|  |  |
|--|--|
| <b>Swap (KB)</b>                         | The total available swap (in kilobytes) on the message router.                                       |
| <b>Swap Free (KB)</b>                    | The total amount of available swap (in kilobytes) on the message router.                             |
| <b>Swap Used (KB)</b>                    | The total amount of swap used (in kilobytes) on the message router.                                  |
| <b>Swap Used %</b>                       | The percentage of total available swap that is currently being used.                                 |
| <b>Subscription Mem Total (KB)</b>       | The total amount of available memory (in kilobytes) that can be used by queue/topic subscriptions.   |
| <b>Subscription Mem Free (KB)</b>        | The current amount of available memory (in kilobytes) that can be used by queue/topic subscriptions. |
| <b>Subscription Mem Used (KB)</b>        | The current amount of memory (in kilobytes) being used by queue/topic subscriptions.                 |
| <b>Subscription Mem Used %</b>           | The percentage of available memory being used by queue/topic subscriptions.                          |
| <b>Chassis Product Number</b>            | The product number of the chassis in which the router is contained.                                  |
| <b>Chassis Revision</b>                  | The revision number of the chassis.  |
| <b>Chassis Serial</b>                    | The serial number of the chassis.  |
| <b>BIOS Version</b>                      | The basic input/output system used by the chassis.   |
| <b>CPU-1</b>                             | The name of the central processing unit (CPU 1) used by the message router.                          |
| <b>CPU-2</b>                             | The name of the central processing unit (CPU 2) used by the message router.                          |
| <b>Operational Power Supplies</b>        | The number of available power supplies that are operational on the chassis.                          |
| <b>Power Redundancy Config</b>           | The configuration used by the backup message router.   |
| <b>Max # Bridges</b>                     | The maximum number of bridges allowed on the message router.   |
| <b>Max # Local Bridges</b>               | The maximum number of local bridges allowed on the message router.                                   |
| <b>Max # Remote Bridges</b>              | The maximum number of remote bridges allowed on the message router.                                  |
| <b>Max # Remote Bridge Subscriptions</b> | The maximum number of remote bridge subscriptions allowed on the message router.                     |
| <b>Redundancy Config Status</b>          | The status of the redundancy configuration.  |
| <b>Redundancy Status</b>                 | The status of the redundant message router.  |
| <b>Redundancy Mode</b>                   | Refer to Solace documentation for more information.  |
| <b>Auto-revert</b>                       | Refer to Solace documentation for more information.  |
| <b>Mate Router Name</b>                  | If redundancy is configured, this field lists the redundant router name (mate router name).          |

|                            |   |
|----------------------------|---|
| <b>ADB Link Up</b>         | This check box is checked if a message router is set up to use guaranteed messaging and an Assured Delivery Blade (ADB) is set up and working correctly.  |
| <b>ADB Hello Up</b>        | Refer to Solace documentation for more information.   |
| <b>Pair Primary Status</b> | The primary status of the message router and its redundant (failover) mate.   |
| <b>Pair Backup Status</b>  | Refer to Solace documentation for more information.   |
| <b>Expired</b>             | <p>When checked, performance data about the message router has not been received within the time specified (in seconds) in the <b>\$solRowExpirationTime</b> field in the <b>conf\rtvapm_solmon.properties</b> file. The <b>\$solRowExpirationTimeForDelete</b> field allows you to define the amount of time (in seconds) in which the row will be removed from the table if there is no response from the message router. To view/edit the current values, modify the following lines in the <b>.properties</b> file:</p> <pre># Metrics data are considered expired after this number of seconds # collector.sl.rtvview.sub=\$solRowExpirationTime:45 collector.sl.rtvview.sub=\$solRowExpirationTimeForDelete:3600</pre> <p>In the example above, the <b>Expired</b> check box would be checked after 45 seconds, and the row would be removed from the table after 3600 seconds.</p> |
| <b>Time Stamp</b>          | The date and time the row data was last updated.  |

## Message Router Summary

This display shows current and historical performance metrics for a single message router. You can view the total number of clients that are connected, number of incoming flows, current **Up Time**, and additional information specific to a message router. You can also view alert statuses for the message router and any associated **VPNs/Endpoints/Bridges/Clients**, total number of **Connections/Destinations, Incoming/Outgoing/Pending** messages data, and **Spool Status** data for the message router.

### Data Quality Indicators:

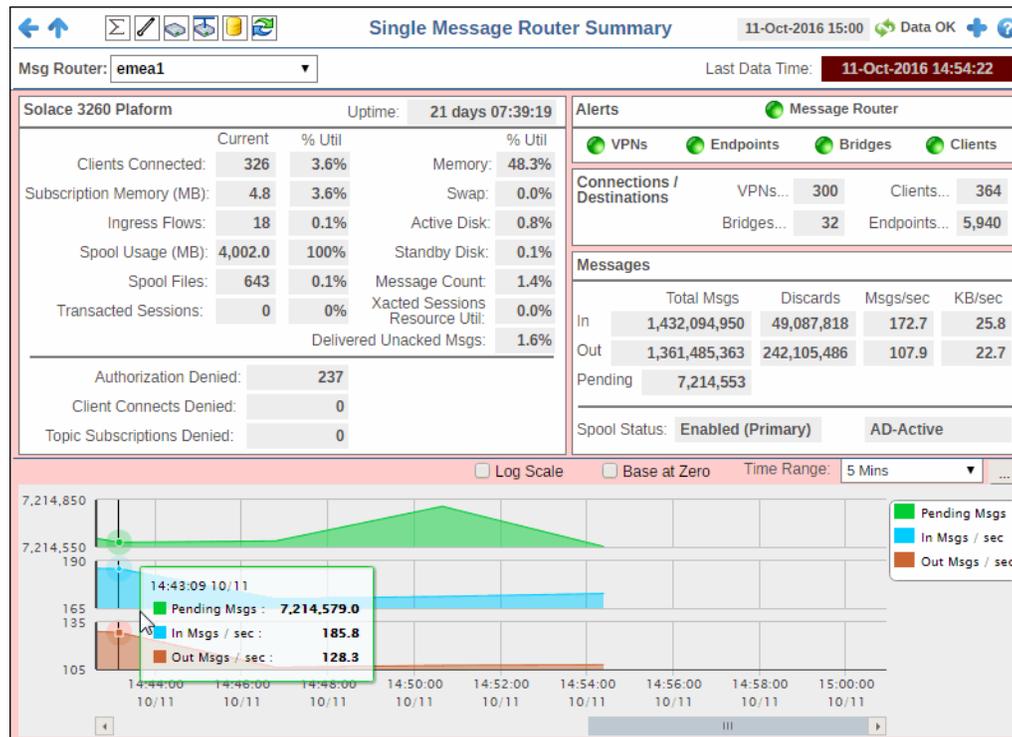
- When the display background color is  (Red) the data is stale.
- The Last Data Time shows the date and time the selected message router was last updated.

Last Data Time: 15-Aug-2016 14:34:00

If the **Last Data Time** background is:

-  (Red) the selected message router is offline or expired.
-  (Green) the selected message router is connected and receiving data.

This display also includes a trend graph containing the current and historical incoming, outgoing, and pending message data.



**Title Bar:** Indicators and functionality might include the following:

- Open the previous and upper display.
- Navigate to displays commonly accessed from this display.
- The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

- Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

**Note:** The upper icons ( ) also open displays within the **Message Routers View**.

#### Filter By:

The display might include these filtering options:

**Msg Router:** Choose the message router for which you want to show data in the display.

#### Last Data Time

Last Data Time: **15-Aug-2016 14:34:00**

The date and time the selected message router was last updated.

- Red indicates the selected message router is offline or expired.
- Green indicates the selected message router is connected and receiving data.

#### Fields and Data:

**Platform Name** The Solace platform name.

|                                      |   |
|--------------------------------------|---|
| <b>Uptime</b>                        | The amount of time the message router has been up and running.  |
| <b>Clients Connected</b>             | The current number of clients connected and the percent utilization of the total number of available clients (current number of clients connected divided by the total number of available clients).  |
| <b>Subscription Memory (MB)</b>      | The current subscription memory used (in megabytes) and the percent utilization of the total amount of subscription memory available (current amount of subscription memory used divided by the total amount of available subscription memory). |
| <b>Ingress Flows</b>                 | The current number of incoming flows and the percent utilization of the total number of flows allowed (current number of incoming flows divided by the total number of flows allowed).  |
| <b>Spool Usage (MB)</b>              | The current spool usage (in megabytes) and the percent utilization of the total amount of available spool usage (current spool usage divided total available spool usage).  |
| <b>Spool Files</b>                   | The current number of spool files and the percent utilization total number of spool files allowed (current number of spool files divided by the total number of spool files allowed).   |
| <b>Transacted Sessions</b>           | The current number of transacted sessions and the percent utilization total number of transacted sessions allowed (current number of transacted sessions divided by the total number of transacted sessions allowed).                           |
| <b>Memory Used</b>                   | The total percentage of memory used on the message router.  |
| <b>Swap Used</b>                     | The total percentage of swap used on the message router.  |
| <b>Active Disk Used</b>              | The amount of active disk space used.   |
| <b>Stndby Disk Used</b>              | The amount of standby disk space used.  |
| <b>Msg Cnt Util</b>                  | Refer to Solace documentation for more information.   |
| <b>Xacted Sessions Resource Util</b> | Refer to Solace documentation for more information.   |
| <b>Delivered Unacked Msgs</b>        | The percentage of delivered messages that have not been acknowledged.   |
| <b>Authorization Denied</b>          | The number of failed authorization attempts.  |
| <b>Client Connects Denied</b>        | The number of attempted client connections that have been denied.   |
| <b>Topic Subscriptions Denied</b>    | The number of denied topic subscriptions.   |

### Alerts

Indicates the severity level for the message router and its associated **VPNs, Endpoints, Bridges,** and **Clients**. Click on the alert indicator to drill down to the "All Message Routers Table" display, "All VPNs Table" display, "All Bridges" display, and "All Clients" display, respectively, to view current alerts for the selected application.

Values are:

-  One or more alerts exceeded their ALARM LEVEL threshold.
-  One or more alerts exceeded their WARNING LEVEL threshold.
-  No alert thresholds have been exceeded.

|                       |  |
|-----------------------|--|
| <b>Message Router</b> | The current alert status for the message router. |
|-----------------------|--|

|                  |  |
|------------------|--|
| <b>VPNs</b>      | The current alert status for the VPNs associated with the message router.      |
| <b>Endpoints</b> | The current alert status for the endpoints associated with the message router. |
| <b>Bridges</b>   | The current alert status for the bridges associated with the message router.   |
| <b>Clients</b>   | The current alert status for the clients associated with the message router.   |

**Connections/ Destinations**

|                  |  |
|------------------|--|
| <b>VPNs</b>      | The total number of VPNs connected to the message router.      |
| <b>Clients</b>   | The total number of client connections on the message router.  |
| <b>Bridges</b>   | The total number of defined VPN bridges on the message router. |
| <b>Endpoints</b> | The total number of endpoints defined on the message router.   |

**Messages**

|                               |   |
|-------------------------------|---|
| <b>Total Msgs In</b>          | The total number of incoming messages on the message router.      |
| <b>Total Msgs Out</b>         | The total number of outgoing messages on the message router.      |
| <b>Total Msgs Pending</b>     | The total number of pending messages on the message router.       |
| <b>Discards In</b>            | The total number of incoming messages that were discarded.        |
| <b>Discards Out</b>           | The total number of outgoing messages that were discarded.        |
| <b>Msgs/sec In</b>            | The number of incoming messages per second.                       |
| <b>Msgs/sec Out</b>           | The number of outgoing messages per second.                       |
| <b>KB/sec In</b>              | The number of incoming kilobytes per second.                      |
| <b>KB/sec out</b>             | The number of outgoing kilobytes per second.                      |
| <b>Spool Status</b>           | The status of the message spool on the message router.            |
| <b>% Utilization</b>          | The percentage of the message spool that is currently being used. |
| <b>Active Disk Usage (MB)</b> | The current message spool usage in megabytes.                     |

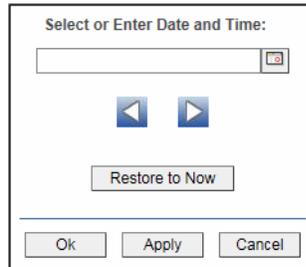
**Trend Graphs**

Traces the sum of process metrics across all processes in all slices of the selected message router.

|                      |  |
|----------------------|--|
| <b>Pending Msgs</b>  | Traces the number of currently pending messages.   |
| <b>In Msgs/ sec</b>  | Traces the number of incoming messages per second.   |
| <b>Out Msgs/ sec</b> | Traces the number of outgoing messages per second.   |
| <b>Log Scale</b>     | Select to enable a logarithmic scale. Use <b>Log Scale</b> to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. <b>Log Scale</b> makes data on both scales visible by applying logarithmic values rather than actual values to the data. |

**Base at Zero** Select to use zero (0) as the Y axis minimum for all graph traces.

**Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

## Environmental Sensors

This tabular display contains sensor metrics for one message router. You can see the current sensor readings for all sensors on a particular message router. Use this display to find out the type, name, value, and status of the sensors.

| Message Router | Type                | Sensor Name       | Value   | Units     | Status | Expired | Time Stamp           |
|----------------|---------------------|-------------------|---------|-----------|--------|---------|----------------------|
| solSimulator   | Voltage             | BB +1.5V          | 1.469   | volts     | OK     |         | 03-Dec-2015 16:06:31 |
| solSimulator   | Voltage             | BB +1.5V AUX      | 1.490   | volts     | OK     |         | 03-Dec-2015 16:06:31 |
| solSimulator   | Voltage             | BB +1.5V ESB      | 1.482   | volts     | OK     |         | 03-Dec-2015 16:06:31 |
| solSimulator   | Voltage             | BB +1.8V          | 1.803   | volts     | OK     |         | 03-Dec-2015 16:06:31 |
| solSimulator   | Voltage             | BB +12V AUX       | 12.090  | volts     | OK     |         | 03-Dec-2015 16:06:31 |
| solSimulator   | Voltage             | BB +3.3V          | 3.337   | volts     | OK     |         | 03-Dec-2015 16:06:31 |
| solSimulator   | Voltage             | BB +3.3V STB      | 3.337   | volts     | OK     |         | 03-Dec-2015 16:06:31 |
| solSimulator   | Voltage             | BB +5V            | 5.096   | volts     | OK     |         | 03-Dec-2015 16:06:31 |
| solSimulator   | ThermalMargin       | CPU1 Therm Margin | -64.000 | degrees C |        |         | 03-Dec-2015 16:06:31 |
| solSimulator   | ThermalMargin       | CPU2 Therm Margin | -56.000 | degrees C |        |         | 03-Dec-2015 16:06:31 |
| solSimulator   | Temperature         | Chassis Temp.     | 27.000  | degrees C |        |         | 03-Dec-2015 16:06:31 |
| solSimulator   | Fan speed           | Chassis Fan 1     | 7371    | RPM       |        |         | 03-Dec-2015 16:06:31 |
| solSimulator   | Fan speed           | Chassis Fan 2     | 7714    | RPM       |        |         | 03-Dec-2015 16:06:31 |
| solSimulator   | Fan speed           | Chassis Fan 3     | 7543    | RPM       |        |         | 03-Dec-2015 16:06:31 |
| solSimulator   | Fan speed           | Chassis Fan 4     | 7286    | RPM       |        |         | 03-Dec-2015 16:06:31 |
| solSimulator   | Fan speed           | Chassis Fan 5     | 7286    | RPM       |        |         | 03-Dec-2015 16:06:31 |
| solSimulator   | Fan speed           | Chassis Fan 6     | 7029    | RPM       |        |         | 03-Dec-2015 16:06:31 |
| solSimulator   | Power system status | Power Redundancy  | yes     |           |        |         | 03-Dec-2015 16:06:31 |

**Title Bar:** Indicators and functionality might include the following:



Open the previous and upper display.

 Navigate to displays commonly accessed from this display.

 19-Feb-2014 16:50

The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.



**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.



Open the **Alert Views - RTView Alerts Table** display.



Open an instance of this display in a new window.



Open the online help page for this display.

**Note:** The upper icons (  ) also open displays within the **Message Routers** View.

#### Filter By:

The display might include these filtering options:

**Msg Router:** Select the message router for which you want to show data in the display.

#### Fields and Data:

**Message Router** Lists the selected message router.

**Type** Lists the type of sensor.

**Sensor Name** Lists the name of the sensor.

**Value** Lists the value of the sensor.

**Units** Lists the unit of measure for the sensor.

**Status** The current status of the sensor.

**Expired** When checked, performance data about the sensor has not been received within the time specified (in seconds) in the **\$solRowExpirationTime** field in the **conf\rtvapm\_solmon.properties** file. The **\$solRowExpirationTimeForDelete** field allows you to define the amount of time (in seconds) in which the row will be removed from the table if there is no response from the sensor. To view/edit the current values, modify the following lines in the **.properties** file:

```
# Metrics data are considered expired after this number of seconds
#
collector.sl.rtvview.sub=$solRowExpirationTime:45
collector.sl.rtvview.sub=$solRowExpirationTimeForDelete:3600
```

In the example above, the **Expired** check box would be checked after 45 seconds, and the row would be removed from the table after 3600 seconds.

**Time Stamp** The date and time the row data was last updated.

## Message Router Provisioning

This display shows provisioning metrics for a single message router. Use this to see the host, platform, chassis, memory, redundancy and fabric data for a specific message router.

#### Data Quality Indicators:

- When the display background color is  (Red) the data is stale.
- The Last Data Time shows the date and time the selected message router was last updated.

Last Data Time: 15-Aug-2016 14:34:00

If the **Last Data Time** background is:

-  (Red) the selected message router is offline or expired.

● (Green) the selected message router is connected and receiving data.

**Message Router Provisioning** 16-Aug-2016 16:01 Data OK

Msg Router: **emea1** Last Data Time: **16-Aug-2016 15:58:39**

Host Name: **emea1** CPU 1: **Intel(R) Xeon(R) CPU E5450 @ 3.00GHz**  
 Platform: **Solace 3260** CPU 2: **Intel(R) Xeon(R) CPU E5450 @ 3.00GHz**  
 Chassis Product #: **CHS-3260AC-01-B** BIOS: **S5000.86B.10.00.0094.101320081858**  
 Chassis Revision #: **1.4**  
 Chassis Serial #: **S009000229**  
 Power Configuration: **2+1**  
 Operational Power Supplies: **2**

**Memory (KB)**

|           | Total      | Free      | Used       | Used % |
|-----------|------------|-----------|------------|--------|
| Physical: | 15,651,432 | 4,457,920 | 11,193,512 | 39.4%  |
| Swap:     | 2,007,996  | 2,007,996 | 0          | 0%     |

**Redundancy**

Mate Router Name: **emea2**  
 Configuration Status: **Enabled**  
 Redundancy Status: **Up**  
 Redundancy Mode: **Active/Active**  
 Primary Status: **Local Active**  
 Backup Status:

Auto-Revert  
 ADB Link Up  
 ADB Hello Up

| Slot | Card Type                  | Product         | Serial #      | Fw-Version |
|------|----------------------------|-----------------|---------------|------------|
| 1/1  | Network Acceleration Blade | NAB-0210EM-01-A | P004044211    | 7.1.1.614  |
| 1/2  | empty                      |                 |               |            |
| 1/3  | Topic Routing Blade        | TRB-000000-02-A | P004040218    |            |
| 1/4  | Host Bus Adapter Blade     | HBA-0204FC-02-A | GFC0806J48750 |            |
| 1/5  | Assured Delivery Blade     | ADB-000000-01-A | P004040334    |            |
| 2/1  | empty                      |                 |               |            |
| 2/2  | empty                      |                 |               |            |
| 2/3  | empty                      |                 |               |            |
| 2/4  | empty                      |                 |               |            |
| 2/5  | empty                      |                 |               |            |

**Title Bar:** Indicators and functionality might include the following:

- Open the previous and upper display.
- Navigate to displays commonly accessed from this display.
- The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
- The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

**Note:** The upper icons ( ) also open displays within the **Message Routers** View.

**Filter By:**

The display might include these filtering options:

**Msg Router:** Select the message router for which you want to show data in the display.

**Fields and Data:**

**Last Data Time** Last Data Time: 15-Aug-2016 14:34:00

- The date and time the selected message router was last updated.
- Red indicates the selected message router is offline or expired.
- Green indicates the selected message router is connected and receiving data.

**Host Name** The name of the host.

|                                   |  |
|-----------------------------------|--|
| <b>Platform</b>                   | The platform on which the message router is running.   |
| <b>Chassis Product #</b>          | The product number of the chassis in which the router is contained.  |
| <b>Chassis Revision #</b>         | The revision number of the chassis.  |
| <b>Chassis Serial #</b>           | The serial number of the chassis.  |
| <b>Power Configuration</b>        | The power configuration used by the chassis.   |
| <b>Operational Power Supplies</b> | The number of available power supplies that are operational on the chassis.  |
| <b>CPU 1</b>                      | The name of the central processing unit (CPU 1) used by the message router.  |
| <b>CPU 2</b>                      | The name of the central processing unit (CPU 2) used by the message router.  |
| <b>BIOS</b>                       | The basic input/output system used by the chassis.   |
| <b>Memory (KB)</b>                |  |
| <b>Physical</b>                   | Lists the <b>Total</b> amount, the <b>Free</b> amount, the <b>Used</b> amount, and the <b>Used %</b> of physical memory.                                 |
| <b>Swap</b>                       | Lists the <b>Total</b> amount, the <b>Free</b> amount, the <b>Used</b> amount, and the <b>Used %</b> of swap memory.                                     |
| <b>Redundancy</b>                 | These fields describe a fault tolerant pair of message routers.  |
| <b>Mate Router Name</b>           | If redundancy is configured, this field lists the redundant router name (mate router name).  |
| <b>Configuration Status</b>       | The status of the configuration for the backup message router.   |
| <b>Redundancy Status</b>          | The status of the redundant message router.  |
| <b>Redundancy Mode</b>            | Refer to Solace documentation for more information.  |
| <b>Primary Status</b>             | The status of the primary message router.  |
| <b>Backup Status</b>              | Refer to Solace documentation for more information.  |
| <b>Auto-Revert</b>                | Refer to Solace documentation for more information.  |
| <b>ADB Link Up</b>                | This check box is checked if a message router is set up to use guaranteed messaging and an Assured Delivery Blade (ADB) is set up and working correctly. |
| <b>ADB Hello Up</b>               | Refer to Solace documentation for more information.  |
| <b>Fabric</b>                     |  |
| <b>Slot</b>                       | Displays the slot number on the network switch.  |
| <b>Card Type</b>                  | The type of card connected to the particular slot.   |
| <b>Product</b>                    | The product associated with the particular slot.   |

- Serial #**            The serial number of the product.
- Fw-Version**        The firmware version of the product.

### Interface Summary

This display lists all network interfaces on a selected message router, the status of each network interface, as well as their throughput per second (bytes in/out and packets in/out).

Each row in the table is a different network interface. Click one to trace its current and historical performance data in the trend graph (bytes in/out and packets in/out per second).

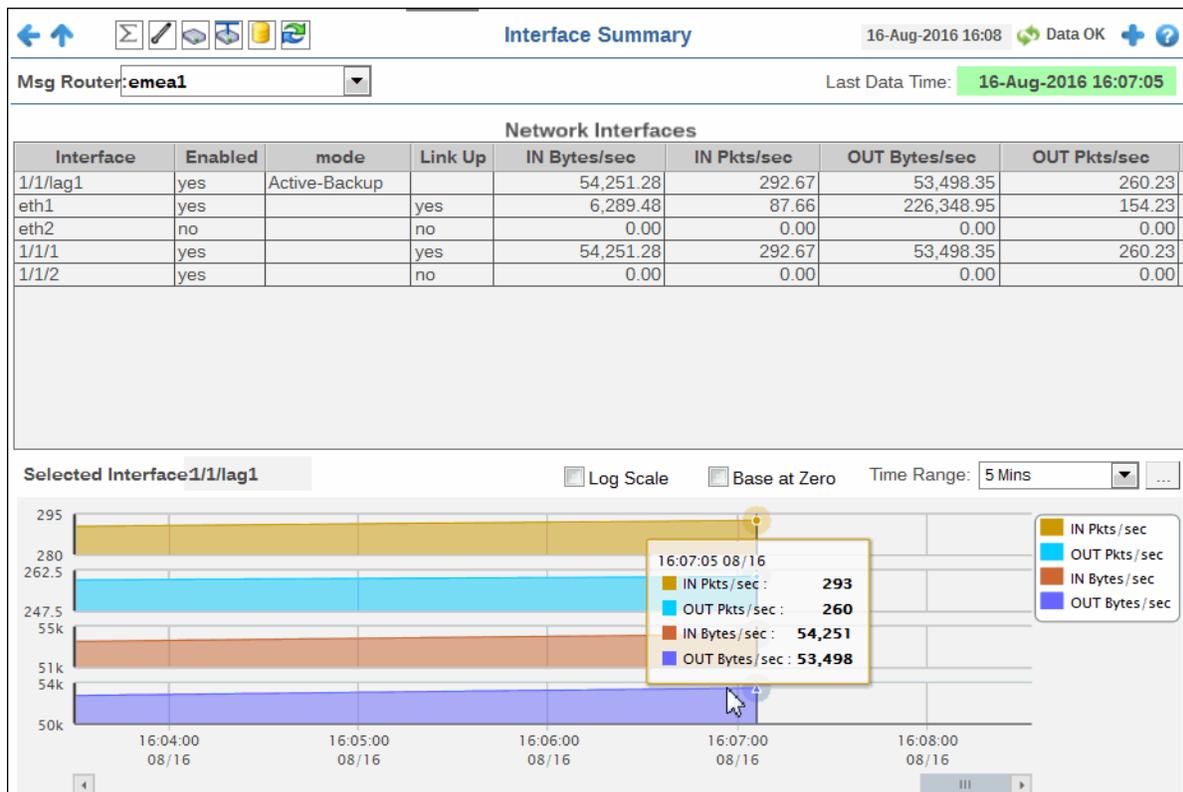
#### Interface Data Quality Indicators:

- When the display background color is ● (Red) the data for the selected network interface is stale.
- The Last Data Time shows the date and time the selected network interface was last updated.

Last Data Time: 15-Aug-2016 14:34:00

If the **Last Data Time** background is:

- (Red) the selected network interface is offline or expired.
- (Green) the selected network interface is connected and receiving data



**Title Bar:** Indicators and functionality might include the following:

  Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

**Note:** The upper icons (  ) also open displays within the **Message Routers** View.

#### Filter By:

The display might include these filtering options:

**Message Router:** Select the message router for which you want to show data in the display.

#### Fields and Data:

##### Last Data Time

Last Data Time: 15-Aug-2016 14:34:00

The date and time the selected network interface was last updated.

 Red indicates the selected network interface is offline or expired.

 Green indicates the selected network interface is connected and receiving data.

**Interface** The name of the network interface.

**Enabled** Displays whether or not the network interface is enabled.

**mode** Describes how the interface is configured to support networking operations.

**Link Up** Indicates whether the interface is electrically signaling on the transmission medium.

**IN Bytes/sec** The number of bytes per second contained in incoming messages.

**IN Pkts/sec** The number of incoming packets per second.

**OUT Bytes/sec** The number of bytes per second contained in the outgoing messages.

**OUT Pkts/sec** The number of outgoing packets per second.

#### Trend Graphs

Traces the sum of process metrics across all processes in all slices of the selected message router.

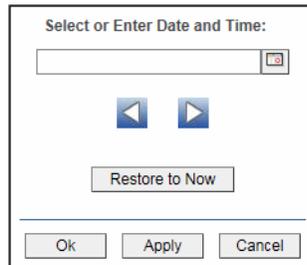
**IN Pkts/sec** Traces the number of incoming packets per second.

**OUT Pkts/sec** Traces the number of outgoing packets per second.

**IN Bytes/sec** Traces the number of bytes per second contained in the incoming messages.

**OUT Bytes/sec** Traces the number of bytes per second in the outgoing messages.

- Log Scale** Select to enable a logarithmic scale. Use **Log Scale** to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. **Log Scale** makes data on both scales visible by applying logarithmic values rather than actual values to the data.
- Base at Zero** Select to use zero (0) as the Y axis minimum for all graph traces.
- Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



The dialog box titled "Select or Enter Date and Time:" contains a text input field with a calendar icon on the right. Below the input field are two navigation arrows (left and right) and a "Restore to Now" button. At the bottom of the dialog are three buttons: "Ok", "Apply", and "Cancel".

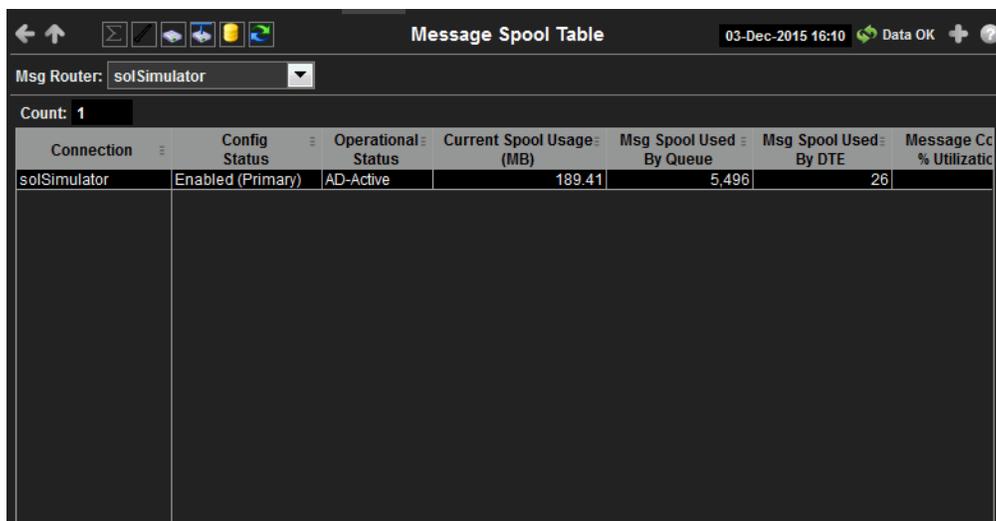
By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

## Message Spool Table

This display shows operational status and message spool metrics (if spooling is enabled on the message router) for a selected message router. Refer to Solace documentation for details about data in this display.



The screenshot shows the "Message Spool Table" interface. At the top, it displays "Msg Router: solSimulator" and "Count: 1". Below this is a table with the following data:

| Connection   | Config Status     | Operational Status | Current Spool Usage (MB) | Msg Spool Used By Queue | Msg Spool Used By DTE | Message Cc % Utilizatic |
|--------------|-------------------|--------------------|--------------------------|-------------------------|-----------------------|-------------------------|
| solSimulator | Enabled (Primary) | AD-Active          | 189.41                   | 5,496                   | 26                    |                         |

**Title Bar:** Indicators and functionality might include the following:

  Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

**Note:** The upper icons (  ) also open displays within the **Message Routers** View.

**Filter By:**

The display might include these filtering options:

**Msg Router:** Select the message router for which you want to show data in the display.

**Fields and Data:**

**Count** Lists the total number of message routers that are using spooling in the table.

**Connection** The name of the message router.

**Config Status** The status of the connection's configuration.

**Operational Status** The operational status of the spool on the message router.

**Current Spool Usage (MB)** The current amount of spool used in megabytes on the message router (calculated by summing spool used for each endpoint).

**Msg Spool Used By Queue** The amount of spool used by the queue.

**Msg Spool Used By DTE** The amount of spool used by DTE.

**Message Count % Utilization** The percentage of total messages that use the message spool.

**Delivered UnAcked Msgs % Utilization** The percentage of messages delivered via the spool that have not been acknowledged.

**Ingress Flow Count** The current incoming flow count.

**Ingress Flows Allowed** The total number of incoming flows allowed.

**Queue/Topic Subscriptions Used** The number of queue/topic subscriptions used.

**Max Queue/Topic Subscriptions** The maximum number of queue/topic subscriptions available.

**Sequenced Topics Used** The number of sequenced topics used.

|  |   |
|--|---|
| <b>Max Sequenced Topics</b>                      | The maximum number of sequenced topics available.   |
| <b>Spool Files Used</b>                          | The number of spool files used.   |
| <b>Spool Files Available</b>                     | The maximum number of spool files available.  |
| <b>Spool Files % Utilization</b>                 | The percentage of available spool files that have been used.  |
| <b>Active Disk Partition % Usage</b>             | The percentage of available active disk partition that has been used.   |
| <b>Standby Disk Partition % Usage</b>            | The percentage of available standby disk partition that has been used.  |
| <b>Disk Usage Current (MB)</b>                   | The current amount of spool disk usage in megabytes.  |
| <b>Disk Usage Max (MB)</b>                       | The maximum amount of available spool disk usage in megabytes.  |
| <b>Transacted Sessions Used</b>                  | The current number of transacted sessions.  |
| <b>Transacted Sessions Max</b>                   | The maximum number of transacted sessions allowed.  |
| <b>Transacted Session Count % Utilization</b>    | The percentage of allowable transacted sessions that have been used.  |
| <b>Transacted Session Resource % Utilization</b> | The percentage of allowable transacted session resources that have been used.   |
| <b>Expired</b>                                   | <p>When checked, performance data about the message router has not been received within the time specified (in seconds) in the <b>\$solRowExpirationTime</b> field in the <b>conf\rtvapm_solmon.properties</b> file. The <b>\$solRowExpirationTimeForDelete</b> field allows you to define the amount of time (in seconds) in which the row will be removed from the table if there is no response from the message router. To view/edit the current values, modify the following lines in the <b>.properties</b> file:</p> <pre># Metrics data are considered expired after this number of seconds # collector.sl.rtvview.sub=\$solRowExpirationTime:45 collector.sl.rtvview.sub=\$solRowExpirationTimeForDelete:3600</pre> <p>In the example above, the <b>Expired</b> check box would be checked after 45 seconds, and the row would be removed from the table after 3600 seconds.</p> |

## Message Router VPN Activity

This display shows VPN activity metrics for a single message router. Choose a message router to see the number of client connections and the average in/out bytes per minute for each connected client. Use this display to compare metrics across VPNs.

**Data Quality Indicators:**

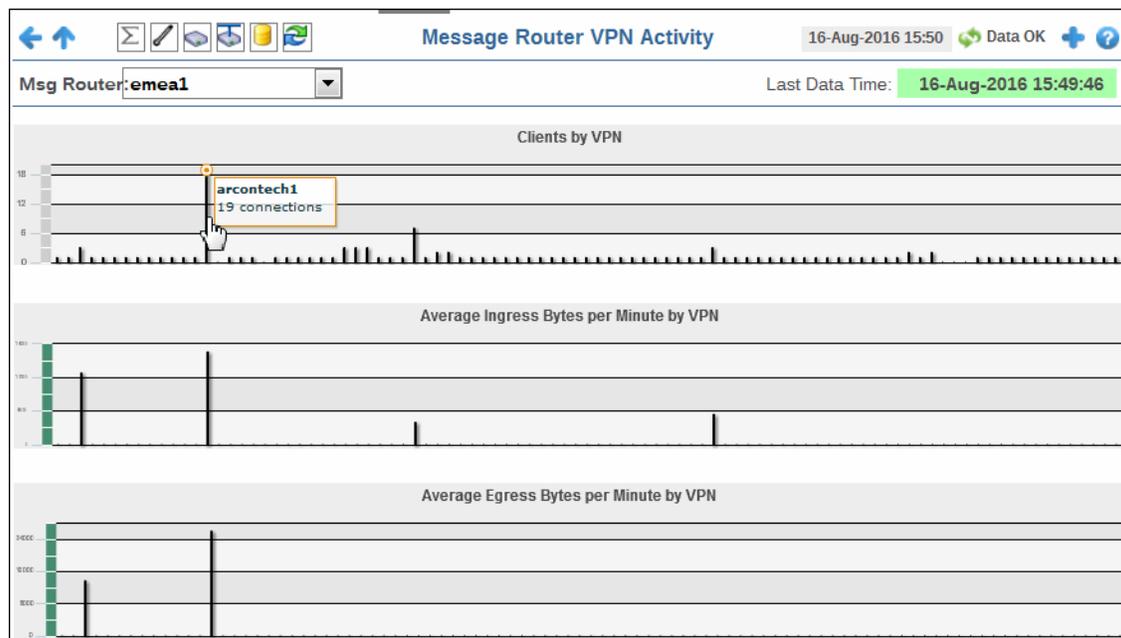
- When the display background color is ● (Red) the data is stale.
- The Last Data Time shows the date and time the selected message router was last updated.

Last Data Time: 15-Aug-2016 14:34:00

If the **Last Data Time** background is:

- (Red) the selected message router is offline or expired.
- (Green) the selected message router is connected and receiving data.

Each column in the **Average Ingress Bytes per Minute** and **Average Egress Bytes per Minute** graphs refers to the same column in the **Client** graph. For example, the first column in the **Average Ingress Bytes per Minute** and **Average Egress Bytes per Minute** graphs refers to the first column in the **Clients** graph. You can hover over each of the graphs to view the exact number of connections and the average number of incoming and outgoing bytes for each client.



**Title Bar:** Indicators and functionality might include the following:

← ↑ Open the previous and upper display.  
 Table Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.  
 ⚠ Open the **Alert Views - RTView Alerts Table** display.  
 + Open an instance of this display in a new window.  
 ? Open the online help page for this display.

**Note:** The upper icons (  ) also open displays within the **Message Routers** View.

**Filter By:**

The display might include these filtering options:

**Msg Router:** Select the message router for which you want to show data in the display.

**Last Data Time**

Last Data Time: 15-Aug-2016 14:34:00

The date and time the selected message router was last updated.

- Red indicates the selected message router is offline or expired.
- Green indicates the selected message router is connected and receiving data.

**Fields and Data:**

**Clients**

Lists the clients and the number of connections for each client for the selected message router. Hovering over each client in the graph displays the exact number of connections for the clients.

**Average Ingress Bytes per Minute**

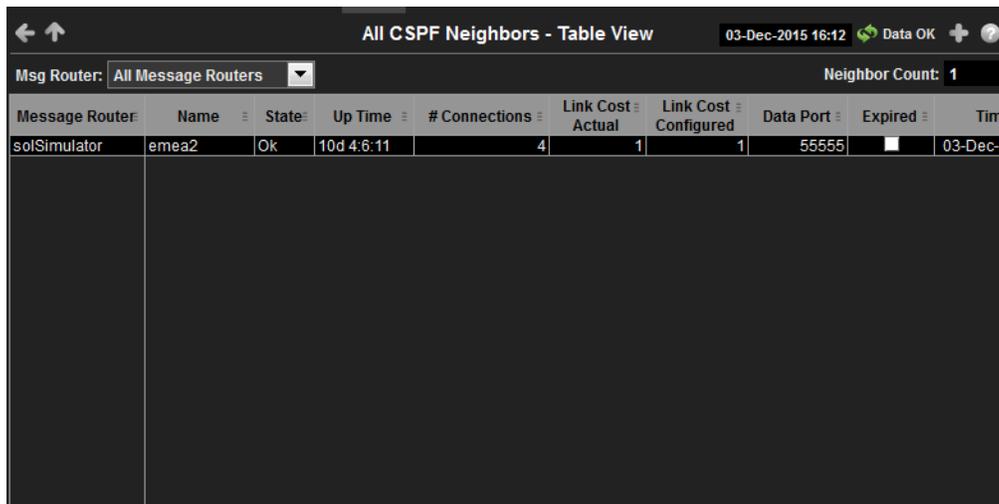
Displays the average number of incoming bytes per minute for each of the clients in the message router. Hovering over each column in this graph provides the exact number of incoming bytes per minute for the associated client.

**Average Egress Bytes per Minute**

Displays the average number of outgoing bytes per minute for each of the clients in the message router. Hovering over each column in this graph provides the exact number of outgoing bytes per minute for the associated client.

### CSPF Neighbors Table

This tabular display shows Content Shortest Path First (CSPF) “neighbor” metrics for a selected message router. View metrics for a Solace neighbor message router that uses the CSPF routing protocol to determine the least cost path in which to send messages from one message router to another message router in the Solace network.



| Message Router | Name  | State | Up Time    | # Connections | Link Cost Actual | Link Cost Configured | Data Port | Expired | Time    |
|----------------|-------|-------|------------|---------------|------------------|----------------------|-----------|---------|---------|
| solSimulator   | emea2 | Ok    | 10d 4:6:11 | 4             | 1                | 1                    | 55555     | ■       | 03-Dec- |

**Title Bar:** Indicators and functionality might include the following:

  Open the previous and upper display.  
 **Table** Navigate to displays commonly accessed from this display.  
 **19-Feb-2014 16:50** The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

### Filter By:

The display might include these filtering options:

**Msg Router** Choose the message router for which you want to show data in the display.

### Fields and Data:

**Message Router** The name of the message router.

**Name** The name of the “neighbor” message router.

**State** The current state of the message router.

**Up Time** The amount of time the message router has been up and running.

**Connections** The number of connections.

**Link Cost Actual** Refer to Solace documentation for more information.

**Link Cost Configured** Refer to Solace documentation for more information.

**Data Port** Refer to Solace documentation for more information.

**Expired** When checked, performance data about the message router has not been received within the time specified (in seconds) in the **\$solRowExpirationTime** field in the **conf\rtvpm\_solmon.properties** file. The **\$solRowExpirationTimeForDelete** field allows you to define the amount of time (in seconds) in which the row will be removed from the table if there is no response from the message router. To view/edit the current values, modify the following lines in the **.properties** file:

```
# Metrics data are considered expired after this number of seconds
#
collector.sl.rtvpm.sub=$solRowExpirationTime:45
collector.sl.rtvpm.sub=$solRowExpirationTimeForDelete:3600
```

In the example above, the **Expired** check box would be checked after 45 seconds, and the row would be removed from the table after 3600 seconds.

**Timestamp** The date and time the row data was last updated.

## VPNs

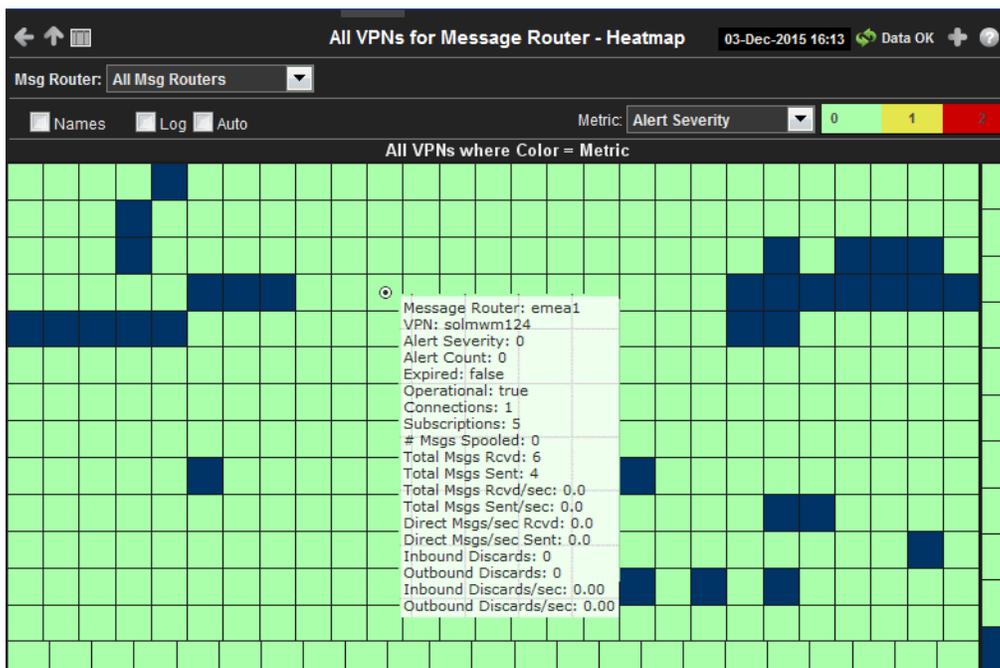
You can view data for all VPNs configured on a specific message router in heatmap, table, or grid formats, or you can view data for a single VPN. Displays in this View are:

- “All VPNs Heatmap” on page 548: A color-coded heatmap view of the current status of all VPNs configured on a specific message router.
- “All VPNs Table” on page 552: A tabular view of all available data for all VPNs configured on a specific router.
- “Top VPNs Grid” on page 555: Lists VPNs configured on a specific message router, in ascending or descending order, based on a selected metric.
- “Single VPN Summary” on page 557: Current and historical metrics for a single VPN.

### All VPNs Heatmap

View the status of all VPNs configured on a specific message router in a heatmap format, which allows you to quickly identify VPNs with critical alerts. Each rectangle in the heatmap represents a VPN. The rectangle color indicates the alert state for each VPN.

Select a message router from the **Msg Router** drop-down menu and select a metric from the **Metric** drop-down menu. Use the **Names** check-box  to include or exclude labels in the heatmap. By default, this display shows **Alert Severity**, but you can mouse over a rectangle to see additional metrics. Drill-down and investigate by clicking a rectangle in the heatmap to view details for the selected application in the “Single VPN Summary” display.



**Title Bar:** Indicators and functionality might include the following:

|  |  |
|--|--|
| <p> Open the previous and upper display.</p> <p> Navigate to displays commonly accessed from this display.</p> <p> 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the <b>Data OK</b> indicator is green, this is a strong indication that the platform is receiving current and valid data.</p> | <p> <b>Data OK</b> The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.</p> <p> Open the <b>Alert Views - RTView Alerts Table</b> display.</p> <p> Open an instance of this display in a new window.</p> <p> Open the online help page for this display.</p> |
|--|--|

### Filter By:

The display might include these filtering options:

**Msg Router** Choose the message router for which you want to view data in the display.

### Fields and Data:

**Names** Check the **Names** check box to include labels for each heatmap rectangle.

**Log** Select to enable a logarithmic scale. Use **Log Scale** to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. **Log Scale** makes data on both scales visible by applying logarithmic values rather than actual values to the data.

**Auto** Select to enable auto-scaling. When auto-scaling is activated, the color gradient bar's maximum range displays the highest value.

**Note:** Some metrics auto-scale automatically, even when **Auto** is not selected.

**Metric** Choose a metric to view in the display.

**Alert Severity** Visually displays the level at which the VPN has or has not exceeded its alarm level threshold. Values range from **0** - **2**, as indicated in the color gradient  bar, where **2** is the highest Alert Severity:

 Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.

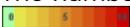
 Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.

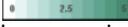
 Green indicates that no metrics have exceeded their alert thresholds.

**Alert Count** The total number of critical and warning alerts. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average alert count.

**Connections** The total number of connections. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the defined alert threshold of **SolVpnConnectionCountHigh**. The middle value in the gradient bar indicates the middle value of the range.

When **Auto** is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.

|                             |   |
|-----------------------------|---|
| <b>Subscriptions</b>        | <p>The total number of subscriptions. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the defined alert threshold of <b>SolVpnSubscriptionCountHigh</b>. The middle value in the gradient bar indicates the middle value of the range.</p> <p>When <b>Auto</b> is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.</p>                           |
| <b># Msgs Spooled</b>       | <p>The total number of spooled messages. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the defined alert threshold of <b>SolVpnEndpointPoolUsageHigh</b>. The middle value in the gradient bar indicates the middle value of the range.</p> <p>When <b>Auto</b> is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.</p>                        |
| <b>Total Msgs Rcvd</b>      | <p>The total number of received messages. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of messages received in the heatmap. The middle value in the gradient bar indicates the average count.</p> <p>The <b>Auto</b> flag does not impact this metric.</p>   |
| <b>Total Msgs Sent</b>      | <p>The total number of sent messages. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of messages sent in the heatmap. The middle value in the gradient bar indicates the average count.</p> <p>The <b>Auto</b> flag does not impact this metric.</p>   |
| <b>Total Msgs/sec Rcvd</b>  | <p>The number of messages received per second. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the defined alert threshold of <b>SolVpnInboundMsgRateHigh</b>. The middle value in the gradient bar indicates the middle value of the range.</p> <p>When <b>Auto</b> is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.</p>                     |
| <b>Total Msgs/sec Sent</b>  | <p>The number of messages sent per second. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the defined alert threshold of <b>SolVpnOutboundMsgRateHigh</b>. The middle value in the gradient bar indicates the middle value of the range.</p> <p>When <b>Auto</b> is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.</p>                        |
| <b>Total Bytes/sec Rcvd</b> | <p>The number of bytes contained in messages received per second. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the defined alert threshold of <b>SolVpnInboundByteRateHigh</b>. The middle value in the gradient bar indicates the middle value of the range.</p> <p>When <b>Auto</b> is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.</p> |

|  |   |
|--|---|
| <b>Total Bytes/<br/>sec Sent</b>       | <p>The number of bytes contained in direct messages sent per second. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the defined alert threshold of <b>SolMsgRouterOutboundByteRateHigh</b>. The middle value in the gradient bar indicates the middle value of the range.</p> <p>When <b>Auto</b> is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.</p>               |
| <b>Direct Msgs/<br/>sec Rcvd</b>       | <p>The number of direct messages received per second. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the average number of direct messages received per second in the heatmap. The middle value in the gradient bar indicates the average count.</p> <p>The <b>Auto</b> flag does not impact this metric.</p>  |
| <b>Direct Msgs/<br/>sec Sent</b>       | <p>The number of direct messages sent per second in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the average number of direct messages sent per second in the heatmap. The middle value in the gradient bar indicates the average count.</p> <p>The <b>Auto</b> flag does not impact this metric.</p>  |
| <b>Total Inbound<br/>Discards</b>      | <p>The total number of discarded inbound messages in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of discarded inbound messages in the heatmap. The middle value in the gradient bar indicates the average count.</p> <p>The <b>Auto</b> flag does not impact this metric.</p>   |
| <b>Total<br/>Outbound<br/>Discards</b> | <p>The total number of discarded outbound messages in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of discarded outbound messages in the heatmap. The middle value in the gradient bar indicates the average count.</p> <p>The <b>Auto</b> flag does not impact this metric.</p>   |
| <b>Inbound<br/>Discard Rate</b>        | <p>The number of discarded inbound messages per second in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the defined alert threshold of <b>SolVpnInboundDiscardRateHigh</b>. The middle value in the gradient bar indicates the middle value of the range.</p> <p>When <b>Auto</b> is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.</p>   |
| <b>Outbound<br/>Discard Rate</b>       | <p>The number of discarded outbound messages per second in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the defined alert threshold of <b>SolVpnOutboundDiscardRateHigh</b>. The middle value in the gradient bar indicates the middle value of the range.</p> <p>When <b>Auto</b> is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.</p> |

## All VPNs Table

View data shown in the “All VPNs Heatmap” display, as well as additional details, in a tabular format. Use this display to view all available data for each VPN associated with a specific message router.

Choose a message router from the **Msg Router** drop-down menu to view a list of all associated VPNs. Click a column header to sort column data in numerical or alphabetical order.

Drill-down and investigate by clicking a row to view details for the selected VPN in the “Single VPN Summary” display.

| Message Router | VPN Name     | Alert Severity | Alert Count | Mgmt Msg VPN | Enabled | Local Status | Operational | Locally Configured |
|----------------|--------------|----------------|-------------|--------------|---------|--------------|-------------|--------------------|
| solSimulator   | #config-sync | Green          | 0           | Yes          | Yes     | Up           | Yes         | Yes                |
| solSimulator   | aaron        | Green          | 0           | Yes          | Yes     | Up           | Yes         | Yes                |
| solSimulator   | adaptris1    | Green          | 0           | Yes          | Yes     | Up           | Yes         | Yes                |
| solSimulator   | adroitlogic  | Green          | 0           | Yes          | Yes     | Up           | Yes         | Yes                |
| solSimulator   | agdelta      | Green          | 0           | Yes          | Yes     | Down         | Yes         | Yes                |
| solSimulator   | agies1       | Green          | 0           | Yes          | Yes     | Up           | Yes         | Yes                |
| solSimulator   | agilesde     | Green          | 0           | Yes          | Yes     | Up           | Yes         | Yes                |
| solSimulator   | aiken        | Green          | 0           | Yes          | Yes     | Up           | Yes         | Yes                |
| solSimulator   | AJM          | Green          | 0           | Yes          | Yes     | Up           | Yes         | Yes                |
| solSimulator   | Akuna        | Green          | 0           | Yes          | Yes     | Up           | Yes         | Yes                |
| solSimulator   | AMEX         | Green          | 0           | Yes          | Yes     | Up           | Yes         | Yes                |
| solSimulator   | angela       | Green          | 0           | Yes          | Yes     | Up           | Yes         | Yes                |
| solSimulator   | apple_ca     | Green          | 0           | Yes          | Yes     | Up           | Yes         | Yes                |
| solSimulator   | apple_nc     | Green          | 0           | Yes          | Yes     | Up           | Yes         | Yes                |
| solSimulator   | apple_vpn    | Green          | 0           | Yes          | Yes     | Up           | Yes         | Yes                |
| solSimulator   | asponse1     | Green          | 0           | Yes          | Yes     | Up           | Yes         | Yes                |
| solSimulator   | att          | Green          | 0           | Yes          | Yes     | Up           | Yes         | Yes                |
| solSimulator   | att_vpn      | Green          | 0           | Yes          | Yes     | Up           | Yes         | Yes                |
| solSimulator   | ayers        | Green          | 0           | Yes          | Yes     | Up           | Yes         | Yes                |
| solSimulator   | azure        | Green          | 0           | Yes          | Yes     | Up           | Yes         | Yes                |
| solSimulator   | barchart     | Green          | 0           | Yes          | Yes     | Up           | Yes         | Yes                |
| solSimulator   | Basho        | Green          | 0           | Yes          | Yes     | Up           | Yes         | Yes                |
| solSimulator   | bcgroup      | Green          | 0           | Yes          | Yes     | Up           | Yes         | Yes                |

**Title Bar:** Indicators and functionality might include the following:

- Open the previous and upper display.
- Navigate to displays commonly accessed from this display.
- The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

Open the online help page for this display.

### Filter By:

The display might include these filtering options:

**Msg Router:** Choose the message router for which you want view data in the display.

### Fields and Data:

**VPN Count:** The total number of VPNs (rows) in the table.

### Table:

Column values describe the message router and its associated VPN.

|                                    |  |
|------------------------------------|--|
| <b>Message Router</b>              | The name of the message router.  |
| <b>VPN Name</b>                    | The name of the VPN.   |
| <b>Alert Severity</b>              | <p>The maximum level of alerts in the row. Values range from <b>0</b> - <b>2</b>, as indicated in the color gradient  bar, where <b>2</b> is the highest Alert Severity:</p> <ul style="list-style-type: none"> <li> Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.</li> <li> Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.</li> <li> Green indicates that no metrics have exceeded their alert thresholds.</li> </ul> |
| <b>Alert Count</b>                 | The total number of active alerts for the AppNode.   |
| <b>Is Mgmt Msg VPN</b>             | When checked, the VPN is used by the message router for management purposes.   |
| <b>Enabled</b>                     | When checked, the VPN was enabled via the command line interface or via SolAdmin.  |
| <b>Local Status</b>                | Displays the status of the VPN.  |
| <b>Operational</b>                 | When checked, this status indicates that the VPN is enabled and is operating normally.   |
| <b>Locally Configured</b>          | When checked, this status indicates that the VPN was configured locally using SolAdmin or the command line interface.  |
| <b>Dist Cache Mgmt Enabled</b>     | Refer to Solace documentation for more information.  |
| <b>Export Subscriptions</b>        | When checked, the export subscriptions policy allows subscriptions added locally to Message VPN to be advertised to the other message routers in the network.  |
| <b>Pending Messages</b>            | The current number of pending messages in the VPN.   |
| <b># Connections</b>               | The total number of message routers connected to the VPN.  |
| <b>Total Unique Subscriptions</b>  | The total number of unique subscriptions to the VPN.   |
| <b>Total Client Messages Rcvd</b>  | The total number of messages received from clients connected to the VPN.   |
| <b>Total Client Messages Sent</b>  | The total number of messages sent to clients connected to the VPN.   |
| <b>Total Client Bytes Rcvd</b>     | The total number of bytes contained in messages received from clients connected to the VPN.  |
| <b>Total Client Bytes Sent</b>     | The total number of bytes contained in messages sent to clients connected to the VPN.  |
| <b>Total Client Msgs/sec Rcvd</b>  | The total number of messages received per second from clients connected to the VPN.  |
| <b>Total Client Msgs /sec Sent</b> | The total number of messages sent per second to clients connected to the VPN.  |
| <b>Total Client Bytes/sec Rcvd</b> | The total number of bytes contained in messages received per second from clients connected to the VPN.   |
| <b>Total Client Bytes/sec Sent</b> | The total number of bytes contained in messages sent per second to clients connected to the VPN.   |

|  |   |
|--|---|
| <b>Client Direct Msgs Rcvd</b>             | The total number of direct messages received from clients connected to the VPN.   |
| <b>Client Direct Msgs Sent</b>             | The total number of direct messages sent to clients connected to the VPN.   |
| <b>Client Direct Bytes Rcvd</b>            | The total number of bytes contained in direct messages received from clients connected to the VPN.                        |
| <b>Client Direct Bytes Sent</b>            | The total number of bytes contained in direct messages sent to clients connected to the VPN.                              |
| <b>Client Direct Msgs/sec Rcvd</b>         | The total number of direct messages received per second from clients connected to the VPN.                                |
| <b>Client Direct Msgs/sec Sent</b>         | The total number of direct messages sent per second to clients connected to the VPN.                                      |
| <b>Client Direct Bytes/sec Rcvd</b>        | The total number of bytes contained in the direct messages received per second from clients connected to the VPN.         |
| <b>Client Direct Bytes/sec Sent</b>        | The total number of bytes contained in the direct messages sent per second to clients connected to the VPN.               |
| <b>Client NonPersistent Msgs Rcvd</b>      | The total number of non-persistent messages received from clients connected to the VPN.                                   |
| <b>Client NonPersistent Msgs Sent</b>      | The total number of non-persistent messages sent to clients connected to the VPN.   |
| <b>Client NonPersistent Bytes Rcvd</b>     | The total number of bytes contained in the non-persistent messages received from clients connected to the VPN.            |
| <b>Client NonPersistent Bytes Sent</b>     | The total number of bytes contained in the non-persistent messages sent per second to clients connected to the VPN.       |
| <b>Client NonPersistent Msgs/sec Rcvd</b>  | The total number of non-persistent messages received per second from clients connected to the VPN.                        |
| <b>Client NonPersistent Msgs/sec Sent</b>  | The total number of non-persistent messages sent per second to clients connected to the VPN.                              |
| <b>Client NonPersistent Bytes/sec Rcvd</b> | The total number of bytes contained in the non-persistent messages received per second from clients connected to the VPN. |
| <b>Client NonPersistent Bytes/sec Sent</b> | The total number of bytes contained in the non-persistent messages sent per second to clients connected to the VPN.       |
| <b>Client Persistent Msgs Rcvd</b>         | The total number of persistent messages received from clients connected to the VPN.                                       |
| <b>Client Persistent Msgs Sent</b>         | The total number of persistent messages sent to clients connected to the VPN.   |
| <b>Client Persistent Bytes Rcvd</b>        | The total number of bytes contained in persistent messages received from clients connected to the VPN.                    |

|   |   |
|---|---|
| <b>Client Persistent Bytes Sent</b>     | The total number of bytes contained in persistent messages sent to clients connected to the VPN.  |
| <b>Client Persistent Msgs/sec Rcvd</b>  | The total number of persistent messages received per second from clients connected to the VPN.  |
| <b>Client Persistent Msgs/sec Sent</b>  | The total number of persistent messages sent per second to clients connected to the VPN.  |
| <b>Client Persistent Bytes/sec Rcvd</b> | The total number of bytes contained in the persistent messages received per second from clients connected to the VPN.   |
| <b>Client Persistent Bytes/sec Sent</b> | The total number of bytes contained in the persistent messages sent per second to clients connected to the VPN.   |
| <b>Total In Discards</b>                | The total number of discarded incoming messages.  |
| <b>Total In Discards/sec</b>            | The number of discarded incoming messages per second.   |
| <b>Total Out Discards</b>               | The total number of discarded outgoing messages.  |
| <b>Total Out Discards/sec</b>           | The number of discarded outgoing messages per second.   |
| <b>Max Spool Usage (MB)</b>             | The maximum amount of disk storage (in megabytes) that can be consumed by all spooled message on the VPN.   |
| <b>Authentication Type</b>              | The defined authentication type on the VPN.   |
| <b>Expired</b>                          | <p>When checked, performance data about the VPN has not been received within the time specified (in seconds) in the <b>\$solRowExpirationTime</b> field in the <b>conf\rtvapm_solmon.properties</b> file. The <b>\$solRowExpirationTimeForDelete</b> field allows you to define the amount of time (in seconds) in which the row will be removed from the table if there is no response from the VPN. To view/edit the current values, modify the following lines in the <b>.properties</b> file:</p> <pre># Metrics data are considered expired after this number of seconds # collector.sl.rtvview.sub=\$solRowExpirationTime:45 collector.sl.rtvview.sub=\$solRowExpirationTimeForDelete:3600</pre> <p>In the example above, the <b>Expired</b> check box would be checked after 45 seconds, and the row would be removed from the table after 3600 seconds.</p> |
| <b>Time Stamp</b>                       | The date and time the row data was last updated.  |

## Top VPNs Grid

View the VPNs in ascending or descending order based on the number of pending messages, the number of incoming messages per second, or the number of outgoing messages per second.

Drill-down and investigate by clicking a row to view details for the selected VPN in the “Single VPN Summary” display.



**Title Bar:** Indicators and functionality might include the following:

- Open the previous and upper display.
- Navigate to displays commonly accessed from this display.
- The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

- Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

**Filter By/Sort By:**

The display includes these filtering/sorting options:

- Msg Router:** Choose the message router for which you want view data in the display.
- Sort By:** Select how you want to sort the data. You can select from **Pending Msgs**, **Msgs IN/sec**, and **Msgs OUT/sec**.
- Descending:** Select this check box to view the data in descending order based on the option selected in the **Sort By** drop down list. For example, select **Pending Msgs** in the **Sort By** drop down and select this toggle to view the VPNs (for the selected message router) with the most pending messages at the top of the display. Deselect this toggle to view the data in ascending order (for example, VPNs with the least pending messages at the top of the display).
- Time Range:** Select the length of time for which you want to view past data in the trend graphs. You can select from the last **2 Mins** up to the last **7 Days**, or you can view **All Data**.

**Fields and Data:**

- VPN** Displays the name of the VPN.

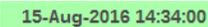
|                    |   |
|--------------------|---|
| <b>Uptime</b>      | Displays the length of time the VPN has been up and running.  |
| <b>Pend Msgs</b>   | Displays the number of pending messages for the VPN.  |
| <b>State</b>       | Displays the current status of the VPN.   |
| <b>In Rate</b>     | Displays the current Incoming Message Rate (per second) for the VPN.  |
| <b>Out Rate</b>    | Displays the current Outgoing Message Rate (per second) for the VPN.  |
| <b>Trend Graph</b> | Displays, in graph form, the Pending Messages, In Message Rate/sec, and Out Message Rate/sec based on the selected <b>Time Range</b> . For example, if <b>20 Mins</b> was selected in the <b>Time Range</b> drop down, the graph displays the total pending messages ( <b>Pend</b> ), the incoming message rates ( <b>IN</b> ), and the outgoing message rates ( <b>OUT</b> ) over the last 20 minutes. |

## Single VPN Summary

View alert, connection/destination, incoming message, outgoing message, and pending message information for a VPN.

### Data Quality Indicators:

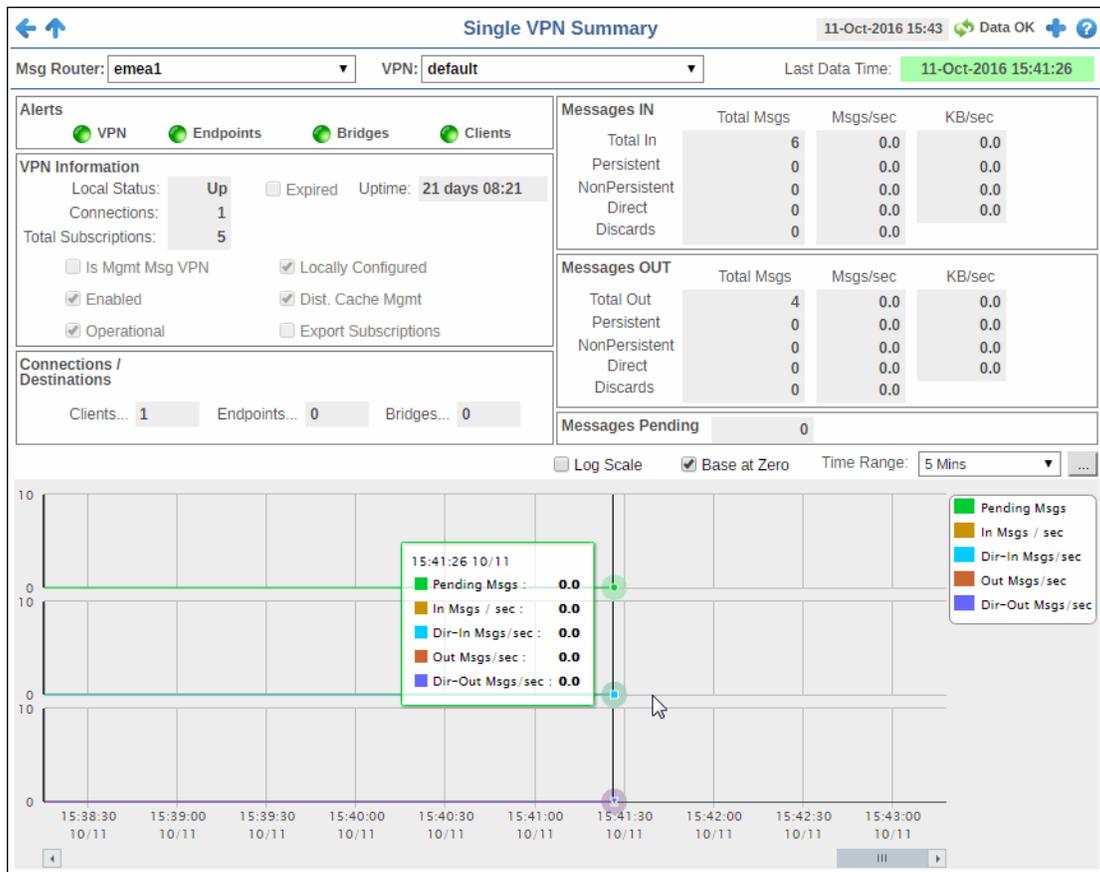
- When the display background color is  (Red) the data is stale.
- The Last Data Time shows the date and time the selected message router was last updated.

Last Data Time:  15-Aug-2016 14:34:00

If the **Last Data Time** background is:

-  (Red) the selected message router is offline or expired.

- (Green) the selected message router is connected and receiving data.



**Title Bar:** Indicators and functionality might include the following:

- ← ↑ Open the previous and upper display.
- Table Navigate to displays commonly accessed from this display.
- 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

- Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Alert Views - RTView Alerts Table Open the **Alert Views - RTView Alerts Table** display.
- + Open an instance of this display in a new window.
- ? Open the online help page for this display.

**Filter By:**

The display might include these filtering options:

- Msg Router:** Choose the message router for which you want to view data.
- VPN** Choose the VPN associated with the selected message router for which you want to view data.

**Last Data Time**

Last Data Time: 15-Aug-2016 14:34:00

- The date and time the selected message router was last updated.
- Red indicates the selected message router is offline or expired.
- Green indicates the selected message router is connected and receiving data.

**Fields and Data:****Alerts**

- Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.
- Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.
- Green indicates that no metrics have exceeded their alert thresholds.

**VPN** The current alert status for the VPN.

**Endpoints** The current alert status for the endpoints associated with the VPN.

**Bridges** The current alert status for the bridges associated with the VPN.

**Clients** The current alert status for the clients associated with the VPN.

**VPN Information**

**Local Status** The current status of the VPN.

**Connections** The total number of connections for the VPN.

**Total Subscriptions** The total number of subscriptions to the VPN.

**Expired** When checked, performance data about the VPN has not been received within the time specified (in seconds) in the **\$solRowExpirationTime** field in the **conf\rtvapm\_solmon.properties** file. The **\$solRowExpirationTimeForDelete** field allows you to define the amount of time (in seconds) in which the row will be removed from the table if there is no response from the VPN. To view/edit the current values, modify the following lines in the **.properties** file:

```
# Metrics data are considered expired after this number of
seconds
#
collector.sl.rtvview.sub=$solRowExpirationTime:45
collector.sl.rtvview.sub=$solRowExpirationTimeForDelete:3600
```

In the example above, the **Expired** check box would be checked after 45 seconds, and the row would be removed from the table after 3600 seconds.

**Uptime** If the VPN's **Local Status** is **Up**, this field displays the length of time that the VPN has been up and running.

**Is Mgmt Msg VPN** Displays whether or not the VPN is used by the message router for management purposes.

**Enabled** When checked, the VPN was enabled via the command line interface or SolAdmin.

**Operational** When checked, this status indicates that the VPN has been enabled and is operating normally.

**Locally Configured** When checked, the VPN was configured locally using the command line interface or SolAdmin. If unchecked, the VPN received configuration instructions from another message router.

**Dist. Cache Mgmt** Refer to Solace documentation for more information.

**Export Subscriptions** When checked, the export subscriptions policy allows subscriptions added locally to the Message VPN to be advertised to the other message routers in the network.

**Connections/ Destinations**

**Clients** The total number of connected clients.

**Endpoints** The total number of endpoints.

**Bridges** The total number of bridges connected to the VPN.

### Messages IN

**Total In** Displays the total incoming messages (**Total Msgs**), the total incoming message rate (**Msgs/sec**), and the total incoming kilobytes per second (**KB/sec**).

**Persistent** Displays the total number of incoming persistent messages (**Total Msgs**), the incoming persistent message rate (**Msgs/sec**), and the total incoming kilobytes per second (**KB/sec**) for the persistent messages.

**NonPersistent** Displays the total number of incoming non-persistent messages (**Total Msgs**), the incoming non-persistent message rate (**Msgs/sec**), and the total incoming kilobytes per second (**KB/sec**) for the non-persistent messages.

**Direct** Displays the total number of incoming direct messages (**Total Msgs**), the incoming direct message rate (**Msgs/sec**), and the total incoming kilobytes per second (**KB/sec**) for the direct messages.

**Discards** Displays the total number of incoming messages (**Total Msgs**) that were discarded, the incoming message rate (**Msgs/sec**) for the discarded messages, and the total kilobytes per second (**KB/sec**) of discarded incoming messages.

### Messages OUT

**Total In** Displays the total outgoing messages (**Total Msgs**), the total outgoing message rate (**Msgs/sec**), and the total outgoing kilobytes per second (**KB/sec**).

**Persistent** Displays the total number of outgoing persistent messages (**Total Msgs**), the outgoing persistent message rate (**Msgs/sec**), and the total outgoing kilobytes per second (**KB/sec**) for the persistent messages.

**NonPersistent** Displays the total number of outgoing non-persistent messages (**Total Msgs**), the outgoing non-persistent message rate (**Msgs/sec**), and the total outgoing kilobytes per second (**KB/sec**) for the non-persistent messages.

**Direct** Displays the total number of outgoing direct messages (**Total Msgs**), the outgoing direct message rate (**Msgs/sec**), and the total outgoing kilobytes per second (**KB/sec**) for the direct messages.

**Discards** Displays the total number of outgoing messages (**Total Msgs**) that were discarded, the outgoing message rate (**Msgs/sec**) for the discarded messages, and the total kilobytes per second (**KB/sec**) of discarded outgoing messages.

**Messages Pending** The total number of pending messages for the VPN.

### Trend Graphs

Traces the sum of process metrics for the VPN associated with the selected message router.

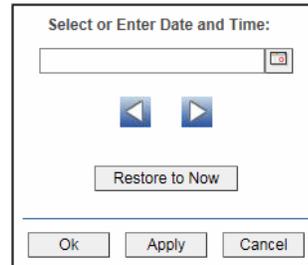
- **Pending Msgs**: The number of pending messages for the VPN.
- **In Msgs/sec**: The rate of incoming messages (per second) into the VPN.
- **Dir-In Msgs/sec**: The rate of direct incoming messages (per second) into the VPN.
- **Out Msgs/sec**: The rate of outgoing messages (per second) from the VPN.
- **Dir-Our Msgs/sec**: The rate of direct outgoing messages (per second) from the VPN.

### Log Scale

Select to enable a logarithmic scale. Use **Log Scale** to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. **Log Scale** makes data on both scales visible by applying logarithmic values rather than actual values to the data.

**Base at Zero** Select to use zero (**0**) as the Y axis minimum for all graph traces.

**Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

## Clients

These displays allow you to view the current and historical metrics for clients configured on a VPN. Displays in this View are:

- [“All Clients” on page 562](#): A color-coded heatmap view of data for all clients configured on a VPN.
- [“Single Client Summary” on page 567](#): This display allows you to view the current and historical metrics for a single client configured on a VPN in a table format.

## All Clients

This display allows you to view data for all clients configured on a VPN. Select the **Show: Expired** check box to include clients in the table that have been marked as expired because polls of the message router for client status data have not refreshed the data for the specific client ID. Select the **Internal** check box to include processes that run on the message router under the Solace OS. You can drill-down and view the details in the “[Single Client Summary](#)” display for a specific client by clicking on a row in the resulting table.

| Message Router | VPN     | Name   | Alert Severity | Alert Count | Type    | Uptime    |
|----------------|---------|--|----------------|-------------|---------|-----------|
| solDemo        | Broker1 | #bridge/local/testBridgeToNoWhere/solace/8670/ | Green          | 0           | Primary | 16772 day |
| solDemo        | Broker1 | #bridge/remote/B1_to_B2/v.solace/86673         | Green          | 0           | Primary | 526 day   |
| solDemo        | Broker1 | S-HOST10/4664/#00010001                        | Green          | 0           | Primary | 0 day     |

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Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

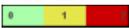
Open the online help page for this display.

### Filter By:

The display includes these filtering options:

- Msg Router:** Choose the message router for which you want to view data.
- VPN:** Select the VPN associated with the message router for which you want to view data.
- Client Count** The number of clients listed in the display.
- Show: Expired** Select to display client connections to the message router that are not currently active.
- Show: Internal** Select to display RTView processes that run on the message router under the Solace OS.

### Fields and Data:

|                                 |  |
|---------------------------------|--|
| <b>Message Router</b>           | Lists the name of the selected message router.   |
| <b>VPN</b>                      | Lists the name of the selected VPN.  |
| <b>Name</b>                     | The name of the client.  |
| <b>Alert Severity</b>           | <p>The maximum level of alerts in the row. Values range from <b>0</b> - <b>2</b>, as indicated in the color gradient  bar, where <b>2</b> is the highest Alert Severity:</p> <ul style="list-style-type: none"> <li> Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.</li> <li> Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.</li> <li> Green indicates that no metrics have exceeded their alert thresholds.</li> </ul> |
| <b>Alert Count</b>              | Total number of alerts for the client.   |
| <b>Type</b>                     | Lists the type of alert.   |
| <b>Uptime</b>                   | Lists the amount of time the client has been up and running.   |
| <b>Client ID</b>                | Lists the client ID.   |
| <b>Client UserName</b>          | Lists the user name for the client.  |
| <b>Client Address</b>           | The IP Address of the client.  |
| <b>Profile</b>                  | The client profile that is assigned to the client.   |
| <b>ACL Profile</b>              | The access control list profile to which the client is assigned.   |
| <b>Description</b>              | Lists a description of the client.   |
| <b>Platform</b>                 | Lists the platform of the client.  |
| <b>Software Version</b>         | The version of the platform.   |
| <b>Slow Subscriber</b>          | This check box will be checked if the client consistently fails to consume their messages at the offered rate (which causes their egress queues to fill up).   |
| <b>Total Flows Out</b>          | The total number of outbound message flows for the client.   |
| <b>Total Flows In</b>           | The total number of inbound message flows for the client.  |
| <b>Bind Requests</b>            | The number of bind requests made by the client.  |
| <b># Subscriptions</b>          | The number of subscribers connected to the client.   |
| <b>Add Sub Msgs Rcvd</b>        | The number of Add Subscription messages received.  |
| <b>Add Sub Msgs Sent</b>        | The number of Add Subscription Messages sent.  |
| <b>Already Exists Msgs Sent</b> | Refer to Solace documentation for more information.  |
| <b>Assured Ctrl Msgs Rcvd</b>   | Refer to Solace documentation for more information.  |
| <b>Assured Ctrl Msgs Sent</b>   | Refer to Solace documentation for more information.  |

|                                     |  |
|-------------------------------------|--|
| <b>Total Client Msgs Rcvd</b>       | The total number of messages received by the client.                                       |
| <b>Total Client Msgs Sent</b>       | The total number of messages sent by the client.   |
| <b>Total Client Bytes Rcvd</b>      | The total number of bytes contained within the messages received by the client.            |
| <b>Total Client Bytes Sent</b>      | The total number of bytes contained within the messages sent by the client.                |
| <b>Total Client Msgs Rcvd/sec</b>   | The total number of messages received per second by the client.                            |
| <b>Total Client Msgs Sent/sec</b>   | The total number of messages sent per second by the client.                                |
| <b>Total Client Bytes Rcvd/sec</b>  | The total number of bytes contained within the messages received per second by the client. |
| <b>Total Client Bytes Sent/sec</b>  | The total number of bytes contained within the messages sent per second by the client.     |
| <b>Ctl Bytes Rcvd</b>               | The number of control data bytes received by the client.                                   |
| <b>CTL Bytes Sent</b>               | The number of control data bytes sent by the client.                                       |
| <b>Ctl Msgs Rcvd</b>                | The number of control data messages received by the client.                                |
| <b>Ctl Msgs Sent</b>                | The number of control data messages sent by the client.                                    |
| <b>Client Data Bytes Rcvd</b>       | The number of bytes contained within the data messages received by the client.             |
| <b>Client Data Bytes Sent</b>       | The number of bytes contained within the data messages sent by the client.                 |
| <b>Client Data Msgs Rcvd</b>        | The number of data messages received by the client.  |
| <b>Client Data Msgs Sent</b>        | The number of data messages sent by the client.  |
| <b>Client Direct Msgs Rcvd</b>      | The number of direct messages received by the client.                                      |
| <b>Client Direct Msgs Sent</b>      | The number of direct messages sent by the client.  |
| <b>Client Direct Bytes Rcvd</b>     | The number of bytes contained within direct messages received by the client.               |
| <b>Client Direct Bytes Sent</b>     | The number of bytes contained within direct messages sent by the client.                   |
| <b>Client Direct Msgs Rcvd/sec</b>  | The number of direct messages received per second by the client.                           |
| <b>Client Direct Msgs Sent/sec</b>  | The number of direct messages sent per second by the client.                               |
| <b>Client Direct Bytes Rcvd/sec</b> | The number of bytes contained within the messages received per second by the client.       |

|  |  |
|--|--|
| <b>Client Direct Bytes Sent/sec</b>        | The number of bytes contained within the messages sent per second by the client.                   |
| <b>Client NonPersistent Msgs Rcvd</b>      | The number of non-persistent messages received by the client.                                      |
| <b>Client NonPersistent Msgs Sent</b>      | The number of non-persistent messages sent by the client.  |
| <b>Client NonPersistent Bytes Rcvd</b>     | The number of bytes contained within the non-persistent messages received by the client.           |
| <b>Client NonPersistent Bytes Sent</b>     | The number of bytes contained within the non-persistent messages sent by the client.               |
| <b>Client NonPersistent Msgs Rcvd/sec</b>  | The number of non-persistent messages received per second by the client.                           |
| <b>Client NonPersistent Msgs Sent/sec</b>  | The number of non-persistent messages sent per second by the client.                               |
| <b>Client NonPersistent Bytes Rcvd/sec</b> | The number of bytes contained within the non-persistent messages received per second by the client |
| <b>Client NonPersistent Bytes Sent/sec</b> | The number of bytes contained within the non-persistent messages sent per second by the client     |
| <b>Client Persistent Msgs Rcvd</b>         | The number of persistent messages received by the client.  |
| <b>Client Persistent Msgs Sent</b>         | The number of persistent messages sent by the client.  |
| <b>Client Persistent Bytes Rcvd</b>        | The number of bytes contained within the persistent messages received by the client.               |
| <b>Client Persistent Bytes Sent</b>        | The number of bytes contained within the persistent messages sent by the client.                   |
| <b>Client Persistent Msgs Rcvd/sec</b>     | The number of persistent messages received per second by the client.                               |
| <b>Client Persistent Msgs Sent/sec</b>     | The number of persistent messages sent per second by the client.                                   |
| <b>Client Persistent Bytes Rcvd/sec</b>    | The number of bytes contained within the persistent messages received per second by the client.    |

|   |   |
|---|---|
| <b>Client Persistent Bytes Sent/sec</b> | The number of bytes contained within the persistent messages sent per second by the client.   |
| <b>Denied Dup Clients</b>               | Refer to Solace documentation for more information.   |
| <b>Denied Subscribe Permission</b>      | The number of denied subscription requests due to improper permissions.   |
| <b>Denied Subscribe Topic-ACL</b>       | The number of denied subscriptions to topics due to the fact that the client requesting was not on the Access Control List.   |
| <b>Denied Unsubscribe Permission</b>    | The number of denied unsubscribe requests due to improper permissions.  |
| <b>Denied Unsubscribe Topic-ACL</b>     | The number of denied unsubscribe requests to topics due to the fact that the client requesting was not on the Access Control List.  |
| <b>DTO Msgs Rcvd</b>                    | The number of Deliver-To-One messages received by the client.   |
| <b>Egress Compressed Bytes</b>          | The number of compressed bytes contained within outgoing messages.  |
| <b>Ingress Compressed Bytes</b>         | The number of compressed bytes contained within incoming messages.  |
| <b>Total Ingress Discards</b>           | The total number of discarded incoming messages.  |
| <b>Total Egress Discards</b>            | The total number of discarded outgoing messages.  |
| <b>Total Ingress Discards/sec</b>       | The total number of discarded incoming messages per second.   |
| <b>Total Egress Discards/sec</b>        | The total number of discarded outgoing messages per second.   |
| <b>Keepalive Msgs Rcvd</b>              | The number of Keepalive messages received by the client.  |
| <b>Keepalive Msgs Sent</b>              | The number of Keepalive messages sent by the client.  |
| <b>Large Msgs Rcvd</b>                  | The number of large messages received by the client.  |
| <b>Login Msgs Rcvd</b>                  | The number of login message received by the client.   |
| <b>Max Exceeded Msgs Sent</b>           | The number of responses sent by the client informing the connected message router(s) that the number of the message(s) sent exceeded the maximum allowed.   |
| <b>Not Enough Space Msgs Sent</b>       | The number of responses sent by the client informing the connected message router(s) that the size of the message(s) sent exceeded the maximum allowable size, or that the message caused the client's Local Spool Quota to exceed the maximum amount of space. |

|  |  |
|--|--|
| <b>Not Found Msgs Sent</b>             | Refer to Solace documentation for more information.  |
| <b>Parse Error on Add Msgs Sent</b>    | Refer to Solace documentation for more information.  |
| <b>Parse Error on Remove Msgs Sent</b> | Refer to Solace documentation for more information.  |
| <b>Remove Subscription Msgs Rcvd</b>   | The number of remove subscription requests received by the client.   |
| <b>Remove Subscription Msgs Sent</b>   | The number of remove subscription requests sent by the client.   |
| <b>Subscribe Client Not Found</b>      | The number of subscription requests for clients that were not found.   |
| <b>Unsubscribe Client Not Found</b>    | The number of unsubscribe requests for clients that were not found.  |
| <b>Update Msgs Rcvd</b>                | Refer to Solace documentation for more information.  |
| <b>Update Msgs Sent</b>                | Refer to Solace documentation for more information.  |
| <b>Expired</b>                         | <p>When checked, performance data about the client has not been received within the time specified (in seconds) in the <b>\$solRowExpirationTime</b> field in the <b>conf\rtvpm_solmon.properties</b> file. The <b>\$solRowExpirationTimeForDelete</b> field allows you to define the amount of time (in seconds) in which the row will be removed from the table if there is no response from the client. To view/edit the current values, modify the following lines in the <b>.properties</b> file:</p> <pre># Metrics data are considered expired after this number of seconds # collector.sl.rtvpm.sub=\$solRowExpirationTime:45 collector.sl.rtvpm.sub=\$solRowExpirationTimeForDelete:3600</pre> <p>In the example above, the <b>Expired</b> check box would be checked after 45 seconds, and the row would be removed from the table after 3600 seconds.</p> |
| <b>Timestamp</b>                       | The date and time the row data was last updated.   |

## Single Client Summary

This display allows you to view the current and historical metrics for a single VPN client. You can view the **Client Type**, the **User Name**, the **Client ID**, the associated **Platform**, the current **Up Time**, and additional information specific to the client. You can also view the total number of incoming and outgoing messages, as well as the number of incoming and outgoing persistent, non-persistent, direct, and discarded messages.

### Data Quality Indicators:

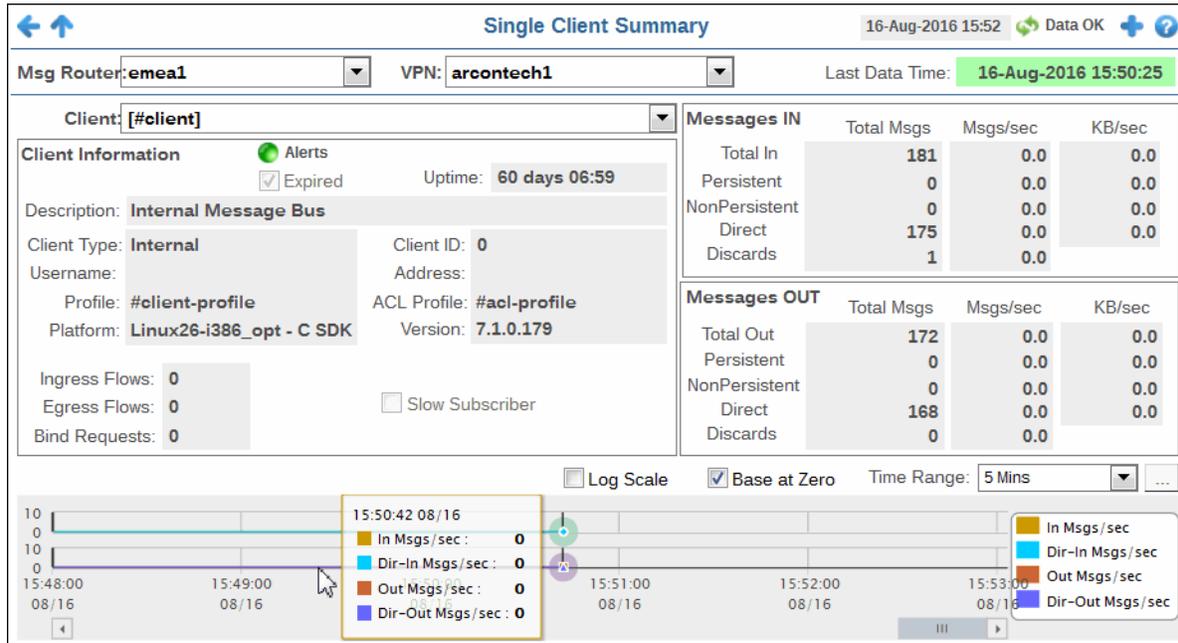
- When the display background color is  (Red) the data is stale.
- The Last Data Time shows the date and time the selected message router was last updated.

Last Data Time: 15-Aug-2016 14:34:00

If the **Last Data Time** background is:

- (Red) the selected message router is offline or expired.
- (Green) the selected message router is connected and receiving data.

This display also includes a trend graph containing the current and historical incoming messages per second, outgoing messages per second, incoming direct messages per second, and outgoing direct messages per second.



**Title Bar:** Indicators and functionality might include the following:

- ← ↑ Open the previous and upper display.
- Table Navigate to displays commonly accessed from this display.
- 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

- Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Alert icon Open the **Alert Views - RTView Alerts Table** display.
- + Open an instance of this display in a new window.
- ? Open the online help page for this display.

**Filter By:**

The display might include these filtering options:

- Msg Router:** Select the message router containing the VPN and client for which you want to view data.
- VPN** Select the VPN associated with the selected message router and containing the client for which you want to view data.
- Client** Select the client associated with the message router and VPN for which you want to view data.

**Fields and Data:**

**Last Data Time**

Last Data Time: 15-Aug-2016 14:34:00

The date and time the selected message router was last updated.

- Red indicates the selected message router is offline or expired.
- Green indicates the selected message router is connected and receiving data.

**Client Information****Alerts**

The current status of the Alerts.

- Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.
- Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.
- Green indicates that no metrics have exceeded their alert thresholds.

**Expired**

When checked, performance data about the client has not been received within the time specified (in seconds) in the **\$solRowExpirationTime** field in the **conf\rtvapm\_solmon.properties** file. The **\$solRowExpirationTimeForDelete** field allows you to define the amount of time (in seconds) in which the row will be removed from the table if there is no response from the client. To view/edit the current values, modify the following lines in the **.properties** file:

```
# Metrics data are considered expired after this number of
seconds
#
collector.sl.rtvievw.sub=$solRowExpirationTime:45
collector.sl.rtvievw.sub=$solRowExpirationTimeForDelete:36
00
```

In the example above, the **Expired** check box would be checked after 45 seconds, and the row would be removed from the table after 3600 seconds.

**Uptime**

If the VPN's **Local Status** is **Up**, this field displays the length of time that the VPN has been up and running.

**Description**

The description of the client.

**Client Type**

The client type.

**Username**

The client's user name.

**Profile**

The client's profile.

**Platform**

The client's platform

**Client ID**

The client ID.

**Address**

The client's IP address.

**ACL Profile**

The access control list profile to which the client is assigned.

**Version**

The client's version number.

**Ingress Flows**

The number of message flows coming into the client.

**Egress Flows**

The number of message flows going out of the client.

**Bind Requests**

The number of bind requests received by the client.

**Slow Subscriber**

This check box will be checked if the client consistently fails to consume their messages at the offered rate (which causes their egress queues to fill up).

|                         |   |  |
|-------------------------|---|--|
| <b>Messages IN</b>      | <b>Total In</b>                                   | Displays the total incoming messages ( <b>Total Msgs</b> ), the total incoming message rate ( <b>Msgs/sec</b> ), and the total incoming kilobytes per second ( <b>KB/sec</b> ).  |
|                         | <b>Persistent</b>                                 | Displays the total number of incoming persistent messages ( <b>Total Msgs</b> ), the incoming persistent message rate ( <b>Msgs/sec</b> ), and the total incoming kilobytes per second ( <b>KB/sec</b> ) for the persistent messages.                    |
|                         | <b>NonPersistent</b>                              | Displays the total number of incoming non-persistent messages ( <b>Total Msgs</b> ), the incoming non-persistent message rate ( <b>Msgs/sec</b> ), and the total incoming kilobytes per second ( <b>KB/sec</b> ) for the non-persistent messages.        |
|                         | <b>Direct</b>                                     | Displays the total number of incoming direct messages ( <b>Total Msgs</b> ), the incoming direct message rate ( <b>Msgs/sec</b> ), and the total incoming kilobytes per second ( <b>KB/sec</b> ) for the direct messages.                                |
|                         | <b>Discards</b>                                   | Displays the total number of incoming messages ( <b>Total Msgs</b> ) that were discarded, the incoming message rate ( <b>Msgs/sec</b> ) for the discarded messages, and the total kilobytes per second ( <b>KB/sec</b> ) of discarded incoming messages. |
| <b>Messages OUT</b>     | <b>Total Out</b>                                  | Displays the total outgoing messages ( <b>Total Msgs</b> ), the total outgoing message rate ( <b>Msgs/sec</b> ), and the total outgoing kilobytes per second ( <b>KB/sec</b> ).  |
|                         | <b>Persistent</b>                                 | Displays the total number of outgoing persistent messages ( <b>Total Msgs</b> ), the outgoing persistent message rate ( <b>Msgs/sec</b> ), and the total outgoing kilobytes per second ( <b>KB/sec</b> ) for the persistent messages.                    |
|                         | <b>NonPersistent</b>                              | Displays the total number of outgoing non-persistent messages ( <b>Total Msgs</b> ), the outgoing non-persistent message rate ( <b>Msgs/sec</b> ), and the total outgoing kilobytes per second ( <b>KB/sec</b> ) for the non-persistent messages.        |
|                         | <b>Direct</b>                                     | Displays the total number of outgoing direct messages ( <b>Total Msgs</b> ), the outgoing direct message rate ( <b>Msgs/sec</b> ), and the total outgoing kilobytes per second ( <b>KB/sec</b> ) for the direct messages.                                |
|                         | <b>Discards</b>                                   | Displays the total number of outgoing messages ( <b>Total Msgs</b> ) that were discarded, the outgoing message rate ( <b>Msgs/sec</b> ) for the discarded messages, and the total kilobytes per second ( <b>KB/sec</b> ) of discarded outgoing messages. |
| <b>Messages Pending</b> | The total number of pending messages for the VPN. |  |

**Trend Graphs**

Traces the sum of process metrics for the client associated with the selected message router and VPN.

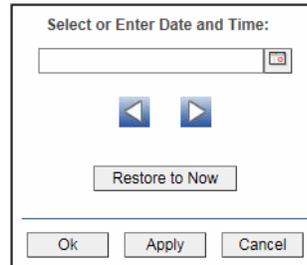
- **In Msgs/sec**: The rate of incoming messages (per second) into the client.
- **Dir-In Msgs/sec**: The rate of direct incoming messages (per second) into the client.
- **Out Msgs/sec**: The rate of outgoing messages (per second) from the client.
- **Dir-Out Msgs/sec**: The rate of direct outgoing messages (per second) from the client.

**Log Scale**

Select to enable a logarithmic scale. Use **Log Scale** to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. **Log Scale** makes data on both scales visible by applying logarithmic values rather than actual values to the data.

**Base at Zero** Select to use zero (**0**) as the Y axis minimum for all graph traces.

**Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

## Bridges

These displays provide process data for bridges configured on a VPN. Displays in this View are:

- [“All Bridges” on page 572](#): A tabular view of all available process performance data for all bridges configured on a VPN.
- [“Single Bridge Summary” on page 575](#): Current and historical metrics for a single bridge.

## All Bridges

This display allows you to view data for all bridges configured for a VPN. Rows listing bridges that are disabled or expired display with a shaded background. You can drill-down and view the details in the “Single Bridge Summary” display for a specific bridge by clicking on a row in the resulting table.

| Message Router | Local VPN    | Bridge Name                    | Alert Severity | Alert Count | Remote       |
|----------------|--------------|--------------------------------|----------------|-------------|--------------|
| solDemo        | Broker1      | #bridge/v:solace/Broker2/3     | Green          | 0           | Broker2      |
| solDemo        | Broker1      | testBridgeToNoWhere            | Green          | 0           |              |
| solDemo        | Broker2      | B1_to_B2                       | Green          | 0           | Broker1      |
| solSimulator   | aiken        | hkjc_test_bridge               | Green          | 0           | lab          |
| solSimulator   | azure        | azurebridge                    | Green          | 0           |              |
| solSimulator   | BT1          | #bridge/v:demo-tr/BT2/1        | Green          | 0           | BT2          |
| solSimulator   | BT2          | BT1toBT2                       | Green          | 0           | BT1          |
| solSimulator   | coherence1   | coher2ToCoher1                 | Green          | 0           | coherence2   |
| solSimulator   | coherence2   | coher1ToCoher2                 | Green          | 0           | coherence1   |
| solSimulator   | coh-rep-from | #bridge/v:demo-tr/coh-rep-to/9 | Green          | 0           | coh-rep-to   |
| solSimulator   | coh-rep-to   | coh-from2coh-to                | Green          | 0           | coh-rep-from |
| solSimulator   | gjw          | gjwbridge                      | Green          | 0           |              |
| solSimulator   | hans_pub     | #bridge/v:demo-tr/hans_vpn/35  | Green          | 0           | hans_vpn     |
| solSimulator   | hans_vpn     | #bridge/v:demo-tr/heinzvpn/33  | Green          | 0           | heinzvpn     |
| solSimulator   | hans_vpn     | hansbridge                     | Green          | 0           | hans_pub     |
| solSimulator   | heinzvpn     | heinzBridge                    | Green          | 0           |              |
| solSimulator   | heinzvpn     | pattersonBridge                | Green          | 0           | hans_vpn     |
| solSimulator   | jc-vpn1      | jc-vpn1to2                     | Green          | 0           | jc-vpn2      |
| solSimulator   | jc-vpn2      | #bridge/v:demo-tr/jc-vpn1/13   | Green          | 0           | jc-vpn1      |
| solSimulator   | ken          | kenBridge                      | Green          | 0           |              |
| solSimulator   | lab          | #bridge/v:demo-tr/aiken/8      | Green          | 0           | aiken        |
| solSimulator   | lab          | hkjc_bridge_test               | Green          | 0           | sumeet       |
| solSimulator   | mat          | matbr1                         | Green          | 0           | mat123       |
| solSimulator   | mat          | mb                             | Green          | 0           | mat2         |

**Title Bar:** Indicators and functionality might include the following:



Open the previous and upper display.

**Table** Navigate to displays commonly accessed from this display.

19-Feb-2014 16:50

The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.



**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.



Open the **Alert Views - RTView Alerts Table** display.



Open an instance of this display in a new window.



Open the online help page for this display.

### Filter By:

The display might include these filtering options:

**Msg Router:** Select the message router for which you want to view data.

**VPN** Select the VPN associated with the selected message router for which you want to view data.

### Fields and Data:

**Bridge Count:** The total number of bridges found that were configured on the VPN and are displayed in the table.

**Message Router** Displays the name of the message router

|                                     |   |
|-------------------------------------|---|
| <b>Local VPN</b>                    | The name of the local VPN.  |
| <b>Bridge Name</b>                  | The name of the bridge.   |
| <b>Alert Severity</b>               | The current level of alerts in the row.<br> Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.<br> Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.<br> Green indicates that no metrics have exceeded their alert thresholds. |
| <b>Alert Count</b>                  | The total number of active alerts for the process.  |
| <b>Remote VPN</b>                   | The name of the remote VPN that is connected to the local VPN via the bridge.   |
| <b>Remote Router</b>                | The name of the remote router.  |
| <b>Admin State</b>                  | Indicates whether the bridge has been administratively enabled (via SolAdmin or the command line interface).  |
| <b>Inbound Operational State</b>    | The current inbound operational status of the bridge. (The administrator can turn off a bridge's input or output for maintenance or other reasons.)   |
| <b>Outbound Operational State</b>   | The current outbound operational status of the bridge. (The administrator can turn off a bridge's input or output for maintenance or other reasons.)  |
| <b>Queue Operational State</b>      | The current operational status of the queue.  |
| <b>Connection Establisher</b>       | Indicates whether the administrator created and configured the bridge directly on the message router using SolAdmin or the command line interface, or indirectly from another message router.   |
| <b>Redundancy</b>                   | Displays whether the bridge is the <b>primary</b> bridge, the <b>backup</b> bridge, the <b>static</b> bridge (default bridge used when no other bridge is available), or whether it is the only bridge available ( <b>none</b> ).   |
| <b>Uptime</b>                       | The current amount of time in which the bridge has been up and running.   |
| <b>Client Name</b>                  | The name of the client.   |
| <b>Connected Via Addr</b>           | The local IP address and port used for the bridge.  |
| <b>Connected Via Interface</b>      | The name of the network interface used for the bridge.  |
| <b>Client Direct Bytes Rcvd</b>     | The number of bytes contained within direct messages received by the client via the bridge.   |
| <b>Client Direct Bytes/sec Rcvd</b> | The number of bytes contained within direct messages received per second by the client via the bridge.  |
| <b>Client Direct Bytes Sent</b>     | The number of bytes contained within direct messages sent by the client via the bridge.   |
| <b>Client Direct Bytes/sec Sent</b> | The number of bytes contained within direct messages sent per second by the client via the bridge.  |
| <b>Client Direct Msgs/sec Rcvd</b>  | The number of bytes contained within direct messages received per second by the client via the bridge.  |

|  |  |
|--|--|
| <b>Client Direct Msgs Sent</b>             | The number of direct messages sent by the client via the bridge.   |
| <b>Client Direct Msgs/sec Sent</b>         | The number of direct messages sent per second by the client via the bridge.                                    |
| <b>Client NonPersistent Bytes Rcvd</b>     | The number of bytes contained within non-persistent messages received by the client via the bridge.            |
| <b>Client NonPersistent Bytes/sec Rcvd</b> | The number of bytes contained within non-persistent messages received per second by the client via the bridge. |
| <b>Client NonPersistent Bytes Sent</b>     | The number of bytes contained within non-persistent messages sent by the client via the bridge.                |
| <b>Client NonPersistent Bytes/sec Sent</b> | The number of bytes contained within non-persistent messages sent per second by the client via the bridge.     |
| <b>Client NonPersistent Msgs Rcvd</b>      | The number of non-persistent messages received by the client via the bridge.                                   |
| <b>Client NonPersistent Msgs/sec Rcvd</b>  | The number of non-persistent messages received per second by the client via the bridge.                        |
| <b>Client NonPersistent Msgs Sent</b>      | The number of non-persistent messages sent by the client via the bridge.                                       |
| <b>Client NonPersistent Msgs/sec Sent</b>  | The number of non-persistent messages sent per second by the client via the bridge.                            |
| <b>Client Persistent Bytes Rcvd</b>        | The number of bytes contained within persistent messages received by the client via the bridge.                |
| <b>Client Persistent Bytes/sec Rcvd</b>    | The number of bytes contained within persistent messages received per second by the client via the bridge.     |
| <b>Client Persistent Bytes Sent</b>        | The number of bytes contained within persistent messages sent by the client via the bridge.                    |
| <b>Client Persistent Bytes/sec Sent</b>    | The number of bytes contained within persistent messages sent per second by the client via the bridge.         |
| <b>Client Persistent Msgs Rcvd</b>         | The number of persistent messages received by the client via the bridge.                                       |
| <b>Client Persistent Msgs /sec Rcvd</b>    | The number of persistent messages received per second by the client via the bridge.                            |

|  |   |
|--|---|
| <b>Client Persistent Msgs Sent</b>     | The number of persistent messages sent by the client via the bridge.  |
| <b>Client Persistent Msgs/sec Sent</b> | The number of persistent messages sent per second by the client via the bridge.   |
| <b>Total Client Bytes Rcvd</b>         | The number of bytes contained within all messages received by the client via the bridge.  |
| <b>Total Client Bytes/sec Rcvd</b>     | The number of bytes contained within all messages received per second by the client via the bridge.   |
| <b>Total Client Bytes Sent</b>         | The number of bytes contained within all messages sent by the client via the bridge.  |
| <b>Total Client Bytes/sec Sent</b>     | The number of bytes contained within all messages sent per second by the client via the bridge.   |
| <b>Total Client Msgs Rcvd</b>          | The total number of all messages received by the client via the bridge.   |
| <b>Total Client Msgs/sec Rcvd</b>      | The total number of all messages received per second by the client via the bridge.  |
| <b>Total Client Msgs Sent</b>          | The total number of all messages sent by the client via the bridge.   |
| <b>Total Client Msgs/sec Sent</b>      | The total number of all messages sent per second by the client via the bridge.  |
| <b>Total Out Discards</b>              | The total number of discarded outgoing messages sent by the client via the bridge.  |
| <b>Total Out Discards/sec</b>          | The total number of discarded outgoing messages sent per second by the client via the bridge.   |
| <b>Total In Discards</b>               | The total number of discarded incoming messages received by the client via the bridge.  |
| <b>Total In Discards/sec</b>           | The total number of discarded incoming messages received per second by the client via the bridge.   |
| <b>Expired</b>                         | <p>When checked, performance data about the bridge has not been received within the time specified (in seconds) in the <b>\$solRowExpirationTime</b> field in the <b>conf\rtvapm_solmon.properties</b> file. The <b>\$solRowExpirationTimeForDelete</b> field allows you to define the amount of time (in seconds) in which the row will be removed from the table if there is no response from the bridge. To view/edit the current values, modify the following lines in the <b>.properties</b> file:</p> <pre># Metrics data are considered expired after this number of seconds # collector.sl.rtvview.sub=\$solRowExpirationTime:45 collector.sl.rtvview.sub=\$solRowExpirationTimeForDelete:3600</pre> <p>In the example above, the <b>Expired</b> check box would be checked after 45 seconds, and the row would be removed from the table after 3600 seconds.</p> |
| <b>Timestamp</b>                       | The date and time the row data was last updated.  |

## Single Bridge Summary

This display allows you to view data for a specific bridge configured on a VPN.

**Data Quality Indicators:**

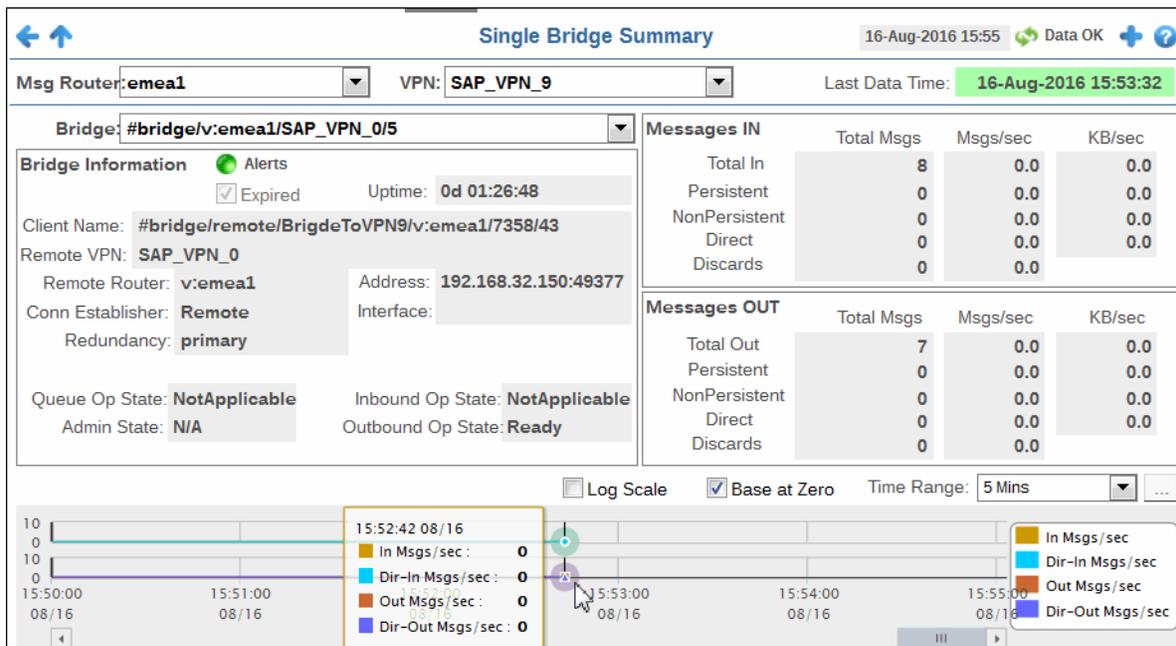
- When the display background color is ● (Red) the data is stale.
- The Last Data Time shows the date and time the selected message router was last updated.

Last Data Time: 15-Aug-2016 14:34:00

If the **Last Data Time** background is:

- (Red) the selected message router is offline or expired.
- (Green) the selected message router is connected and receiving data.

Choose a message router, VPN, and a bridge from the drop-down menus, and use the **Time-Range** to “zoom-in” or “zoom-out” on a specific time frame in the trend graph.



**Title Bar:** Indicators and functionality might include the following:

- Open the previous and upper display.
- Navigate to displays commonly accessed from this display.
- The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

- The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

**Filter By:**

The display might include these filtering options:

- Msg Router:** Select the message router containing the VPN and client for which you want to view data.

**VPN** Select the VPN associated with the selected message router and containing the client for which you want to view data.

**Bridge** Select the bridge associated with the message router and VPN for which you want to view data.

### Fields and Data:

#### Last Data Time

Last Data Time: 15-Aug-2016 14:34:00

The date and time the selected message router was last updated.

● Red indicates the selected message router is offline or expired.

● Green indicates the selected message router is connected and receiving data.

#### Bridge Information

##### Alerts

The current status of the Alerts.

● Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.

● Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.

● Green indicates that no metrics have exceeded their alert thresholds.

##### Expired

When checked, performance data about the bridge has not been received within the time specified (in seconds) in the **\$solRowExpirationTime** field in the **conf\rtvapm\_solmon.properties** file. The **\$solRowExpirationTimeForDelete** field allows you to define the amount of time (in seconds) in which the row will be removed from the table if there is no response from the bridge. To view/edit the current values, modify the following lines in the **.properties** file:

```
# Metrics data are considered expired after this number of
seconds
#
collector.sl.rtvview.sub=$solRowExpirationTime:45
collector.sl.rtvview.sub=$solRowExpirationTimeForDelete:3600
```

In the example above, the **Expired** check box would be checked after 45 seconds, and the row would be removed from the table after 3600 seconds.

##### Uptime

Displays the length of time that the bridge has been up and running.

##### Client Name

The name of the client.

##### Remote VPN

The name of the remote VPN that is connected to the local VPN via the bridge.

##### Remote Router

The name of the remote router.

##### Conn Establisher

Refer to Solace documentation for more information.

##### Redundancy

Indicates whether the bridge is the **primary** bridge, the **backup** bridge, the **static** bridge (default bridge used when no other bridge is available), or whether it is the only bridge available (**none**).

##### Address

The IP address.

##### Interface

The interface ID.

##### Queue Op State

Refer to Solace documentation for more information.

##### Admin State

Indicates whether the bridge has been administratively enabled (via SolAdmin or the command line interface).

|                     |                          |  |
|---------------------|--------------------------|--|
|                     | <b>Inbound Op State</b>  | The current inbound operational status of the bridge. (The administrator can turn off a bridge's input or output for maintenance or other reasons.)  |
|                     | <b>Outbound Op State</b> | The current outbound operational status of the bridge. (The administrator can turn off a bridge's input or output for maintenance or other reasons.)   |
| <b>Messages IN</b>  | <b>Total In</b>          | Displays the total incoming messages ( <b>Total Msgs</b> ), the total incoming message rate ( <b>Msgs/sec</b> ), and the total incoming kilobytes per second ( <b>KB/sec</b> ).  |
|                     | <b>Persistent</b>        | Displays the total number of incoming persistent messages ( <b>Total Msgs</b> ), the incoming persistent message rate ( <b>Msgs/sec</b> ), and the total incoming kilobytes per second ( <b>KB/sec</b> ) for the persistent messages.                    |
|                     | <b>NonPersistent</b>     | Displays the total number of incoming non-persistent messages ( <b>Total Msgs</b> ), the incoming non-persistent message rate ( <b>Msgs/sec</b> ), and the total incoming kilobytes per second ( <b>KB/sec</b> ) for the non-persistent messages.        |
|                     | <b>Direct</b>            | Displays the total number of incoming direct messages ( <b>Total Msgs</b> ), the incoming direct message rate ( <b>Msgs/sec</b> ), and the total incoming kilobytes per second ( <b>KB/sec</b> ) for the direct messages.                                |
|                     | <b>Discards</b>          | Displays the total number of incoming messages ( <b>Total Msgs</b> ) that were discarded, the incoming message rate ( <b>Msgs/sec</b> ) for the discarded messages, and the total kilobytes per second ( <b>KB/sec</b> ) of discarded incoming messages. |
| <b>Messages OUT</b> | <b>Total Out</b>         | Displays the total outgoing messages ( <b>Total Msgs</b> ), the total outgoing message rate ( <b>Msgs/sec</b> ), and the total outgoing kilobytes per second ( <b>KB/sec</b> ).  |
|                     | <b>Persistent</b>        | Displays the total number of outgoing persistent messages ( <b>Total Msgs</b> ), the outgoing persistent message rate ( <b>Msgs/sec</b> ), and the total outgoing kilobytes per second ( <b>KB/sec</b> ) for the persistent messages.                    |
|                     | <b>NonPersistent</b>     | Displays the total number of outgoing non-persistent messages ( <b>Total Msgs</b> ), the outgoing non-persistent message rate ( <b>Msgs/sec</b> ), and the total outgoing kilobytes per second ( <b>KB/sec</b> ) for the non-persistent messages.        |
|                     | <b>Direct</b>            | Displays the total number of outgoing direct messages ( <b>Total Msgs</b> ), the outgoing direct message rate ( <b>Msgs/sec</b> ), and the total outgoing kilobytes per second ( <b>KB/sec</b> ) for the direct messages.                                |
|                     | <b>Discards</b>          | Displays the total number of outgoing messages ( <b>Total Msgs</b> ) that were discarded, the outgoing message rate ( <b>Msgs/sec</b> ) for the discarded messages, and the total kilobytes per second ( <b>KB/sec</b> ) of discarded outgoing messages. |

### Trend Graphs

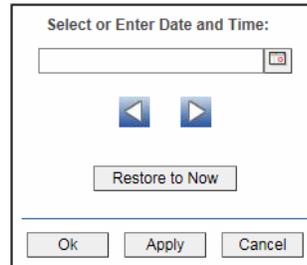
Traces the sum of process metrics for the client associated with the selected message router and VPN.

- **In Msgs/sec**: The rate of incoming messages (per second) into the client.
- **Dir-In Msgs/sec**: The rate of direct incoming messages (per second) into the client.
- **Out Msgs/sec**: The rate of outgoing messages (per second) from the client.
- **Dir-Out Msgs/sec**: The rate of direct outgoing messages (per second) from the client.

**Log Scale** Select to enable a logarithmic scale. Use **Log Scale** to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. **Log Scale** makes data on both scales visible by applying logarithmic values rather than actual values to the data.

**Base at Zero** Select to use zero (0) as the Y axis minimum for all graph traces.

**Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

## Endpoints

These displays list data for one or more endpoints configured on a VPN. Displays in this View are:

- ["All Endpoints" on page 580](#)
- ["Single Endpoint Summary" on page 582](#)
- ["Single Endpoint Summary Rates" on page 585](#)

## All Endpoints

This display lists data in a table for all endpoints configured on a VPN. Each row in the table lists the details for a specific endpoint. You can click a column header to sort column data in numerical or alphabetical order, or drill-down and view details for a specific endpoint in the “Single Endpoint Summary” display by clicking on a row in the table.

**Title Bar:** Indicators and functionality might include the following:

- Open the previous and upper display.
- Table** Navigate to displays commonly accessed from this display.
- 19-Feb-2014 16:50** The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

- Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

### Filter By:

The display might include these filtering options:

- Msg Router:** Select the message router for which you want to view data.
- VPN** Select the VPN associated with the selected message router for which you want to view data.

### Fields and Data:

- Endpoint Count:** The total number of endpoints configured on the VPN and displayed in the table.
- Message Router** Displays the name of the message router

|                             |   |
|-----------------------------|---|
| <b>VPN</b>                  | The name of the VPN.  |
| <b>Endpoint Name</b>        | The name of the endpoint.   |
| <b>Alert Severity</b>       | <p>The current alert severity in the row.</p> <ul style="list-style-type: none"> <li><span style="color: red;">●</span> Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.</li> <li><span style="color: yellow;">●</span> Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.</li> <li><span style="color: green;">●</span> Green indicates that no metrics have exceeded their alert thresholds.</li> </ul>  |
| <b>Alert Count</b>          | The total number of active alerts for the endpoint.   |
| <b>Endpoint Type</b>        | The type of endpoint (either queue or topic).   |
| <b>Durable</b>              | Displays whether or not the endpoint is durable (checked) or non-durable (unchecked). Durable endpoints remain after an message router restart and are automatically restored as part of an message router's backup and restoration process.  |
| <b>In Config Status</b>     | Refer to Solace documentation for more information.   |
| <b>Out Config Status</b>    | Refer to Solace documentation for more information.   |
| <b>Type</b>                 | Refer to Solace documentation for more information.   |
| <b>Access Type</b>          | Refer to Solace documentation for more information.   |
| <b>Bind Count</b>           | The total number of binds connected to the endpoint.  |
| <b>Pending Messages</b>     | The total number of pending messages on the endpoint.   |
| <b>Spool Usage (MB)</b>     | The total spool usage consumed on the endpoint (in megabytes).  |
| <b>High Water Mark (MB)</b> | The highest level of spool usage on the endpoint (in megabytes).  |
| <b>In Selector</b>          | Refer to Solace documentation for more information.   |
| <b>Out Selector</b>         | Refer to Solace documentation for more information.   |
| <b>Expired</b>              | <p>When checked, performance data about the endpoint has not been received within the time specified (in seconds) in the <b>\$solRowExpirationTime</b> field in the <b>conf\rtvapm_solmon.properties</b> file. The <b>\$solRowExpirationTimeForDelete</b> field allows you to define the amount of time (in seconds) in which the row will be removed from the table if there is no response from the endpoint. To view/edit the current values, modify the following lines in the <b>.properties</b> file:</p> <pre># Metrics data are considered expired after this number of seconds # collector.sl.rtvview.sub=\$solRowExpirationTime:45 collector.sl.rtvview.sub=\$solRowExpirationTimeForDelete:3600</pre> <p>In the example above, the <b>Expired</b> check box would be checked after 45 seconds, and the row would be removed from the table after 3600 seconds.</p> |
| <b>Time Stamp</b>           | The date and time the data was last updated.  |

## Single Endpoint Summary

This display allows you to view endpoint information, message data, and a trend graph for pending and spool messages for a specific endpoint configured on a VPN. Choose a message router, VPN, and an endpoint from the drop-down menus, and use the **Time Range** to “zoom-in” or “zoom-out” on a specific time frame in the trend graph.

### Data Quality Indicators:

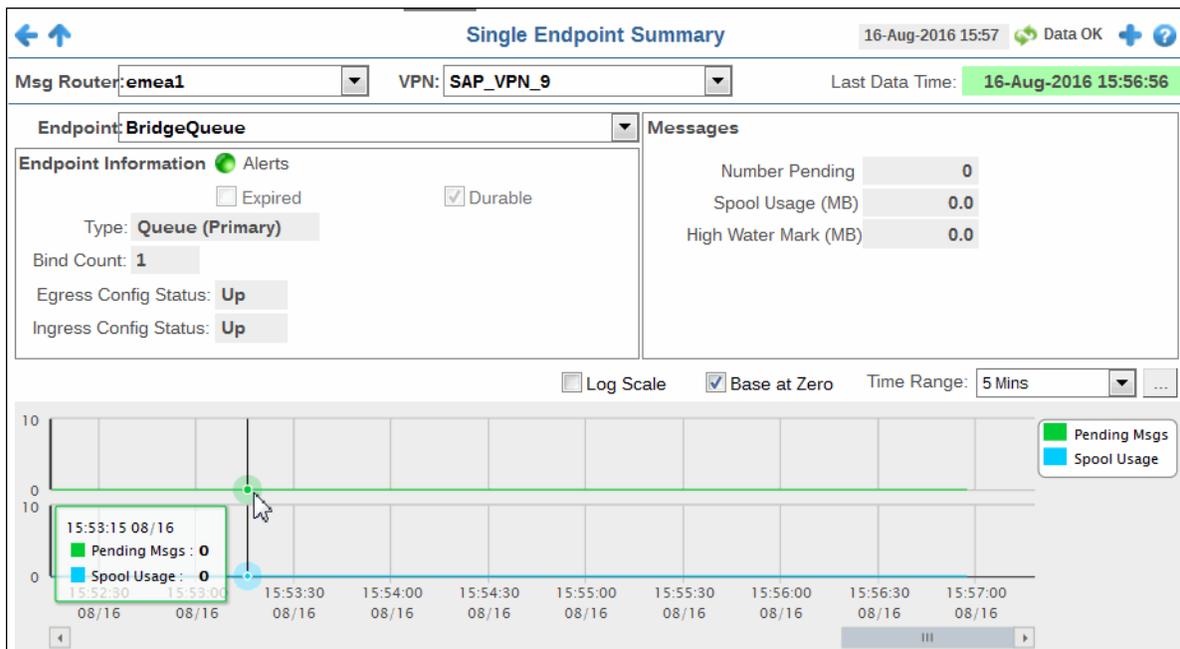
- When the display background color is ● (Red) the data is stale.
- The Last Data Time shows the date and time the selected message router was last updated.

Last Data Time: 15-Aug-2016 14:34:00

If the **Last Data Time** background is:

- (Red) the selected message router is offline or expired.
- (Green) the selected message router is connected and receiving data.

This display is provided by default and should be used if you do not want to collect message spool data for specific VPNs. However, if you do want to configure message spool monitoring for specific VPNs, then you should use the **Single Endpoint Summary Rates** display instead, which is not included in the navigation tree by default. See [“Single Endpoint Summary Rates”](#) for more information on disabling the **Single Endpoint Summary** display and enabling the **Single Endpoint Summary Rates** display.



**Title Bar:** Indicators and functionality might include the following:

-  Open the previous and upper display.
-  Navigate to displays commonly accessed from this display.
-  The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
-  **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
-  Open the **Alert Views - RTView Alerts Table** display.
-  Open an instance of this display in a new window.
-  Open the online help page for this display.

### Filter By:

The display might include these filtering options:

- Msg Router:** Select the message router containing the VPN and client for which you want to view data.
- VPN** Select the VPN associated with the selected message router and containing the client for which you want to view data.
- Endpoint** Select the endpoint associated with the message router and VPN for which you want to view data.

### Fields and Data:

#### Last Data Time

Last Data Time: 15-Aug-2016 14:34:00

The date and time the selected message router was last updated.

-  Red indicates the selected message router is offline or expired.
-  Green indicates the selected message router is connected and receiving data.

#### Endpoint Information

- Alerts** The current status of the Alerts.
  -  Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.
  -  Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.
  -  Green indicates that no metrics have exceeded their alert thresholds.

**Expired** When checked, performance data about the endpoint has not been received within the time specified (in seconds) in the **\$solRowExpirationTime** field in the **conf\rtvapm\_solmon.properties** file. The **\$solRowExpirationTimeForDelete** field allows you to define the amount of time (in seconds) in which the row will be removed from the table if there is no response from the endpoint. To view/edit the current values, modify the following lines in the **.properties** file:

```
# Metrics data are considered expired after this number of
seconds
#
collector.sl.rtvview.sub=$solRowExpirationTime:45
collector.sl.rtvview.sub=$solRowExpirationTimeForDelete:3600
```

In the example above, the **Expired** check box would be checked after 45 seconds, and the row would be removed from the table after 3600 seconds.

**Durable** Displays whether or not the endpoint is durable (checked) or non-durable (unchecked). Durable endpoints remain after a message router restart and are automatically restored as part of a message router's backup and restoration process.

|                 |                              |  |
|-----------------|------------------------------|--|
|                 | <b>Type</b>                  | The type of endpoint (either queue or topic).                    |
|                 | <b>Bind Count</b>            | The total number of binds connected to the endpoint.             |
|                 | <b>Egress Config Status</b>  | The status of the egress configuration.                          |
|                 | <b>Ingress Config Status</b> | The status of the ingress configuration.                         |
| <b>Messages</b> | <b>Number Pending</b>        | The total number of pending messages on the endpoint.            |
|                 | <b>Spool Usage (MB)</b>      | The current spool usage consumed on the endpoint (in megabytes). |
|                 | <b>High Water Mark (MB)</b>  | The highest level of spool usage on the endpoint (in megabytes). |

### Trend Graphs

Traces the sum of process metrics for the endpoint associated with the selected message router and VPN.

- **Pending Msgs:** The number of pending messages.
- **Spool Usage:** The total spool usage consumed on the endpoint (in megabytes).

|                     |  |
|---------------------|--|
| <b>Log Scale</b>    | Select to enable a logarithmic scale. Use <b>Log Scale</b> to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. <b>Log Scale</b> makes data on both scales visible by applying logarithmic values rather than actual values to the data. |
| <b>Base at Zero</b> | Select to use zero ( <b>0</b> ) as the Y axis minimum for all graph traces.  |
| <b>Time Range</b>   | Select a time range from the drop down menu varying from <b>2 Minutes</b> to <b>Last 7 Days</b> , or display <b>All Data</b> . To specify a time range, click Calendar <input type="text"/> .  |

By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

## Single Endpoint Summary Rates

This display allows you to view endpoint information, message data, and a trend graph for pending messages, spool messages, incoming message rates, and outgoing message rates for a specific endpoint configured on a VPN. Choose a message router, VPN, and an endpoint from the drop-down menus, and use the **Time Range** to “zoom-in” or “zoom-out” on a specific time frame in the trend graph.

### Data Quality Indicators:

- When the display background color is  (Red) the data is stale.
- The Last Data Time shows the date and time the selected message router was last updated.

Last Data Time: 15-Aug-2016 14:34:00

If the **Last Data Time** background is:

-  (Red) the selected message router is offline or expired.
-  (Green) the selected message router is connected and receiving data.

The “[Single Endpoint Summary](#)” display is provided by default and should be used if you do not want to collect message spool data for specific VPNs. However, if you do want to configure message spool monitoring for specific VPNs, then you should use this display instead, which is not included in the navigation tree by default. To collect message spool data for specific VPNs, disable the **Single Endpoint Summary** display, and enable the **Single Endpoint Summary Rates** display in the navigation tree, perform the following steps:

1. Uncomment and copy the following line in your **sample.properties** file to configure message spool monitoring for each VPN:

```
#collector.sl.rtvview.cache.config=sol_cache_source_msg_spool.rtv
$solConn:UNIQUE_APPLIANCE_NAME $solVpnName:VPN_NAME
```

2. To edit the navigation tree, extract **solmon.navtree.xml** from the **rtvapm\solmon\lib\rtvapm\_solmon.jar** file and save it in the **emsample\servers\central** directory.

3. In the **solmon.navtree.xml** file, comment out the following line (enclose with **<!--** and **-->**):

```
<node label="Single Endpoint Summary" display="sol_endpoint_summary"></node>
```

and add/uncomment this line:

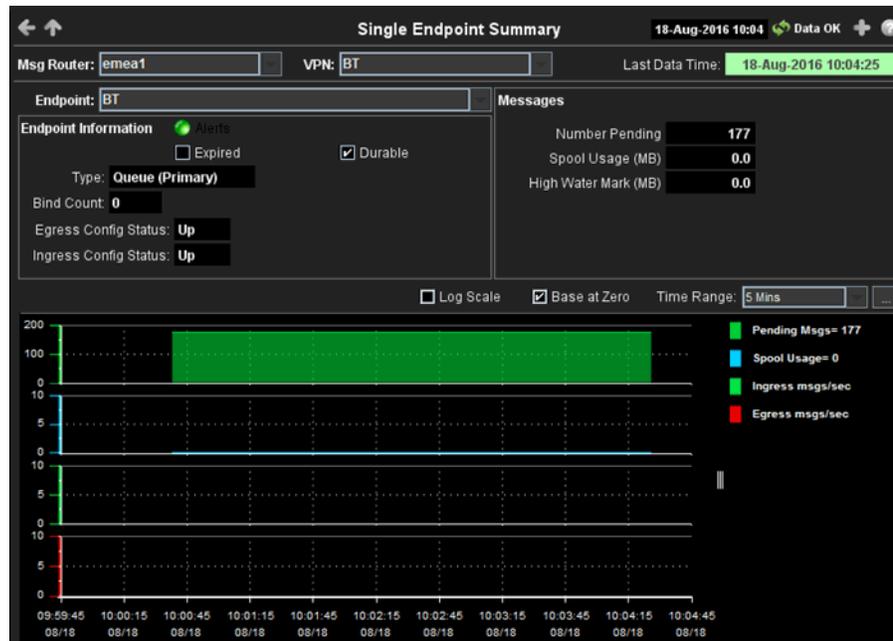
```
<node label="Single Endpoint Summary Rates" display="sol_endpoint_summaryWithRates"></node>
```

Once the file is edited and saved in **emsample\servers\central** directory, it will get picked up automatically during startup.

---

**Note:** Collecting data for a large number of VPNs might impair the performance of the message router.

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**Title Bar:** Indicators and functionality might include the following:

Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

Open the online help page for this display.

### Filter By:

The display might include these filtering options:

**Msg Router:** Select the message router containing the VPN and client for which you want to view data.

**VPN** Select the VPN associated with the selected message router and containing the client for which you want to view data.

**Endpoint** Select the endpoint associated with the message router and VPN for which you want to view data.

### Fields and Data:

**Last Data Time**

Last Data Time: 15-Aug-2016 14:34:00

The date and time the selected message router was last updated.

- Red indicates the selected message router is offline or expired.
- Green indicates the selected message router is connected and receiving data.

**Endpoint Information****Alerts**

The current status of the Alerts.

- Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.
- Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.
- Green indicates that no metrics have exceeded their alert thresholds.

**Expired**

When checked, performance data about the endpoint has not been received within the time specified (in seconds) in the **\$solRowExpirationTime** field in the **conf\rtvadm\_solmon.properties** file. The **\$solRowExpirationTimeForDelete** field allows you to define the amount of time (in seconds) in which the row will be removed from the table if there is no response from the endpoint. To view/edit the current values, modify the following lines in the **.properties** file:

```
# Metrics data are considered expired after this number of
seconds
#
collector.sl.rtvadm.sub=$solRowExpirationTime:45
collector.sl.rtvadm.sub=$solRowExpirationTimeForDelete:3600
```

In the example above, the **Expired** check box would be checked after 45 seconds, and the row would be removed from the table after 3600 seconds.

**Durable**

Displays whether or not the endpoint is durable (checked) or non-durable (unchecked). Durable endpoints remain after a message router restart and are automatically restored as part of a message router's backup and restoration process.

**Type**

The type of endpoint (either queue or topic).

**Bind Count**

The total number of binds connected to the endpoint.

**Egress Config Status**

The status of the egress configuration.

**Ingress Config Status**

The status of the ingress configuration.

**Messages****Number Pending**

The total number of pending messages on the endpoint.

**Spool Usage (MB)**

The current spool usage consumed on the endpoint (in megabytes).

**High Water Mark (MB)**

The highest level of spool usage on the endpoint (in megabytes).

### Trend Graphs

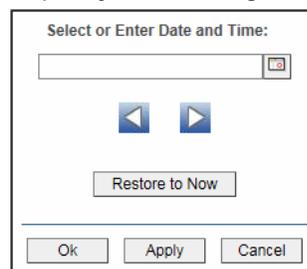
Traces the sum of process metrics for the endpoint associated with the selected message router and VPN.

- **Pending Msgs:** The number of pending messages.
- **Spool Usage:** The total spool usage consumed on the endpoint (in megabytes).
- **Ingress msgs/sec:** The number of incoming messages per second.
- **Egress msgs/sec:** The number of outgoing messages per second.

**Log Scale** Select to enable a logarithmic scale. Use **Log Scale** to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. **Log Scale** makes data on both scales visible by applying logarithmic values rather than actual values to the data.

**Base at Zero** Select to use zero (**0**) as the Y axis minimum for all graph traces.

**Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

## Capacity Analysis

These displays provide current metrics, alert count and severity at the message router level. Displays in this View are:

- [“All Message Router Capacity” on page 589](#): View client, spool usage, incoming messages, outgoing messages, incoming bytes, and outgoing bytes data for all message routers.
- [“Message Router Capacity” on page 592](#): View client, spool usage, incoming messages, outgoing messages, incoming bytes, and outgoing bytes data for a specific message router.
- [“Message Router Capacity Trends” on page 596](#): View the message router capacity data for a specific message router in a trend graph format.

## All Message Router Capacity

This display allows you to view the message router capacity data for all message routers in a table format. You can view client, spool usage, incoming message, outgoing message, incoming bytes, and outgoing bytes data for the message router. Clicking on a row in the table displays the selected message router data in the “[Message Router Capacity](#)” display.

| Connection   | Max Severity | Alert Count | Current Client Connections | Connections High Water Mark | Connections: Max | Connections: Reserved | Connec Usec |
|--------------|--------------|-------------|----------------------------|-----------------------------|------------------|-----------------------|-------------|
| solDemo      | ●            | 0           | 30                         | 150                         | 9,000            | 99,000                |             |
| solSimulator | ●            | 0           | 681                        | 3,405                       | 9,000            | 2,064,004             |             |

**Title Bar:** Indicators and functionality might include the following:

← ↑ Open the previous and upper display.

Table Navigate to displays commonly accessed from this display.

19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

⚠ Open the **Alert Views - RTView Alerts Table** display.

⊕ Open an instance of this display in a new window.

🔗 Open the online help page for this display.

### Fields and Data:

|                                    |  |
|------------------------------------|--|
| <b>Count</b>                       | The total number of message routers listed in the table.   |
| <b>Connection</b>                  | The name of the message router.  |
| <b>Max Severity</b>                | The maximum level of all alerts on the message router  |
| <b>Alert Count</b>                 | The total number of alerts on the message router.  |
| <b>Current Client Connections</b>  | The current number of clients connected to the message router.   |
| <b>Connections High Water Mark</b> | The highest number of clients connected to the message router on a particular day in the past 30 days. |

|   |   |
|---|---|
| <b>Connections Max</b>                      | The maximum number of clients allowed to connect to the message router.   |
| <b>Connections Reserved</b>                 | The sum over all VPNs of connections allowed for each VPN.  |
| <b>Connections Used %</b>                   | The number of current clients divided by the maximum number of clients.   |
| <b>Connections Used HWM %</b>               | The highest utilization level in the last 30 days (in percent).   |
| <b>Current Spool Usage (MB)</b>             | The current spool usage, in megabytes, on the message router.   |
| <b>Current Spool Usage High Water Mark</b>  | The most megabytes used by messages spools on the message router on a particular day in the past 30 days.   |
| <b>Spool Disk Allocated</b>                 | The maximum number of megabytes allowed to be used by message spools on the message router.   |
| <b>Spool Reserved</b>                       | The sum over all VPNs of max spool allowed for each VPN.  |
| <b>Current Spool Usage %</b>                | The current spool usage in megabytes divided by the maximum allowed spool usage on the message router.  |
| <b>Current Spool Usage HWM %</b>            | The highest utilization level in the last 30 days (in percent).   |
| <b>Delivered Unacked Msgs Utilization %</b> | The current number of delivered messages that were not acknowledged divided by the maximum number of delivered messages that were not acknowledged allowed on the message router. |
| <b>Ingress Flow Count</b>                   | The current number of flows coming into the message router.   |
| <b>Ingress Flow High Water Mark</b>         | The highest number of flows coming into the message router on a particular day in the past 30 days.   |
| <b>Ingress Flows Allowed</b>                | The maximum number of incoming flows allowed to come into the message router.   |
| <b>Ingress Flow Count %</b>                 | The current number of flows divided by the maximum number of flows allowed to come into the message router.   |
| <b>Ingress Flow Count HWM %</b>             | The highest utilization level in the last 30 days (in percent).   |
| <b>Ingress Msgs/sec</b>                     | The current number of messages coming into the message router per second.   |
| <b>Ingress Msgs/sec High Water Mark</b>     | The highest number of messages coming into the message router per second on a particular day in the past 30 days.   |
| <b>Ingress Msgs/sec Max</b>                 | The maximum number of messages (per second) allowed to come into the message router.  |
| <b>Ingress Msgs/sec %</b>                   | The current number of incoming messages per second divided by the maximum number of messages allowed per second to come into the message router.                                  |
| <b>Egress Msgs/sec</b>                      | The current number of messages going out of the message router per second.  |

|   |   |
|---|---|
| <b>Egress Msgs/<br/>sec HWM</b>                     | The highest number of messages going out of the message router per second on a particular day in the past 30 days.      |
| <b>Egress Msgs/<br/>sec Max</b>                     | The maximum number of messages (per second) allowed to go out of the message router.                                    |
| <b>Egress Msgs/<br/>sec %</b>                       | The current number of outgoing messages divided by the maximum number of messages allowed go out of the message router. |
| <b>Egress Msgs/<br/>sec HWM %</b>                   | The highest utilization level in the last 30 days (in percent).   |
| <b>Ingress Bytes/<br/>sec</b>                       | The current number of bytes coming into the message router per second.  |
| <b>Ingress Bytes/<br/>sec High Water<br/>Mark</b>   | The highest number of bytes coming into the message router per second on a particular day in the past 30 days.          |
| <b>Ingress Bytes/<br/>sec Max</b>                   | The maximum number of bytes (per second) allowed to come into the message router.                                       |
| <b>Ingress Bytes/<br/>sec %</b>                     | The current number of incoming bytes divided by the maximum number of bytes allowed to come into the message router.    |
| <b>Ingress Bytes/<br/>sec HWM %</b>                 | The highest utilization level in the last 30 days (in percent).   |
| <b>Egress Bytes/<br/>sec</b>                        | The current number of bytes going out of the message router per second.   |
| <b>Egress Bytes/<br/>sec High Water<br/>Mark</b>    | The highest number of bytes going out of the message router per second on a particular day in the past 30 days.         |
| <b>Egress Bytes/<br/>sec Max</b>                    | The maximum number of bytes (per second) allowed to go out of the message router.                                       |
| <b>Egress Bytes/<br/>sec %</b>                      | The current number of outgoing bytes divided by the maximum number of bytes allowed go out of the message router.       |
| <b>Egress Bytes/<br/>sec HWM %</b>                  | The highest utilization level in the last 30 days (in percent).   |
| <b>Queue/Topic<br/>Subscriptions<br/>Used</b>       | The current number of queue/topic subscriptions on the message router.  |
| <b>Subscriptions<br/>High Water<br/>Mark</b>        | The highest number of subscriptions on the message router on a particular day in the past 30 days.                      |
| <b>Subscriptions<br/>Max</b>                        | The maximum number of subscriptions allowed on the message router.  |
| <b>Subscriptions<br/>Reserved</b>                   | The sum over all VPNs of connections allowed for each VPN.  |
| <b>Queue/Topic<br/>Subscriptions<br/>Used %</b>     | The number of current subscriptions divided by the maximum number of subscriptions.                                     |
| <b>Queue/Topic<br/>Subscriptions<br/>Used HWM %</b> | The highest utilization level in the last 30 days (in percent).   |
| <b>Spool Files<br/>Used</b>                         | The current number of spool files on the message router.  |

|  |   |
|--|---|
| <b>Spool Files High Water Mark</b>           | The highest number of spool files on the message router on a particular day in the past 30 days.  |
| <b>Spool Files Available</b>                 | The maximum number of spool files allowed to be on the message router.  |
| <b>Spool Files Used %</b>                    | The current number of spool files divided by the maximum number of spool files allowed on the message router.   |
| <b>Spool Files Used HWM %</b>                | The highest utilization level in the last 30 days (in percent).   |
| <b>Transacted Sessions Used</b>              | The current number of transacted sessions on the message router.  |
| <b>Transacted Sessions High Water Mark</b>   | The highest number of transacted sessions on the message router on a particular day in the past 30 days.  |
| <b>Transacted Sessions Max</b>               | The maximum number of incoming transacted sessions allowed on the message router.   |
| <b>Transacted Sessions % Utilization</b>     | The current number of transacted sessions divided by the maximum number of transacted sessions allowed on the message router.   |
| <b>Transacted Sessions HWM % Utilization</b> | The highest utilization level in the last 30 days (in percent).   |
| <b>Expired</b>                               | <p>When checked, performance data about the message router has not been received within the time specified (in seconds) in the <b>\$solRowExpirationTime</b> field in the <b>conf\rtvapm_solmon.properties</b> file. The <b>\$solRowExpirationTimeForDelete</b> field allows you to define the amount of time (in seconds) in which the row will be removed from the table if there is no response from the message router. To view/edit the current values, modify the following lines in the <b>.properties</b> file:</p> <pre># Metrics data are considered expired after this number of seconds # collector.sl.rtview.sub=\$solRowExpirationTime:45 collector.sl.rtview.sub=\$solRowExpirationTimeForDelete:3600</pre> <p>In the example above, the <b>Expired</b> check box would be checked after 45 seconds, and the row would be removed from the table after 3600 seconds.</p> |
| <b>Timestamp</b>                             | The date and time the data was last updated.  |

## Message Router Capacity

This display, a pivoted view of the **All Message Routers Capacity** table, allows you to view the message router capacity data for a specific message router. You can view client, spool usage, incoming message, outgoing message, incoming bytes, and outgoing bytes data for the message router.

### Data Quality Indicators:

- When the display background color is  (Red) the data is stale.
- The Last Data Time shows the date and time the selected message router was last updated.

Last Data Time: 15-Aug-2016 14:34:00

If the **Last Data Time** background is:

-  (Red) the selected message router is offline or expired.

- (Green) the selected message router is connected and receiving data.

|                      | Current   | 30 Day HWM | Max       | Reserved      | % Utilization |        |
|----------------------|-----------|------------|-----------|---------------|---------------|--------|
|                      |           |            |           |               | current       | HWM    |
| Clients:             | 339       | 340        | 9,000     | 2,259,462     | 3.76          | 3.78   |
| Subscriptions:       | 26,531    | 26,531     | 5,000,000 | 1,330,596,423 | 0.53          | 0.53   |
| Spool Usage (MB):    | 4,002.03  | 4,002.04   | 4,000     | 772,409       | 100.05        | 100.05 |
| Spool Files:         | 640       | 640        | 999,359   |               | 0.06          | 0.06   |
| Ingress Flows:       | 29        | 30         | 16,000    |               | 0.18          | 0.19   |
| Ingress Msgs/s:      | 182.00    | 393.00     | 100,000   |               | 0.18          | 0.39   |
| Egress Msgs/s:       | 126.00    | 529.00     | 100,000   |               | 0.12          | 0.53   |
| Ingress Bytes/s:     | 38,246.00 | 116,668.00 | 2,000,000 |               | 1.91          | 5.83   |
| Egress Bytes/s:      | 33,925.00 | 176,620.00 | 2,000,000 |               | 1.69          | 8.83   |
| Transacted Sessions: | 0         | 0          | 16,000    |               | 0.00          | 0.00   |

|                               | % Utilization |
|-------------------------------|---------------|
| Delivered Unacked Msgs:       | 0.00          |
| Active Disk Partition:        | 0.82          |
| Standby Disk Partition:       | 0.09          |
| Transacted Session Resources: | 0.00          |
| Message Count:                | 1.43          |

**Title Bar:** Indicators and functionality might include the following:

Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.  
 Open the **Alert Views - RTView Alerts Table** display.  
 Open an instance of this display in a new window.  
 Open the online help page for this display.

**Note:** Clicking the Capacity Trends button displays the message router's capacity metrics in the "Message Router Capacity Trends" display.

### Filter By:

The display might include these filtering options:

**Msg Router:** Select the message router for which you want to view data.

**Last Data Time**

The date and time the selected message router was last updated.

- Red indicates the selected message router is offline or expired.
- Green indicates the selected message router is connected and receiving data.

### Fields and Data:

**Count** The total number of message routers listed in the table.

**Clients** **Current** The current number of clients connected to the message router.

|                         |                      |  |
|-------------------------|----------------------|--|
|                         | <b>30 Day HWM</b>    | The highest number of clients connected to the message router on a particular day in the past 30 days.   |
|                         | <b>Max</b>           | The maximum number of clients allowed to connect to the message router.  |
|                         | <b>Reserved</b>      | The sum over all VPNs of connections allowed for each VPN.   |
|                         | <b>% Utilization</b> | <b>Current:</b> The number of current clients divided by the maximum number of clients.<br><b>HWM:</b> The highest utilization level in the last 30 days (in percent).                                       |
| <b>Subscriptions</b>    | <b>Current</b>       | The current number of subscriptions on the message router.   |
|                         | <b>30 Day HWM</b>    | The highest number of subscriptions on the message router on a particular day in the past 30 days.   |
|                         | <b>Max</b>           | The maximum number of subscriptions allowed on the message router.   |
|                         | <b>Reserved</b>      | The sum over all VPNs of connections allowed for each VPN.   |
|                         | <b>% Utilization</b> | <b>Current:</b> The number of current subscriptions divided by the maximum number of subscriptions.<br><b>HWM:</b> The highest utilization level in the last 30 days (in percent).                           |
| <b>Spool Usage (MB)</b> | <b>Current</b>       | The current spool usage, in megabytes, on the message router.  |
|                         | <b>30 Day HWM</b>    | The most megabytes used by messages spools on the message router on a particular day in the past 30 days.  |
|                         | <b>Max</b>           | The maximum number of megabytes allowed to be used by message spools on the message router.  |
|                         | <b>Reserved</b>      | The sum over all VPNs of connections allowed for each VPN.   |
|                         | <b>% Utilization</b> | <b>Current:</b> The current spool usage in megabytes divided by the maximum allowed spool usage on the message router.<br><b>HWM:</b> The highest utilization level in the last 30 days (in percent).        |
| <b>Spool Files</b>      | <b>Current</b>       | The current number of spool files on the message router.   |
|                         | <b>30 Day HWM</b>    | The highest number of spool files on the message router on a particular day in the past 30 days.   |
|                         | <b>Max</b>           | The maximum number of spool files allowed to be on the message router.   |
|                         | <b>% Utilization</b> | <b>Current:</b> The current number of spool files divided by the maximum number of spool files allowed on the message router.<br><b>HWM:</b> The highest utilization level in the last 30 days (in percent). |
| <b>Ingress Flows</b>    | <b>Current</b>       | The current number of flows coming into the message router.  |
|                         | <b>30 Day HWM</b>    | The highest number of flows coming into the message router on a particular day in the past 30 days.  |
|                         | <b>Max</b>           | The maximum number of incoming flows allowed to come into the message router.  |
|                         | <b>% Utilization</b> | <b>Current:</b> The current number of flows divided by the maximum number of flows allowed to come into the message router.<br><b>HWM:</b> The highest utilization level in the last 30 days (in percent).   |
| <b>Ingress Msgs/s</b>   | <b>Current</b>       | The current number of messages coming into the message router per second.  |
|                         | <b>30 Day HWM</b>    | The highest number of messages coming into the message router per second on a particular day in the past 30 days.  |

|                               |                      |  |
|-------------------------------|----------------------|--|
|                               | <b>Max</b>           | The maximum number of messages (per second) allowed to come into the message router.   |
|                               | <b>% Utilization</b> | <b>Current:</b> The current number of incoming messages divided by the maximum number of messages allowed to come into the message router.<br><b>HWM:</b> The highest utilization level in the last 30 days (in percent).    |
| <b>Egress Msgs/s</b>          | <b>Current</b>       | The current number of messages going out of the message router per second.   |
|                               | <b>30 Day HWM</b>    | The highest number of messages going out of the message router per second on a particular day in the past 30 days.   |
|                               | <b>Max</b>           | The maximum number of messages (per second) allowed to go out of the message router.   |
|                               | <b>% Utilization</b> | <b>Current:</b> The current number of outgoing messages divided by the maximum number of messages allowed go out of the message router.<br><b>HWM:</b> The highest utilization level in the last 30 days (in percent).       |
| <b>Ingress Bytes/s</b>        | <b>Current</b>       | The current number of bytes coming into the message router per second.   |
|                               | <b>30 Day HWM</b>    | The highest number of bytes coming into the message router per second on a particular day in the past 30 days.   |
|                               | <b>Max</b>           | The maximum number of bytes (per second) allowed to come into the message router.  |
|                               | <b>% Utilization</b> | <b>Current:</b> The current number of incoming bytes divided by the maximum number of bytes allowed to come into the message router.<br><b>HWM:</b> The highest utilization level in the last 30 days (in percent).          |
| <b>Egress Bytes/s</b>         | <b>Current</b>       | The current number of bytes going out of the message router per second.  |
|                               | <b>30 Day HWM</b>    | The highest number of bytes going out of the message router per second on a particular day in the past 30 days.  |
|                               | <b>Max</b>           | The maximum number of bytes (per second) allowed to go out of the message router.  |
|                               | <b>% Utilization</b> | <b>Current:</b> The current number of outgoing bytes divided by the maximum number of bytes allowed go out of the message router.<br><b>HWM:</b> The highest utilization level in the last 30 days (in percent).             |
| <b>Transacted Sessions</b>    | <b>Current</b>       | The current number of transacted sessions on the message router.   |
|                               | <b>30 Day HWM</b>    | The highest number of transacted sessions on the message router on a particular day in the past 30 days.   |
|                               | <b>Max</b>           | The maximum number of incoming transacted sessions allowed on the message router.  |
|                               | <b>% Utilization</b> | <b>Current:</b> The current number of transacted sessions divided by the maximum number of transacted sessions allowed on the message router.<br><b>HWM:</b> The highest utilization level in the last 30 days (in percent). |
| <b>Delivered Unacked Msgs</b> | <b>% Utilization</b> | The current number of delivered messages that were not acknowledged divided by the maximum number of delivered messages that were not acknowledged allowed on the message router.  |
| <b>Active Disk Partition</b>  | <b>% Utilization</b> | The percentage of available active disk partition that has been used.  |
| <b>Standby Disk Partition</b> | <b>% Utilization</b> | The percentage of available standby disk partition that has been used.   |

|                                    |                      |  |
|------------------------------------|----------------------|--|
| <b>Transacted Session Resource</b> | <b>% Utilization</b> | The current amount of transacted session resources divided by the maximum number of transaction session resources allowed on the message router. |
| <b>Message Count</b>               | <b>% Utilization</b> | The current number messages divided by the maximum number of messages allowed on the message router.   |

### Message Router Capacity Trends

This display allows you to view the message router capacity data for a specific message router in a trend graph format. You can view client, spool usage, incoming message, outgoing message, incoming bytes, and outgoing bytes data for the message router.

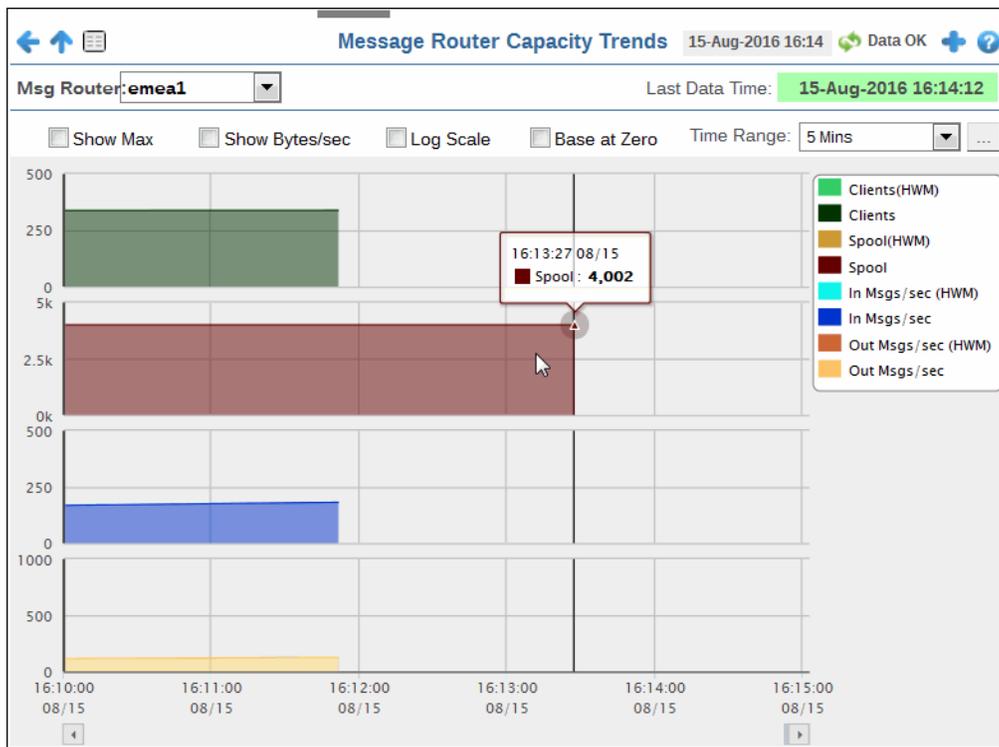
#### Data Quality Indicators:

- When the display background color is ● (Red) the data is stale.
- The Last Data Time shows the date and time the selected message router was last updated.

Last Data Time: 15-Aug-2016 14:34:00

If the **Last Data Time** background is:

- (Red) the selected message router is offline or expired.
- (Green) the selected message router is connected and receiving data.



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**Title Bar:** Indicators and functionality might include the following:

  Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.

 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

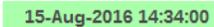
---

### Filter By:

The display might include these filtering options:

**Msg Router:** Select the message router for which you want to view data.

### Last Data Time

Last Data Time:  15-Aug-2016 14:34:00

The date and time the selected message router was last updated.

 Red indicates the selected message router is offline or expired.

 Green indicates the selected message router is connected and receiving data.

## Trend Graphs

Traces the sum of process metrics for the selected message router.

- **Clients (HWM)**: The highest number of clients connected to the message router on a particular day in the past 30 days.
- **Clients (Max)**: The maximum number of clients allowed to connect to the message router. This option only displays when the **Show Max** check box is selected.
- **Clients**: The current number of clients connected to the message router.
- **Spool (HWM)**: The most megabytes used by messages spools on the message router on a particular day in the past 30 days.
- **Spool (Max)**: The maximum number of megabytes allowed to be used by message spools on the message router. This option only displays when the **Show Max** check box is selected.
- **Spool**: The current spool usage, in megabytes, on the message router.
- **In Msgs/sec (HWM)**: The current number of messages coming into the message router per second.
- **In Msgs/sec (Max)**: The maximum number of messages (per second) allowed to come into the message router. This option only displays when the **Show Max** check box is selected.
- **In Msgs/sec**: The rate of incoming messages into the client.
- **In Bytes/sec (HWM)**: The highest number of bytes coming into the message router per second on a particular day in the past 30 days. This option only displays when the **Show Bytes/sec** check box is selected.
- **In Bytes/sec (Max)**: The maximum number of bytes (per second) allowed to come into the message router. This option only displays when the **Show Max** and **Show Bytes/sec** check boxes are selected.
- **In Bytes/sec**: The current number of bytes coming into the message router per second. This option only displays when the **Show Bytes/sec** check box is selected.
- **Out Msgs/sec (HWM)**: The highest number of messages going out of the message router per second on a particular day in the past 30 days.
- **Out Msgs/sec (Max)**: The maximum number of messages (per second) allowed to go out of the message router. This option only displays when the **Show Max** check box is selected.
- **Out Msgs/sec**: The current number of messages going out of the message router per second.
- **Out Bytes/sec (HWM)**: The highest number of bytes going out of the message router per second on a particular day in the past 30 days. This option only displays when the **Show Bytes/sec** check box is selected.
- **Out Bytes/sec (Max)**: The maximum number of messages allowed to go out of the message router. This option only displays when the **Show Max** and **Show Bytes/sec** check boxes are selected.
- **Out Bytes/sec**: The current number of bytes going out of the message router per second. This option only displays when the **Show Bytes/sec** check box is selected.

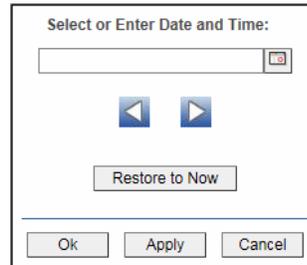
**Show Max**      Selecting this toggle changes metrics using **HWM** (high water mark) to **Max** (maximum value). For example, **Clients (HWM)** becomes **Clients (Max)** and the values in the graph are updated accordingly.

**Show Bytes/sec**      Selecting this toggle changes metrics using **Messages/sec** to **Bytes/sec**. For example, **In Msgs/sec** becomes **In Bytes/sec** and the values in the graph are updated accordingly.

**Log Scale**      Select to enable a logarithmic scale. Use **Log Scale** to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. **Log Scale** makes data on both scales visible by applying logarithmic values rather than actual values to the data.

**Base at Zero** Select to use zero (**0**) as the Y axis minimum for all graph traces.

**Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

## Syslog

The display in this View provides a tabular list of all Syslog events:

- [“All Syslog Events Table” on page 599](#): View all Syslog events for all your Solace message routers.

### All Syslog Events Table

This table lists all Syslog events collected from one or all Solace message routers. Each row in the table is a different message. Filter messages per single Solace message router or all message routers (choose **All Hosts** from the **Source** drop-down menu), a single tag or **All Tags**, a single severity level or all levels (choose **All Levels** from the **Severity** drop-down menu), and specify a **Time Range**.

Click a column header to sort column data in numerical, alphabetical or chronological order.

| Count | Severity   | Time Range | Timestamp                | Message Timestamp        | Host Address    | Facility | Severity | Tag      | Message Text   |
|-------|------------|------------|--------------------------|--------------------------|-----------------|----------|----------|----------|--|
| 4,000 | All Levels | 5 Mins     | 15-Feb-2016 07:27:02.175 | 15-Feb-2016 07:27:02.175 | 192.168.220.110 | local3   | INFO     | S-HOST10 | event CLIENT CLIENT CLIENT_CONNECT vncdi numConnHighClient           |
|       |            |            | 15-Feb-2016 07:27:07.111 | 15-Feb-2016 07:27:07.000 | 192.168.220.110 | local3   | INFO     | S-HOST10 | event CLIENT CLIENT CLIENT_CONNECT vncdi numConnHighClient           |
|       |            |            | 15-Feb-2016 07:27:07.021 | 15-Feb-2016 07:27:07.000 | 192.168.220.110 | local3   | INFO     | S-HOST10 | event CLIENT CLIENT CLIENT_CONNECT vncdi numConnHighClient           |
|       |            |            | 15-Feb-2016 07:27:06.465 | 15-Feb-2016 07:27:06.000 | 192.168.220.110 | local3   | INFO     | S-HOST10 | event CLIENT CLIENT CLIENT_CONNECT vncdi numConnHighClient           |
|       |            |            | 15-Feb-2016 07:27:06.332 | 15-Feb-2016 07:27:06.000 | 192.168.220.110 | local3   | INFO     | S-HOST10 | event CLIENT CLIENT CLIENT_CONNECT vncdi numConnHighClient           |
|       |            |            | 15-Feb-2016 07:27:05.717 | 15-Feb-2016 07:27:05.000 | 192.168.220.110 | local3   | INFO     | S-HOST10 | event CLIENT CLIENT CLIENT_CONNECT vncdi numConnHighClient           |
|       |            |            | 15-Feb-2016 07:27:05.934 | 15-Feb-2016 07:27:05.000 | 192.168.220.110 | local3   | INFO     | S-HOST10 | event CLIENT CLIENT CLIENT_CONNECT vncdi numConnHighClient           |
|       |            |            | 15-Feb-2016 07:27:04.325 | 15-Feb-2016 07:27:04.000 | 192.168.220.110 | local3   | INFO     | S-HOST10 | event CLIENT CLIENT CLIENT_CONNECT vncdi numConnHighClient           |
|       |            |            | 15-Feb-2016 07:27:04.300 | 15-Feb-2016 07:27:04.000 | 192.168.220.110 | local3   | INFO     | S-HOST10 | event CLIENT CLIENT CLIENT_CONNECT vncdi numConnHighClient           |
|       |            |            | 15-Feb-2016 07:27:04.204 | 15-Feb-2016 07:27:04.000 | 192.168.220.110 | local3   | INFO     | S-HOST10 | event CLIENT CLIENT CLIENT_CONNECT vncdi numConnHighClient           |
|       |            |            | 15-Feb-2016 07:27:03.563 | 15-Feb-2016 07:27:03.000 | 192.168.220.110 | local3   | INFO     | S-HOST10 | event CLIENT CLIENT CLIENT_CONNECT vncdi numConnHighClient           |
|       |            |            | 15-Feb-2016 07:27:03.102 | 15-Feb-2016 07:27:03.000 | 192.168.220.110 | local3   | INFO     | S-HOST10 | event CLIENT CLIENT CLIENT_CONNECT vncdi numConnHighClient           |
|       |            |            | 15-Feb-2016 07:27:02.319 | 15-Feb-2016 07:27:02.000 | 192.168.220.110 | local3   | INFO     | S-HOST10 | event CLIENT CLIENT CLIENT_CONNECT vncdi numConnHighClient           |
|       |            |            | 15-Feb-2016 07:27:01.451 | 15-Feb-2016 07:27:01.000 | 192.168.220.110 | local3   | INFO     | S-HOST10 | event CLIENT CLIENT CLIENT_CONNECT vncdi numConnHighClient           |
|       |            |            | 15-Feb-2016 07:27:00.723 | 15-Feb-2016 07:27:00.000 | 192.168.220.110 | local3   | INFO     | S-HOST10 | event CLIENT CLIENT CLIENT_CONNECT vncdi numConnHighClient           |
|       |            |            | 15-Feb-2016 07:27:00.155 | 15-Feb-2016 07:27:00.000 | 192.168.220.110 | local3   | INFO     | S-HOST10 | event CLIENT CLIENT CLIENT_CONNECT vncdi numConnHighClient           |
|       |            |            | 15-Feb-2016 07:26:59.974 | 15-Feb-2016 07:26:59.000 | 192.168.220.110 | local3   | INFO     | S-HOST10 | event CLIENT CLIENT CLIENT_CONNECT vncdi numConnHighClient           |
|       |            |            | 15-Feb-2016 07:26:59.949 | 15-Feb-2016 07:26:59.000 | 192.168.220.110 | local3   | INFO     | S-HOST10 | event CLIENT CLIENT CLIENT_CONNECT vncdi numConnHighClient           |
|       |            |            | 15-Feb-2016 07:26:59.868 | 15-Feb-2016 06:47:47.000 | 192.168.220.5   | local3   | NOTICE   | splace   | soil_loader!NOT! SYSTEM SYSTEM AUTHENTICATION_SESSION_OPE            |
|       |            |            | 15-Feb-2016 07:26:59.014 | 15-Feb-2016 07:26:59.000 | 192.168.220.110 | local3   | INFO     | S-HOST10 | event CLIENT CLIENT CLIENT_CONNECT vncdi numConnHighClient           |
|       |            |            | 15-Feb-2016 07:26:58.601 | 15-Feb-2016 07:26:58.000 | 192.168.220.110 | local3   | INFO     | S-HOST10 | event CLIENT CLIENT CLIENT_CONNECT vncdi numConnHighClient           |
|       |            |            | 15-Feb-2016 07:26:57.662 | 15-Feb-2016 07:26:57.000 | 192.168.220.110 | local3   | INFO     | S-HOST10 | event CLIENT CLIENT CLIENT_CONNECT vncdi numConnHighClient           |
|       |            |            | 15-Feb-2016 07:26:57.174 | 15-Feb-2016 06:47:45.000 | 192.168.220.5   | local3   | NOTICE   | splace   | soil_loader!NOT! SYSTEM SYSTEM AUTHENTICATION_SESSION_CLO            |
|       |            |            | 15-Feb-2016 07:26:56.869 | 15-Feb-2016 07:26:56.000 | 192.168.220.110 | local3   | INFO     | S-HOST10 | event CLIENT CLIENT CLIENT_CONNECT vncdi numConnHighClient           |
|       |            |            | 15-Feb-2016 07:26:56.641 | 15-Feb-2016 07:26:56.000 | 192.168.220.110 | local3   | INFO     | S-HOST10 | event CLIENT CLIENT CLIENT_CONNECT vncdi numConnHighClient           |
|       |            |            | 15-Feb-2016 07:26:56.496 | 15-Feb-2016 07:26:56.000 | 192.168.220.110 | local3   | INFO     | S-HOST10 | event CLIENT CLIENT CLIENT_CONNECT vncdi numConnHighClient           |
|       |            |            | 15-Feb-2016 07:26:56.214 | 15-Feb-2016 07:26:56.000 | 192.168.220.110 | local3   | INFO     | S-HOST10 | event CLIENT CLIENT CLIENT_CONNECT vncdi numConnHighClient           |
|       |            |            | 15-Feb-2016 07:26:55.507 | 15-Feb-2016 07:26:55.000 | 192.168.220.110 | local3   | INFO     | S-HOST10 | event CLIENT CLIENT CLIENT_CONNECT vncdi numConnHighClient           |
|       |            |            | 15-Feb-2016 07:26:54.926 | 15-Feb-2016 07:26:54.000 | 192.168.220.110 | local3   | INFO     | S-HOST10 | logger AFWlab-128-17_1 Start of action: Testing event CONNECTIONS    |
|       |            |            | 15-Feb-2016 07:26:54.854 | 15-Feb-2016 07:26:54.000 | 192.168.220.110 | local3   | INFO     | S-HOST10 | logger AFWlab-128-17_1 End of action                                 |
|       |            |            | 15-Feb-2016 07:26:54.830 | 15-Feb-2016 07:26:54.000 | 192.168.220.110 | local3   | INFO     | S-HOST10 | event SYSTEM SYSTEM CHASSIS_DISK_UTILIZATION_HIGH_CLEAR              |
|       |            |            | 15-Feb-2016 07:26:54.586 | 15-Feb-2016 07:26:54.000 | 192.168.220.110 | local3   | INFO     | S-HOST10 | logger AFWlab-128-17_1 Start of action: Testing event DISK UTILIZATI |
|       |            |            | 15-Feb-2016 07:26:54.115 | 15-Feb-2016 07:26:54.000 | 192.168.220.110 | local3   | INFO     | S-HOST10 | logger AFWlab-128-17_1 End of action                                 |
|       |            |            | 15-Feb-2016 07:26:54.069 | 15-Feb-2016 07:26:54.000 | 192.168.220.110 | local3   | WARN     | S-HOST10 | event SYSTEM SYSTEM CHASSIS_DISK_UTILIZATION_HIGH - Disk             |
|       |            |            | 15-Feb-2016 07:26:53.953 | 15-Feb-2016 07:26:53.000 | 192.168.220.110 | local3   | INFO     | S-HOST10 | logger AFWlab-128-17_1 Start of action: Testing event DISK UTILIZATI |

**Title Bar:** Indicators and functionality might include the following:

← ↑ Open the previous and upper display.

Table Navigate to displays commonly accessed from this display.

19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

! Open the **Alert Views - RTView Alerts Table** display.

+ Open an instance of this display in a new window.

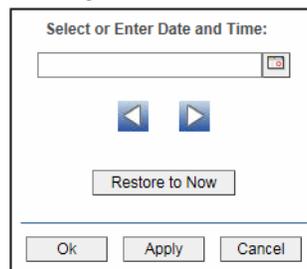
? Open the online help page for this display.

**Source:** Select the host for which you want to view data, or **All Hosts**.

**Tag:** Select the message tag for which you want to view data, or **All Tags**.

**Severity:** Select the message severity level for which you want to view data, or **All Levels**.

**Time Range:** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

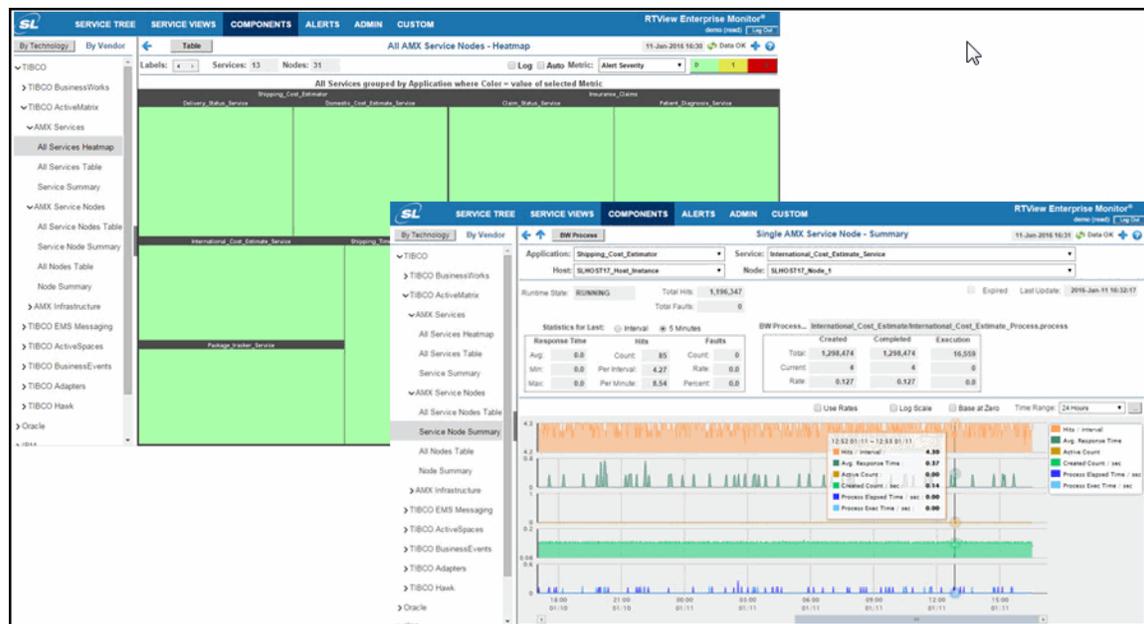
|                          |  |
|--------------------------|--|
| <b>Timestamp</b>         | The date and time the row data was last updated.   |
| <b>Message Timestamp</b> | The date and time the message was sent.  |
| <b>Host Address</b>      | The host IP address. Refer to Solace documentation for more information.   |
| <b>Facility</b>          | The message facility code. Refer to Solace documentation for more information.   |
| <b>Severity</b>          | The message severity level. Refer to Solace documentation for more information. <ul style="list-style-type: none"> <li>• <b>INFO</b></li> <li>• <b>NOTICE</b></li> <li>• <b>NOTICE or higher</b></li> <li>• <b>WARN</b></li> <li>• <b>WARN or higher</b></li> <li>• <b>ERROR</b></li> <li>• <b>ERROR or higher</b></li> <li>• <b>CRITICAL</b></li> <li>• <b>ALERT</b></li> <li>• <b>EMERGENCY</b></li> </ul> |
| <b>Tag</b>               | The host name. Refer to Solace documentation for more information.   |
| <b>Message Text</b>      | The content of the message.  |



## CHAPTER 20 Solution Package for TIBCO ActiveMatrix

RTView Enterprise Monitor® and the Solution Package for TIBCO ActiveMatrix give you unprecedented power to:

- Monitor health and stability of your TIBCO ActiveMatrix services
- Maximize performance of your mission-critical applications
- Minimize downtime and speed recovery time in the event of a system failure



It has never been easier to:

- Discover all your ActiveMatrix services, automatically

RTView dynamically discovers all known AMX services by syncing with TIBCO ActiveMatrix Administrator to ensure you always have the latest information.

- Populate pre-built dashboards using preset alert thresholds

RTView provides a number of pre-configured dashboards including customizable heat maps, tables and individual summaries out-of-the-box. TIBCO ActiveMatrix Service Package also provides a number of pre-set alert thresholds based on our best practices experience so that you can hit the ground running.

- Dynamically correlate relationships of applications, services and nodes with their supporting infrastructure components

RTView dynamically correlates the relationship of applications, services and nodes with their supporting infrastructure components so that you drill-down from the application level health views as well as correlate how alerts from lower level components will affect application performance.

- View aggregated and side-by-side health status of clustered nodes on one pane of glass

RTView dynamically groups together related “clusters” of load-balanced nodes so that you can summarize the health of the entire cluster as well as view all member nodes side-by-side to ensure that work is evenly balanced across the cluster and easily identify any hotspots.

- Apply alert thresholds. Globally

Instead of configuring alert thresholds one node or service at a time, RTView allows you to apply global alert thresholds to groups of services in one step, providing significantly better ease of use when configuring monitoring across a large group of TIBCO ActiveMatrix nodes and services.

- View real-time and historical data together to identify trends and spot abnormal behavior

RTView gives you the ability to intelligently capture, store and visualize time-stamped snapshots of performance data and alerts, allowing you to spot trends and add context to your real-time performance data. Now you can answer questions such as “is my traffic (or hit rate) always this high for this time of day?”, “are my response times speeding up or slowing down over time?”, or “am I seeing more faults today than I normally do?”

- Introspect TIBCO BusinessWorks processes when running in ActiveMatrix container

When used in conjunction with the TIBCO BusinessWorks Solution Package, RTView can give you additional insight into the performance of your BusinessWorks services running in an ActiveMatrix container by letting you drill-down into the TIBCO BusinessWorks monitor for more detailed information.

- Built Using Native TIBCO Technologies

SL Corporation has been developing TIBCO monitoring solutions since 2002. We know TIBCO technology better than anyone. TIBCO ActiveMatrix Monitor leverages TIBCO’s Hawk agents, which are already built into the TIBCO platform, to subscribe to relevant health publications in real-time and create advanced visualizations to help you be more responsive.

See the **README.txt** file, located in the root directory of each Solution Package, for instructions about configuring and working with the Solution Package.

See **README\_sysreq.txt** for the full system requirements for RTView®.

## CHAPTER 21 Solution Package for TIBCO ActiveMatrix Businessworks

The Solution Package for TIBCO ActiveMatrix BusinessWorks™ takes the time and guesswork out of monitoring and troubleshooting TIBCO ActiveMatrix BusinessWorks System deployments, providing a centralized view of both realtime and historical performance metrics across numerous ActiveMatrix BusinessWorks Servers.

The Solution Package for TIBCO ActiveMatrix BusinessWorks™ enables TIBCO users to continually assess and analyze the health and performance of their TIBCO ActiveMatrix BusinessWorks infrastructure, gain early warning of issues with historical context, and effectively plan for capacity of their ActiveMatrix BusinessWorks servers. It does so by aggregating and analyzing key performance metrics across all servers, engines, processes and activities, and presents the results, in real time, through meaningful dashboards as data is collected.

Users also benefit from predefined rules and alerts that pin-point critical areas to monitor in most ActiveMatrix BusinessWorks environments and allow for customization of thresholds to let users fine-tune when alert events should be activated.

The Solution Package for TIBCO ActiveMatrix BusinessWorks™ also contains alert management features so that the life cycle of an alert event can be managed to proper resolution. All of these features allow you to know exactly what is going on at any given point, analyze the historical trends of the key metrics, and respond to issues before they can degrade service levels in high-volume, high-transaction environments.

This section describes how to install, configure and setup the Solution Package for TIBCO ActiveMatrix BusinessWorks™.

See **README\_sysreq.txt** for the full system requirements.

For Linux, these instructions require a Bourne-compatible shell.

This section includes:

- [“Getting Started” on page 605](#)
- [“Additional Configurations” on page 620](#)
- [“BusinessWorks Monitor Views/Displays” on page 625](#): Describes the displays that come with Solution Package for TIBCO ActiveMatrix BusinessWorks™.

---

## Getting Started

Perform these instructions if you downloaded, installed and configured the *standard* RTView Enterprise Monitor (**rtvapm\_std\_<version>.zip**), rather than the *full* RTView Enterprise Monitor, and now wish to install the Solution Package for Solace.

**Note:** If you downloaded and installed the *full* RTView Enterprise Monitor (**rtvapm\_full\_<version>.zip**), refer to [Chapter 2, “Configuration and Deployment”](#) .

This section includes:

- "Install and Setup"
- "Configure Data Collection"
- "Enable Monitoring for BW6"
- "Start the Monitor"
- "Stop the Monitor"
- "Troubleshoot"

## Install and Setup

This section includes:

- "Install"
- "Create Project Directory"
- "Set TIBCO Environment Variables"
- "Enable Monitoring for BusinessWorks v6"
- "Enable Monitoring for BusinessWorks v5"
- "**Install RTViewBWAgent Microagent for BusinessWorks v5**"
- "Enable Monitoring Via JMX"

## Install

The project directory for the Monitor Solution Package version is **rtvapm\_projects/emsample/servers/bw6mon**. This is the project directory you created as described for the RTView Enterprise Monitor.

Prerequisite: RTView Enterprise Monitor 3.5 must be installed on your system.

1. Download the **rtvapm\_bwmon\_<version>.zip** archive to your local Windows/UNIX/Linux server.
2. Unzip the **rtvapm\_bwmon\_<version>.zip** file on top of your existing RTView EM installation (for example, **rtvapm\_std\_<version>.zip** file).:

### Windows:

Type **unzip rtvapm\_bwmon\_<version>.zip** and save the files to the **C:\RTView** directory.

**Note:** On Windows systems, using the extraction wizard of some compression utilities might result in an extra top-level directory level based on the name of the **.zip** file. The additional directory is not needed because the **.zip** files already contain the **rtvapm** top-level directory. This extra directory must be removed before clicking the **Next** button that performs the final decompression.

### UNIX/Linux:

Type **unzip -a rtvapm\_bwmon\_<version>.zip**

3. Set JAVA\_HOME to the location of your Java installation and include it in the path.

**Important:** This environment variable must also be defined in UNIX/Linux systems for Tomcat to start successfully.

## Create Project Directory

Create a project directory by copying the default settings files into your own project settings directory. Creating this project directory ensures that your projects are not overwritten when the Monitor software is upgraded. Instructions in this documentation also assume you created this project directory. All examples (of configurations, property settings, command execution and so forth) refer to the project directory.

Copy these default settings files only once and do so *before* you begin configuring the Monitor.

The manner in which you set up your project directory is determined by whether you want to monitor TIBCO® ActiveMatrix BusinessWorks System™ version 6 or version 5:

### To Monitor Both BusinessWorks Version 6 and Version 5

This section describes how to create your project directory for monitoring both ActiveMatrix BusinessWorks™ version 6 and 5.

The project directory is **rtvadm\_projects/emsample/servers/bw6mon**. This is the project directory you created as described for the RTView Enterprise Monitor.

### To Monitor Only BusinessWorks Version 5

This section describes how to create your project directory for monitoring ActiveMatrix BusinessWorks™ version 5 only.

The project directory for the Monitor Solution Package version is **rtvadm\_projects/emsample/servers/bwmon**. This is the project directory you created as described for the RTView Enterprise Monitor.

## Set TIBCO Environment Variables

Set the following TIBCO environment variables:

| Name               | Description   | Example                   |
|--------------------|---|---------------------------|
| <b>RV_ROOT</b>     | TIBCO Rendezvous installation directory. If you installed Enterprise RTView using the Windows installer, this variable will already be set globally on your system.   | <b>C:\TIBCO\tibrv\8.3</b> |
| <b>HAWK_ROOT</b>   | TIBCO Hawk installation directory. If you installed Enterprise RTView using the Windows installer, this variable will already be set globally on your system.   | <b>C:\TIBCO\hawk\4.9</b>  |
| <b>TIBJMS_ROOT</b> | TIBCO EMS installation directory. This is only required if you are using an EMS transport for your TIBCO Hawk agents. If you installed Enterprise RTView using the Windows installer, this variable may already be set globally on your system. | <b>C:\TIBCO\ems\6.3</b>   |

## Enable Monitoring for BusinessWorks v6

Perform these instructions if you are monitoring ActiveMatrix BusinessWorks version 6:

1. Enable your applications for statistics collection. You can do this using the TIBCO BusinessWorks administrator CLI with commands such as:

```
bwadmin enablestats -d MyDomain -a MyAppSpace process MyAppName  
MyAppVersion
```

Repeat for each application you wish to monitor.

2. Enable the Hawk MicroAgent in your AppNodes for each AppSpace you wish to monitor. Refer to the **Enabling TIBCO Hawk MicroAgent** section of the *TIBCO BusinessWorks6 Administration Guide*.

## Enable Monitoring for BusinessWorks v5

Perform these instructions if you are *only* monitoring ActiveMatrix BusinessWorks version 5:

1. In the TIBCO Administrator, go to the **Configuration** page of your application.
2. In the **Configuration Builder** panel, select the name of the application.
3. Go to the **Edit Application Configuration** page.
4. Select the **Advanced** tab.
5. Find the global variable **HawkEnabled** and set its value to **true**.
6. Save the configuration.

## Install RTViewBWAgent Microagent for BusinessWorks v5

Perform these instructions if you are *only* monitoring ActiveMatrix BusinessWorks version 5.

---

**Note:** This section does not apply if all your engines are deployed as BusinessWorks Service Engines (BWSE).

---

Install the RTViewBWAgent plug-in microagent in the Hawk Agent for each domain you have configured to communicate with the Monitor.

RTViewBWAgent detects deployed engines and gets their maximum heap size metrics when the Hawk agent is started. If RTViewBWAgent is not installed, deployed engines are not detected until they have been started and report data to the Monitor. When live data is received the engine is added and its **Status** is set to **LIMITED**. The **Status** remains **LIMITED** because, although live data metrics are available, the deployment and maximum heap size metrics are still unavailable.

**Note:** After installation, you can use the Hawk Display to view the RTViewBWAgent microagent and invoke its methods: GetBWDeploymentNames and GetBWDeploymentMaxHeapSizes.

You can also configure the agent to detect deployed engines and make data updates at more frequent, specified intervals. To specify the update interval you uncomment the **-update** argument in the **BWAgentPlugin.hma** file and specify a non-zero value. When the **-update** argument is not used (is commented out), the Monitor does not report that an engine has been deployed or undeployed until the Hawk agent is restarted.

1. Navigate to the **agents/BWAgentPlugin** directory of your Monitor installation and locate the following two files:
  - **BWAgentPlugin.jar**
  - **BWAgentPlugin.hma**

- For a given domain, find the plug-in directory via this path:  
**<TIBCO-home>/tra/domain/<domain-name>**
- Repeat Step 2 for each Hawk domain you have configured to communicate with the Monitor.
- To (optionally) set RTViewBWAgent to make data updates at more frequent, specified intervals, open the **BWAgentPlugin.hma** file, uncomment the **-update** argument and specify a non-zero value. The value, which defaults to 300, represents the update interval in seconds. For example, a value of **3600** updates every hour:

```
<arguments>
  <arg>-update:3600</arg>
  . .
</arguments>
```

- Copy the **BWAgentPlugin.jar** file and **BWAgentPlugin.hma** file into the plug-in directory and restart the Hawk Agent.

## Enable Monitoring Via JMX

ActiveMatrix BusinessWorks version 5 engines can also be enabled for JMX monitoring as documented in *TIBCO ActiveMatrix BusinessWorks™ Administration, Monitoring the BusinessWorks Engine Using JMX*:

To enable via JMX:

- To enable local JMX monitoring, add the following properties to **bwengine.tra**:

```
Jmx.Enabled=true
java.property.com.sun.management.jmxremote=true
```

- To enable remote JMX monitoring, add the following properties to **bwengine.tra**: (Note **<port\_number>** can be any available port)

```
java.property.com.sun.management.jmxremote.port=<port_number>
java.property.com.sun.management.jmxremote.authenticate=false
java.property.com.sun.management.jmxremote.ssl=false
```

For example, the BW Engine **MyDomain.MyApp.Procs** can be enabled for remote JMX monitoring by adding the following lines to the file

**C:\Tibco\tra\domain\MyDomain\application\MyApp\MyApp-Procs.tra:**

```
#
# Enable JMX on port 9000
#
Jmx.Enabled=true
java.property.com.sun.management.jmxremote=true
java.property.com.sun.management.jmxremote.port=9000
java.property.com.sun.management.jmxremote.authenticate=false
java.property.com.sun.management.jmxremote.ssl=false
```

- After the BW Engine is enabled for JMX monitoring and restarted, it can be monitored by adding a JMX Connection property to the **sample.properties** file in your project settings directory, and making the Connection name the Engine name. Following the above example:

```
#
# Make JMX connections to BW Engines
#
sl.rtvview.jmx.jmxconn=domainslapm.BWApp-1.Procs 192.168.1.102 9000 URL:- - - false
```

This property should be added to the **sample.properties** file in the **rtvmgr** project directory (which should have been created when RTView Enterprise Monitor was installed, and is parallel to the **bwmon** directory). Once the RTVMGR data server is (re-)started, the JMX metrics will automatically be retrieved.

Proceed to [“Start the Monitor”](#).

## Configure Data Collection

This section describes how to collect data from the BW Servers you want to monitor. This part of the Monitor configuration is required.

Define the connections by [“Editing the sample.properties File”](#) or [“Using the Configuration Utility”](#)). You also configure BWSE Engines (for TIBCO ActiveMatrix environments only) and BW6 (for BW6 environments only). If you have a TIBCO ActiveMatrix (AMX) environment you must also [“Configure for BWSE Engines” on page 615](#) so the Monitor accepts AMX data (for BWSE Engines).

For most installations, the default Monitor property settings are sufficient. Consult Technical Support before modifying other property files to avoid upgrade issues.

LINUX users might see inconsistently aligned labels in displays. To resolve, set the client browser to download the fonts used by the server. Open the **rtvapm/common/conf/rtvapm.properties** file on the Display Server host machine and uncomment the following two lines:

```
#sl.rtvview.cp=%RTV_HOME%/lib/rtvfonts.jar
#sl.rtvview.global=rtv_fonts.rtv
```

This section includes:

- [“Define Data Source Connections” on page 610](#):
- [“Configure for BWSE Engines” on page 615](#): For TIBCO ActiveMatrix (AMX) environments only. You must also configure the Monitor to accept AMX data for BWSE Engines (after you configure the Data Servers). Instructions are included here.
- [“Enable Monitoring for BW6” on page 616](#): For BW6 environments only.

## Define Data Source Connections

Follow instructions in one of the following sections to define data source connections:

- [“Editing the sample.properties File” on page 610](#): Follow these instructions to configure the Data Servers (or use the Configuration Utility).
- [“Using the Configuration Utility” on page 611](#): Follow these instructions to configure the Data Servers (or by editing the **sample.properties** file).

### Editing the sample.properties File

This section describes how to configure the Monitor Data Servers by editing your **sample.properties** file.

### To configure data collection by editing your `sample.properties` file

1. Create your project directory. For details, see [“Create a Project Directory” on page 6](#).
2. Open the **sample.properties** file, located in your project directory, in a text editor.
3. Edit as needed. For example, if we have agents **unixagent1** and **unixagent2**, where the domain is `domaineast`, and both are using the RVD transport, we add the following:  
**sl.rtvview.hawk.hawkconsole domaineast rvd domaineast 7474 ; tcp:7474**  
**sl.rtvview.hawk.agentGroup UNIX\_AGENTS unixagent1(domaineast)**  
**unixagent2(domaineast)**  
And for agent `winagent` using the EMS transport via TCP port 7011, we add the following:  
**sl.rtvview.hawk.hawkconsole domainwest ems domainwest tcp://emshost:7222**  
**emsusername emspassword**  
**sl.rtvview.hawk.agentGroup WIN\_AGENTS winagent1(domainwest)**
4. Save the file.
5. For TIBCO ActiveMatrix (AMX) environments, proceed to [“Configure for BWSE Engines” on page 615](#).

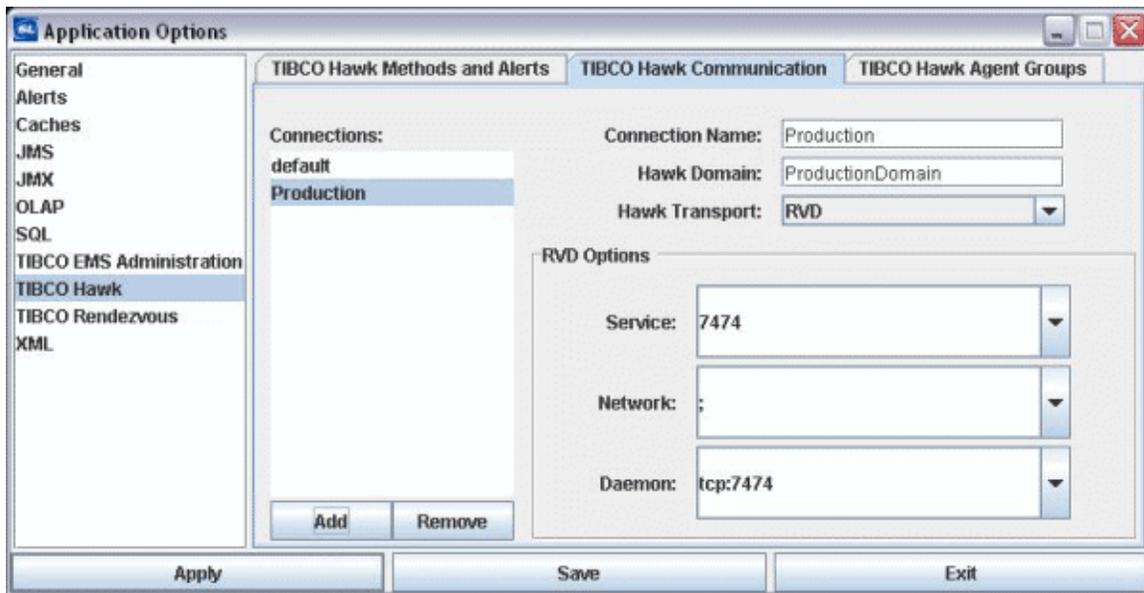
### Using the Configuration Utility

This section describes how to configure the Monitor Data Servers using the RTView Configuration Utility. When you configure Data Servers using the Configuration Utility, an initialization file is created.

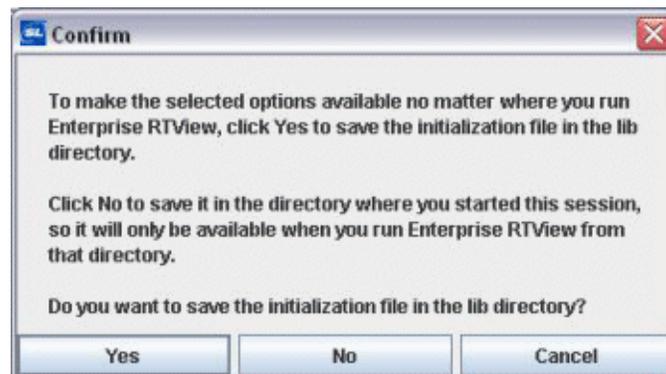
### To configure data collection using the RTView Configuration Utility

1. In an initialized command window, go to the Monitor directory.
2. Execute the following script:  
Windows  
Type: **run\_configutil.bat**  
Unix  
Type: **run\_configutil -bg**

The **Applications Options** dialog opens.



3. To specify the Hawk Domains to be monitored, select TIBCO Hawk from the left column and click the Configure Hawk Communication tab.
4. Enter a unique Connection Name and Hawk Domain and select a Hawk Transport for that domain.
5. Enter **RVD**, **RVA** or **EMS** options as appropriate for the selected transport.
6. Click **Add**.
7. Repeat Steps for all Hawk Domains to be monitored.
8. Save the configuration.
9. In the **Confirm** dialog click **No**.



10. To specify the platforms agents run on (Windows or UNIX) so that Hawk Agents are automatically discovered from your configured domains, click the **TIBCO Hawk Agents Groups** tab.

---

**Note:** If Hawk agents are running on virtual machines, select the platform type of the virtual machine.

---

11. Double-click the **WIN\_AGENTS** group. Active agents on all configured domains will be available in the **Available Agents** list.

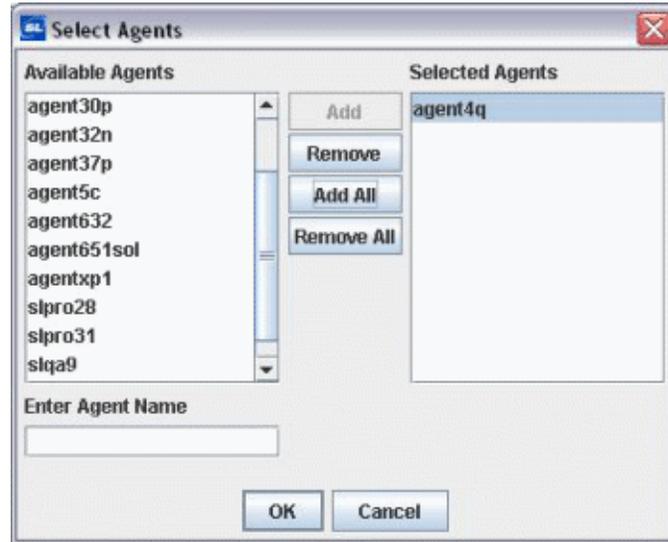


---

**Note:** It can take 20-30 seconds for Hawk to discover all available agents.

---

- 12.** In the **Select Agents** dialog, choose all Windows agents running your BusinessWorks engines from the **Available Agents** list and click **Add**.




---

**Note:** If an agent is currently disabled, and therefore not listed as available, you can enter it by name in the **Enter Agent Name** text field and click **Add**.

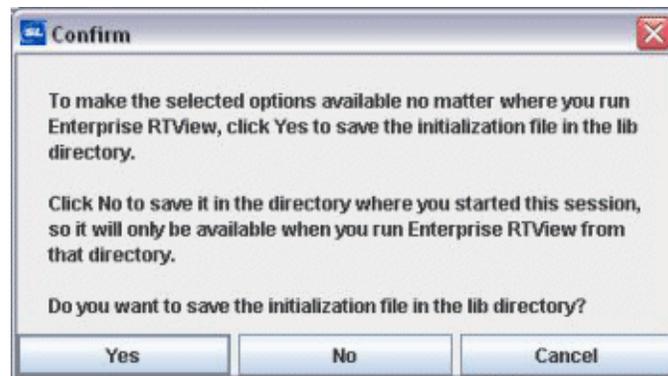
---

- 13.** Click **OK** to return to the **TIBCO Hawk Agent Groups** tab.

- 14.** Double-click the **UNIX\_AGENTS** group.

- 15.** Repeat steps for all UNIX agents.

- 16.** Click **Save** and **No** in the **Confirm** dialog.




---

**Note:** After you complete these configuration steps and start the RTView Data Server, you can verify this Hawk configuration by viewing the **dataserver.log** file, located in the **logs** directory. For example:

---

```
2013-05-08 13:39:48,009 INFO   rtv_stdout - [rtview] ... AppMgr.initApp
2013-05-08 13:39:48,009 INFO   rtv_stdout - [rtview] ... BWMON Manager AppMgr.initApp
2013-05-08 13:39:48,025 INFO   rtv_stdout - [rtview] ... using filters file
```

```
<bwmon_filters.xml>
2013-05-08 13:39:49,056 INFO   rtv_stdout - [rtview] ... startApplication()
2013-05-08 13:39:49,056 INFO   rtv_stdout - [rtview] ... startApplication()
2013-05-08 13:39:49,056 INFO   rtv_stdout - [rtview] -----
2013-05-08 13:39:49,056 INFO   rtv_stdout - [rtview] Group: WIN_AGENTS
2013-05-08 13:39:49,056 INFO   rtv_stdout - [rtview] Agent: demo1(domain1)
2013-05-08 13:39:49,056 INFO   rtv_stdout - [rtview] Agent: demo2(domain1)
2013-05-08 13:39:49,056 INFO   rtv_stdout - [rtview] Agent: demo3(domain1)
2013-05-08 13:39:49,056 INFO   rtv_stdout - [rtview] -----
2013-05-08 1339:49,056 INFO   rtv_stdout - [rtview] -----
2013-05-08 13:39:49,056 INFO   rtv_stdout - [rtview] Group: UNIX_AGENTS
2013-05-08 13:39:49,072 INFO   rtv_stdout - [rtview] Agent: demo4(domain2)
2013-05-08 13:39:49,072 INFO   rtv_stdout - [rtview] Agent: demo5(domain2)
2013-05-08 13:39:49,072 INFO   rtv_stdout - [rtview] Agent: demo6(domain2)
2013-05-08 13:39:49,072 INFO   rtv_stdout - [rtview] -----
```

**17.** For TIBCO ActiveMatrix (AMX) environments, proceed to [“Configure for BWSE Engines”](#) on page 615.

**18.** For BW6 environments, proceed to [“Enable Monitoring for BW6”](#) on page 616.

## Configure for BWSE Engines

This section is for TIBCO ActiveMatrix (AMX) users. This section describes how to configure BW Monitor to monitor BWSE engines. BW Monitor needs access to AMX Node data stored in EMS message queues on the AMX Host system. To make this data available to BW Monitor you will create EMS topics with bridges from the queues.

The TIBCO ActiveMatrix BusinessWorks Service Engine (BWSE) is an ActiveMatrix (AMX) component that enables BW engines to participate in the implementation of AMX services. In this case, the BWSE engines run within an AMX Node and are not visible to BW Monitor. However, you can configure BW Monitor to display these engines, as well as to gather JVM memory metrics for the AMX Nodes in which they are running.

### To Configure for BWSE engines:

**1.** To configure the AMX Host, In the EMS administration tool (tibemsadmin), execute the following commands:

**create topic rtv.amx.governance.stats**

**create bridge source=queue:amx.governance.stats  
target=topic:rtv.amx.governance.stats**

**2.** To configure BW Monitor, open the **sample.properties** file, located in your project directory, and find the following section:

```
#####
```

```
# SUPPORT FOR BWSE ENGINES
```

```
#collector.sl.rtvview.cache.config=bw_engine_microagents.rtv
```

```
#collector.sl.rtvview.cache.config=bw_amx_node_cache.rtv
```

```
#collector.sl.rtvview.sub=$AMX3.x_STATS_TOPIC:rtv.amx.governance.stats
```

```
# Repeat these lines for each AMX host
```

```
#collector.sl.rtvview.jms.jmsconn=local com.tibco.tibjms.TibjmsTopicConnectionFactory tcp://
localhost:7222 admin - - - -
#collector.sl.rtvview.jms.jmstopic=local $AMX3.x_STATS_TOPIC
#collector.sl.rtvview.cache.config=bw_amx_node_cache_source.rtv $jms_conn:local
```

**3.** Uncomment the first three lines:

```
collector.sl.rtvview.cache.config=bw_engine_microagents.rtv
collector.sl.rtvview.cache.config=bw_amx_node_cache.rtv
collector.sl.rtvview.sub=$AMX3.x_STATS_TOPIC:rtv.amx.governance.stats
```

**4.** Uncomment the last three lines:

```
collector.sl.rtvview.jms.jmsconn=local com.tibco.tibjms.TibjmsTopicConnectionFactory tcp://
localhost:7222 admin - - - -
collector.sl.rtvview.jms.jmstopic=local $AMX3.x_STATS_TOPIC
collector.sl.rtvview.cache.config=bw_amx_node_cache_source.rtv $jms_conn:local
```

**5.** Edit the three lines you just uncommented as follows:

- In the first line, specify the connection information for your EMS server. For example, for **tcp://localhost:7222** we would set as follows:

```
collector.sl.rtvview.jms.jmsconn=local
com.tibco.tibjms.TibjmsTopicConnectionFactory tcp://localhost:7222 admin - - - -
```

- In all three lines, specify your JMS connection name. For example, for **local** we would set as follows:

```
collector.sl.rtvview.jms.jmsconn=local
com.tibco.tibjms.TibjmsTopicConnectionFactory tcp://localhost:7222 admin - - - -
collector.sl.rtvview.jms.jmstopic=local $AMX3.x_STATS_TOPIC
collector.sl.rtvview.cache.config=bw_amx_node_cache_source.rtv $jms_conn:local
```

- 6.** If you have additional AMX Hosts, make a copy of the above three lines and provide the EMS server connection information and a (different) connection name for each Host.

- 7.** Configure your Hawk Data Source properties to include the systems where your BWSE components are deployed. See [“Editing the sample.properties File” on page 610](#).

- 8.** In AMX Administrator, in the properties for each BWSE engine, set HawkEnabled to **true**.

- 9.** For BW6 environments, proceed to [“Enable Monitoring for BW6” on page 616](#).

See BWSE Limitations for more information.

## Enable Monitoring for BW6

If you are running BW Monitor as a Solution Package in RTView Enterprise Monitor and are also running BW6, you must edit three files in your **emsample** project to enable monitoring of BW6 applications.

- 1.** Open the **servers/rtvservers.dat** file and comment out the **BWMON** section and **BW6MON** section (you can also comment out any other sections that are not relevant to your installation).
- 2.** Open the **servers/central/rtview.properties** file, locate the **BW6MON** section and follow the instructions:

```
#####
```

```
# BW6MON
```

```
#
```

```
# Note: BW6MON and BWMON caches may be run in the same data server.
```

```
# To enable BW6MON and BWMON, comment out the BWMON section below and uncomment this section.
```

3. Open the **servers/central/central.properties** file, locate and uncomment the following line:

```
"rtvapm_reference=bw6mon"
```

## Start the Monitor

### To start the Solution Package for TIBCO ActiveMatrix BusinessWorks™ (in RTView Enterprise Monitor):

Use the configuration defined in the **rtvservers.dat** file, which is located in the **RTView/rtvapm\_projects/emsample/servers** directory.

1. Initialize a command line window by executing the **rtvapm\_init** script. For example:

#### Windows

Go to your RTView Enterprise Monitor installation directory and type:

```
rtvapm_init
```

#### UNIX

Go to your Enterprise Monitor installation directory and type:

```
./rtvapm_init.sh
```

2. Initialize the user project directory by executing the **rtvapm\_user\_init** script. For example:

#### Windows

Change directory (**cd**) to **RTView\rtvapm\_projects\emsample** and type:

```
rtvapm_user_init
```

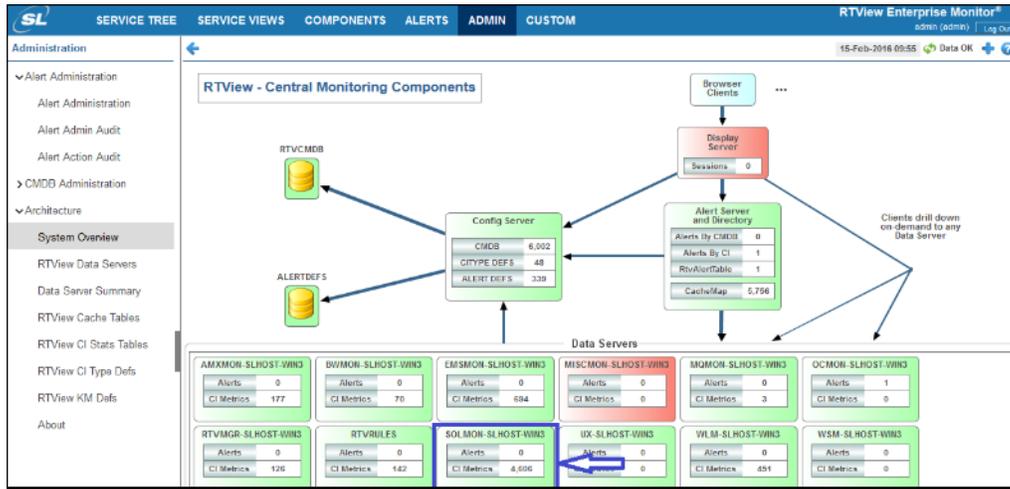
#### UNIX

Change directory (**cd**) to **RTView/rtvapm\_projects/emsample** and type:

```
./rtvapm_user_init.sh
```

3. Change directory (**cd**) to **rtvapm\_projects/emsample/servers**.
4. Execute **start\_rtv.sh bwmon -properties:sample** (or **start\_rtv bwmon -properties:sample** for Windows) to start all components of the Solution Package for TIBCO ActiveMatrix BusinessWorks™.
5. Open a browser and go to your RTView Enterprise Monitor deployment.

- In the Monitor, open the Architecture->System Overview display to verify that the Data Server (named **BWMON-LOCAL**, by default) is collecting data. The Data Server should be green and the **CI Metrics** value greater than zero (**0**). For example:



## Stop the Monitor

### To stop the Solution Package for TIBCO ActiveMatrix BusinessWorks™ (in RTView Enterprise Monitor):

- Initialize a command line window by executing the **rtvapm\_init** script. For example:

#### Windows

Go to your RTView Enterprise Monitor installation directory and type:

```
rtvapm_init
```

#### UNIX

Go to your Enterprise Monitor installation directory and type:

```
./rtvapm_init.sh
```

- Initialize the user project directory by executing the **rtvapm\_user\_init** script. For example:

#### Windows

Change directory (**cd**) to **RTView\rtvapm\_projects\emsample** and type:

```
rtvapm_user_init
```

#### UNIX

Change directory (**cd**) to **RTView/rtvapm\_projects/emsample** and type:

```
./rtvapm_user_init.sh
```

- Change directory (**cd**) to **rtvapm\_projects/emsample/servers**.
- Execute **stop\_rtv.sh bwmon** (or **stop\_rtv bwmon** for Windows) to stop all components of the Solution Package for TIBCO ActiveMatrix BusinessWorks™.

5. Optionally, you can use **grep** or **Task Manager** to ensure that all RTView related services are stopped.
  - **UNIX:** Execute **ps -ef |grep rtv** to determine the Process Identifier of processes still running and **kill -9 <ProcessId>** to terminate any that remain active.
  - **Windows:** Open Task Manager and look for Java sessions with **hsqldb** or **rtv** in the execute statement and terminate any that remain active.

## Troubleshoot

This section includes:

- [“Log Files,”](#) next
- [“JAVA\\_HOME”](#)
- [“Permissions”](#)
- [“Network/DNS”](#)
- [“Verify Data Received from Data Server”](#)
- [“Verify Port Assignments”](#)

## Log Files

When a Monitor component encounters an error, it outputs an error message to the console and/or to the corresponding log file. If you encounter issues, look for errors in the following log files:

- **dataserver.log**
- **displayserver.log**
- **historian.log**

which are located in the **rtvapm\_projects/emsample/servers/solmon/logs** directory.

Logging is enabled by default. If you encounter issues with log files, verify the **logs** directory exists in the **rtvapm\_projects/emsample/servers/solmon** directory.

## JAVA\_HOME

If the terminal window closes after executing the **start\_rtv** command, verify that **JAVA\_HOME** is set correctly.

## Permissions

If there are permissions-related errors in the response from the **start\_rtv** command, check ownership of the directory structure.

## Network/DNS

If any log file shows reference to an invalid URL, check your system's hosts file and confirm with your Network Administrator whether your access to the remote system is being blocked.

## Verify Data Received from Data Server

If you encounter problems collecting data, restart the Data Server, start the Monitor and go to Administration>RTView Cache Tables in the navigation tree. You should see all caches being populated with monitoring data (the number of rows in the table is greater than 0). If not, there is a problem with the connection to the Data Server.

## Verify Port Assignments

If the Viewer, Display Server or Historian fail to connect to the Data Server or they receive no data, verify the ports are assigned correctly in your properties files and restart the Data Server.

---

## Additional Configurations

This section includes:

- [“Enable Collection of Historical Data” on page 620](#)
- [“Enable Collection of Tomcat Historical Data” on page 621](#)
- [“Modify Displays, Data Collection and Filtering” on page 621](#)
- [“Enable BW5 Engines Via JMX” on page 624](#)

## Enable Collection of Historical Data

By default, the Monitor does not save historical BW process or activities data to the database. To enable the collection of this historical data, perform the following steps:

### To Collect Historical Process Data:

1. Navigate to **rtvapm/bwmon/conf/** and open the **rtvapm.bwmon.properties** file.
2. Under the **HISTORIAN PROPERTIES** section in the file, select (for pasting) the following two lines:

```
#sl.rtvview.sub=$BW_PROCESSES_TABLE:BW_PROCESSES
#sl.rtvview.sub=$BW_ACTIVITY_TOTALS_TABLE:BW_ACTIVITY_TOTALS
```

3. Paste the lines into your **sample.properties** file and uncomment the lines (delete the # in front of each line) so that it looks like this:

```
sl.rtvview.sub=$BW_PROCESSES_TABLE:BW_PROCESSES
sl.rtvview.sub=$BW_ACTIVITY_TOTALS_TABLE:BW_ACTIVITY_TOTALS
```

4. Save your **sample.properties** file.

### To Collect Historical Activities Data:

1. Navigate to **rtvapm/bwmon/conf/** and open the **rtvapm.bwmon.properties** file.
2. Under the **HISTORIAN PROPERTIES** section in the file, select (for pasting) the following line:

```
#sl.rtvview.sub=$BW_ACTIVITIES_TABLE:''
```

3. Paste the line into your **sample.properties** file and uncomment the line (delete the # in front of each line) so that it looks like this:

```
sl.rtvview.sub=$BW_ACTIVITIES_TABLE:BW_ACTIVITIES
```

4. Save your **sample.properties** file.

## Enable Collection of Tomcat Historical Data

By default, collection of Tomcat historical data is disabled. To enable collection of Tomcat history, add the following properties to your **sample.properties** file, located in your project directory:

```
collector.sl.rtvview.sub=$TOMCAT_GLOBALREQUESTSTATS_TABLE:TOMCAT_GLOBALREQUESTSTA  
TS  
collector.sl.rtvview.sub=$TOMCAT_WEBMODULESTATS_TABLE:TOMCAT_WEBMODULESTATS  
collector.sl.rtvview.sub=$TOMCAT_WEBMODULETOTALS_TABLE:TOMCAT_WEBMODULETOTALS
```

## Modify Displays, Data Collection and Filtering

This section describes how to modify data collection and Monitor displays. This part of the Monitor configuration is optional. This section includes:

- [“Create Customized Filters” on page 621](#): For BusinessWorks version 5.
- [“Enable BW Servers Displays” on page 621](#): For BusinessWorks version 5.
- [“Enable Data Archiving for BW Process Table” on page 622](#): For BusinessWorks version 5.
- [“Enable Data Archiving for BW Activity Table” on page 623](#): For BusinessWorks version 5 and 6.
- [“Reduce Collection of BW5 Process Data” on page 623](#): For BusinessWorks version 5.
- [“Enable Collection of Tomcat History” on page 624](#): For BusinessWorks version 5.

### Create Customized Filters

This section applies to BusinessWorks version 5, and describes how to create filtering options for the **Filter:** drop-down menu. By default, the **Filter:** drop-down menu only contains the **No Filter** option.

You can create filtering options that limit display data based on a combination of domain, engine, process and activity names. You configure the filtering options prior to running the Monitor.

To create your filtering options edit the **bwmon\_filters.xml** file, located in your project directory. Edit by inserting regular expressions for each type of name you want filter by, as well as a name for the filter. The filter name becomes the option in the Filters: drop-down menu. Instructions and examples are provided in the **bwmon\_filters.xml** file.

For details about the project directory, see [“Create a Project Directory” on page 6](#).

### Enable BW Servers Displays

This section applies to BusinessWorks **version 5**, and describes how to make the **BW Servers** - [“Server Processes”](#) and [“Single Server Process - Summary”](#) displays visible in the Monitor. By default, these displays are not enabled.

The **Server Processes** and **Single Server Summary** displays show information about BW Server operating system processes. Due to limitations in TIBCO Hawk, the data they display is not available from IBM AIX or HP-UX servers.

### To enable the displays:

1. Open the **bwmon\_navtree.xml** file, located in your project directory. For details about the project directory, see ["Create a Project Directory" on page 6](#).

2. Uncomment the following two lines,

```
<!-- <node label="Server Processes" display="bw_server_processes"/> -->
```

```
<!-- <node label="Server Process Summary" display="bw_server_process_summary"/> -->
```

3. Save the file.

4. Restart the Monitor.

5. Verify the displays appear under **BW Servers** in the navigation tree.

## Enable Data Archiving for BW Process Table

This section applies to BusinessWorks **version 5**, and describes how to enable data archiving to the History Database for the **BW Processes** - ["All Processes Table"](#) display. By default, process data is not archived to the History Database.

---

**Important:** Use caution. When this feature is enabled, and there are more than 5000 processes, resource consumption is high.

---

### To enable data archiving:

1. Open the **rtvapm.bwmon.properties** file, located in the **RTVAPM\_HOME/bwmon/conf** directory.

2. Locate the HISTORIAN PROPERTIES section and proceed as described.

```
#####
```

```
# HISTORIAN PROPERTIES
```

```
#
```

```
# By default we disable collection of historical data for Processes.
```

```
#
```

```
sl.rtvview.sub=$BW_PROCESSES_TABLE:"
```

```
sl.rtvview.sub=$BW_ACTIVITY_TOTALS_TABLE:"
```

```
#
```

```
# To enable this, copy the following two lines into your local properties (the sample.properties file) and uncomment them:
```

```
#
```

```
#sl.rtvview.sub=$BW_PROCESSES_TABLE:BW_PROCESSES
```

```
#sl.rtvview.sub=$BW_ACTIVITY_TOTALS_TABLE:BW_ACTIVITY_TOTALS
```

3. Save the **sample.properties** file.

#### 4. Restart the Monitor.

---

**Note:** To disable this feature, comment out the two lines in the **sample.properties** file.

---

## Enable Data Archiving for BW Activity Table

This section applies to BusinessWorks **version 5 and 6**, and describes how to enable collection of historical data for activities. By default, collection of historical data for activities is disabled.

### To enable data archiving for Activity table:

**1.** Open the **rtvapm.bw6mon.properties** file, located in the **RTVAPM\_HOME/bw6mon/conf** directory. Or, if you are monitoring BW5 only, open the **rtvapm.bwmon.properties** file, located in the **RTVAPM\_HOME/bwmon/conf** directory.

**2.** Locate the HISTORIAN PROPERTIES section and proceed as described.

```
#####
# HISTORIAN PROPERTIES
#
# By default we disable collection of historical data for Activities.
#
collector.sl.rtvview.sub=$BW_ACTIVITIES_TABLE:"
#
# To enable this, copy the following line into your local properties (the sample.properties
# file) and uncomment it:
#
#collector.sl.rtvview.sub=$BW_ACTIVITIES_TABLE:BW_ACTIVITIES
```

**3.** Save the **sample.properties** file.

**4.** Restart the Monitor.

---

**Note:** To disable this feature, comment out the two lines in the **sample.properties** file.

---

## Reduce Collection of BW5 Process Data

This section describes how to exclude BW5 process data that is collected by the Monitor but not of interest to you. By default, all process data is included. Excluding data stops it from being stored in the cache and removes it from displays. To exclude (or include) data, edit one or both of the following properties in the **sample.properties** file:

- collector.sl.rtvview.sub=\$bwprocessFilterPattern:"
- collector.sl.rtvview.sub=\$bwprocessFilterPattern2:"

Each property specifies a regular expression which is applied to a process name. If the name matches the pattern the process is included. To exclude processes, start the filter pattern with ^ (negation).

For example, if you have the following processes:

process01.process  
 process02.process  
 process03.process  
 process04.process  
 process05.process  
 process06.process  
 process07.process

and you set the first property as follows:

**collector.sl.rtvview.sub=\$bwprocessFilterPattern:'0[3-5]'**

data for process03 to process05 are stored and displayed:

process03.process  
 process04.process  
 process05.process

If you set the second property as follows:

**collector.sl.rtvview.sub=\$bwprocessFilterPattern:'0[^4]'**

data from process04 is excluded and you continue getting data from:

process03.process  
 process05.process

The Data Server must be restarted for changes to take effect.

## Enable Collection of Tomcat History

By default, collection of Tomcat historical data is disabled. To enable collection of Tomcat history, add the following properties to your **sample.properties** file:

collector.sl.rtvview.sub=\$TOMCAT\_GLOBALREQUESTSTATS\_TABLE:TOMCAT\_GLOBALREQUES  
 TSTATS

collector.sl.rtvview.sub=\$TOMCAT\_WEBMODULESTATS\_TABLE:TOMCAT\_WEBMODULESTATS

collector.sl.rtvview.sub=\$TOMCAT\_WEBMODULETOTALS\_TABLE:TOMCAT\_WEBMODULETOTAL  
 S

## Enable BW5 Engines Via JMX

ActiveMatrix BusinessWorks version 5 engines can also be enabled for JMX monitoring as documented in *TIBCO ActiveMatrix BusinessWorks™ Administration, Monitoring the BusinessWorks Engine Using JMX*:

### To enable BW5 engines via JMX:

1. To enable local JMX monitoring, add the following properties to **bwengine.tra**:

**Jmx.Enabled=true**  
**java.property.com.sun.management.jmxremote=true**

2. To enable remote JMX monitoring, add the following properties to **bwengine.tra**: (Note <port\_number> can be any available port)

```
java.property.com.sun.management.jmxremote.port=<port_number>
java.property.com.sun.management.jmxremote.authenticate=false
java.property.com.sun.management.jmxremote.ssl=false
```

For example, the BW Engine **MyDomain.MyApp.Procs** can be enabled for remote JMX monitoring by adding the following lines to the file

**C:\Tibco\tra\domain\MyDomain\application\MyApp\MyApp-Procs.tra:**

```
#
# Enable JMX on port 9000
#
Jmx.Enabled=true
java.property.com.sun.management.jmxremote=true
java.property.com.sun.management.jmxremote.port=9000
java.property.com.sun.management.jmxremote.authenticate=false
java.property.com.sun.management.jmxremote.ssl=false
```

3. After the BW Engine is enabled for JMX monitoring and restarted, it can be monitored by adding a JMX Connection property to the **sample.properties** file in your project settings directory, and making the Connection name the Engine name. Following the above example:

```
#
# Make JMX connections to BW Engines
#
sl.rtview.jmx.jmxconn=domainslapm.BWApp-1.Procs 192.168.1.102 9000 URL:- - - false
```

**Note:** For the standalone version of the Monitor, this property should be added to the **sample.properties** file in the project directory in which you installed the Monitor. After the BWMON data server is (re-)started, the JMX metrics will automatically be retrieved from the engine.

---

## BusinessWorks Monitor Views/Displays

The following Solution Package for TIBCO ActiveMatrix BusinessWorks™ Views (and their associated displays) can be found under **Components** tab > **Middleware** > **TIBCO BusinessWorks** after installation:

This section describes Monitor displays. This section includes:

- **“BW6 Applications” on page 626:** The displays in this View present BusinessWorks 6 application performance metrics.
- **“BW6 AppNodes” on page 634:** The displays in this View present BusinessWorks 6 AppNode performance metrics.
- **“BW6 AppSlices” on page 642:** The displays in this View present BusinessWorks 6 AppSlice performance metrics.
- **“BW6 Processes” on page 650:** The displays in this View present BusinessWorks 6 process performance metrics.
- **“BW Engines” on page 659:** The displays in this View present BusinessWorks 5.0 engine performance metrics.
- **“BW Processes” on page 670:** The displays in this View present BusinessWorks 5.0 process performance metrics.

- [“BW Activities” on page 678](#): The displays in this View present BusinessWorks 5.0 activity performance metrics.
- [“BW Servers” on page 686](#): The displays in this View present BusinessWorks 5.0 server performance metrics.

## BW6 Applications

These displays present process performance data for your BusinessWorks 6 applications and AppSpaces across BusinessWorks 6 Domains. Process metrics are totaled by application. Use these displays to monitor critical alerts for all your BusinessWorks 6 applications, and investigate those alerts in lower-level displays. Displays in this View are:

- [“BW6 All Applications Heatmap” on page 626](#): A color-coded heatmap view of selected application performance metrics.
- [“BW6 All Applications Table” on page 629](#): A tabular view of all available application performance data in this BusinessWorks 6 View.
- [“BW6 Single Application Summary” on page 632](#): Current and historical metrics for a single application.

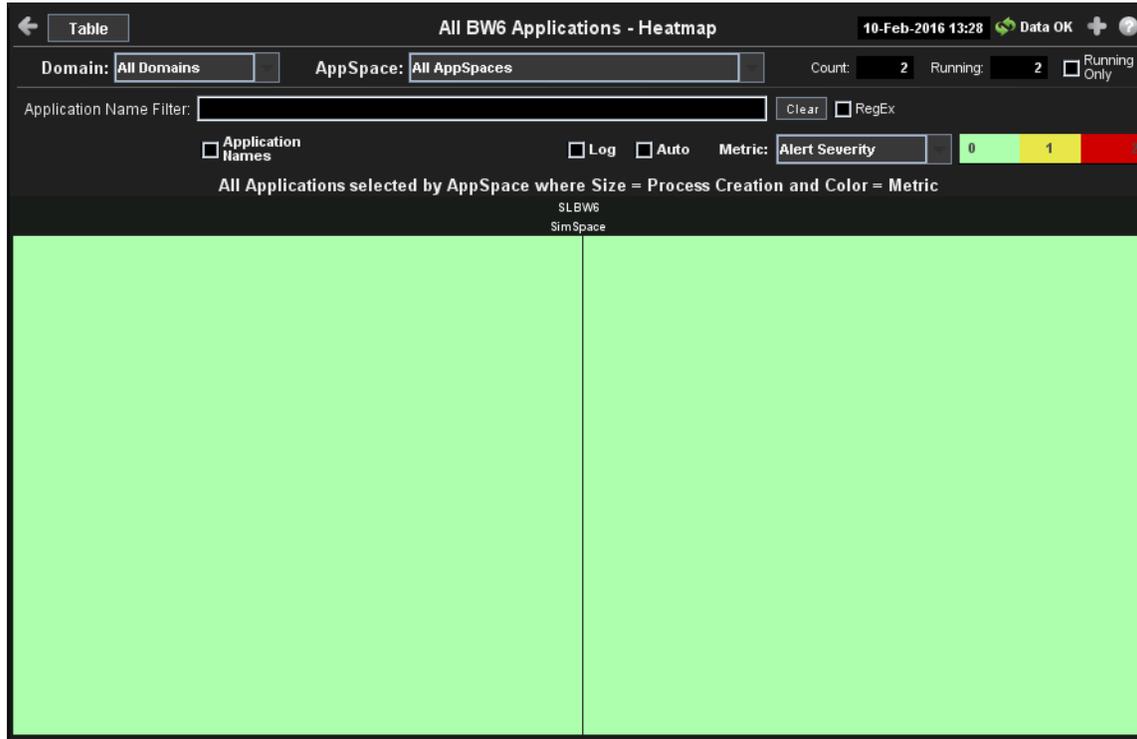
### BW6 All Applications Heatmap

View the most critical BusinessWorks 6 application alert states pertaining to process creation and execution for all nodes on which the applications are deployed. Use this display to quickly identify applications with critical alerts.

Each rectangle in the heatmap represents an application. The rectangle color indicates the most critical alert state associated with the application. The rectangle size represents process creation across applications; a larger size is a larger value.

Choose a domain and AppSpace from the drop-down menus. Choose a different metric to display from the **Metric** drop-down menu. Enter a string in the **Application Name Filter** field to limit data shown in the display. Use the **Application Names** check-box  to include or exclude labels in the heatmap. Mouse over a rectangle to see additional metrics. By default, this display shows **Alert Severity**.

Drill-down and investigate an application by clicking a rectangle in the heatmap to view details in the “[BW6 Single Application Summary](#)” display.



**Title Bar:** Indicators and functionality might include the following:

← ↑ Open the previous and upper display.

**Table** Navigate to displays commonly accessed from this display.

**19-Feb-2014 16:50** The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

⚠ Open the **Alert Views - RTView Alerts Table** display.

⊕ Open an instance of this display in a new window.

❓ Open the online help page for this display.

### Filter By:

The display might include these filtering options:

**Domain:** Choose a domain to show data for in the display.

**AppSpace** Choose an AppSpace to show data for in the display.

**Application Name Filter** Enter a string to show data for in the display.

**Clear** Clears the **Application Name Filter** entries from the display.

**RegEx** Toggles the **Application Name Filter** to accept Regular Expressions for filtering.

**Application Names** Check to include labels in the heatmap.

### Fields and Data:

|                        |  |
|------------------------|--|
| <b>Count:</b>          | The total number of AppSpaces currently shown in the display.  |
| <b>Running</b>         | The total number of AppSpaces currently running in the display.  |
| <b>Running Only</b>    | Select to show only running applications in the display.   |
| <b>Log</b>             | Select to enable a logarithmic scale. Use <b>Log Scale</b> to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. <b>Log Scale</b> makes data on both scales visible by applying logarithmic values rather than actual values to the data.   |
| <b>Auto</b>            | Select to enable auto-scaling. When auto-scaling is activated, the color gradient bar's maximum range displays the highest value. NOTE: Some metrics auto-scale automatically, even when <b>Auto</b> is not selected.  |
| <b>Metric</b>          | Choose a metric to view in the display.  |
| <b>Alert Severity</b>  | <p>The maximum level of alerts in the heatmap rectangle. Values range from <b>0</b> - <b>2</b>, as indicated in the color gradient  bar, where <b>2</b> is the highest Alert Severity:</p> <ul style="list-style-type: none"> <li> Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.</li> <li> Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.</li> <li> Green indicates that no metrics have exceeded their alert thresholds.</li> </ul> |
| <b>Alert Count</b>     | The total number of critical and warning alerts in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average alert count.  |
| <b>Active Count</b>    | The total number of active processes in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.  |
| <b>Completed Count</b> | The total number of completed processes in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.   |
| <b>Suspended Count</b> | The total number of suspended processes in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.   |
| <b>Failed Count</b>    | The total number of failed processes in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.  |
| <b>Created / sec</b>   | The number of processes created per second in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.   |

|                              |   |
|------------------------------|---|
| <b>Suspended / sec</b>       | The number of suspended processes per second in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.  |
| <b>Failed / sec</b>          | The number of failed processes per second in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.   |
| <b>Exec Time / sec</b>       | The process execution time per second in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.  |
| <b>Most Recent Exec Time</b> | The execution time for the most recently executed process in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.  |
| <b>Average Exec Time</b>     | The average execution time for all processes in the heatmap rectangle, calculated by dividing the delta execution time for the interval by the delta completed, or the number of process instances that completed in the interval. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count. |
| <b>Average Elapsed Time</b>  | The average elapsed time for all processes in the heatmap rectangle, calculated by dividing the delta elapsed time for the interval by the delta completed, or the number of process instances that completed in the interval. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.   |

## BW6 All Applications Table

View BusinessWorks 6 data shown in the ["BW6 All Applications Heatmap"](#), and additional details, in a tabular format.

Each row in the table is an application. Choose a domain and AppSpace from the drop-down menus. Click a column header to sort column data in numerical or alphabetical order. Enter a string in the **Application Name Filter** field to limit data shown in the display.

Drill-down and investigate by clicking a row to view details for the selected application in the “BW6 Single Application Summary” display.

| Domain | AppSpace | Name             | Alert Level | Alert Count | State   | AppNodes | Active Processes | Suspended Processes |
|--------|----------|------------------|-------------|-------------|---------|----------|------------------|---------------------|
| SLBW6  | SimSpace | com.SL.BWApp.Two | ●           |             | Running | 3        | 16               | 0                   |
| SLBW6  | SimSpace | com.SL.BWApp.One | ●           |             | Running | 8        | 1,246            | 0                   |

**Title Bar:** Indicators and functionality might include the following:

← ↑ Open the previous and upper display.

Table Navigate to displays commonly accessed from this display.

19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

⚠ Open the **Alert Views - RTView Alerts Table** display.

+ Open an instance of this display in a new window.

🔗 Open the online help page for this display.

#### Filter By:

The display might include these filtering options:

**Domain:** Choose a domain to show data for in the display.

**AppSpace** Choose an AppSpace to show data for in the display.

**Application Name Filter** Enter a string to limit data shown in the display.

**Clear** Clears the **Application Name Filter** entries from the display.

**RegEx** Toggles the **Application Name Filter** to accept Regular Expressions for filtering.

#### Fields and Data:

**Count:** The total number of applications in the AppSpace.

- Running** The total number of applications currently running in the AppSpace.
- Running Only** Select to show only running applications in the display.

**Table:**

Each row in the table is a different application.

|                            |  |
|----------------------------|--|
| <b>Domain</b>              | The domain in which the application resides.   |
| <b>AppSpace</b>            | The AppSpace in which the application resides.   |
| <b>Name</b>                | The name of the application.   |
| <b>Alert Level</b>         | The most critical alert state for alerts in the row:<br> Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.<br> Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.<br> Green indicates that no metrics have exceeded their alert thresholds. |
| <b>Alert Count</b>         | The total number of active alerts for the application.   |
| <b>State</b>               | The current status of the application. Valid values are <b>Running</b> and <b>Stopped</b> .  |
| <b>AppNodes</b>            | The total number of AppNodes associated with the application.  |
| <b>Active Processes</b>    | The number of currently active application processes.  |
| <b>Suspended Processes</b> | The number of suspended application processes.   |
| <b>Failed Processes</b>    | The number of failed application processes.  |
| <b>Completed Processes</b> | The number of completed application processes.   |
| <b>Created /sec</b>        | The number of application processes created per second.  |
| <b>Suspended / sec</b>     | The number of application process suspensions per second.  |
| <b>Failed /sec</b>         | The number of application process failures per second.   |
| <b>Exec Time/ sec</b>      | The number of processes executed per second.   |
| <b>Recent Exec Time</b>    | The number of seconds for the most recently executed process.  |
| <b>Average Exec Time</b>   | The average number of seconds for all processes to execute.  |
| <b>Version</b>             | The application version.   |
| <b>Module</b>              | The application module.  |
| <b>Shared Module</b>       | The shared module, if any.   |
| <b>Time Stamp</b>          | The date and time the row data was last updated.   |

- Source** Name of RTView Data Server sending this data (or localhost).
- Expired** When checked, data has not been received from this host in the specified amount of time. The host will be removed from the Monitor in the specified amount of time. The default setting is **60** seconds.

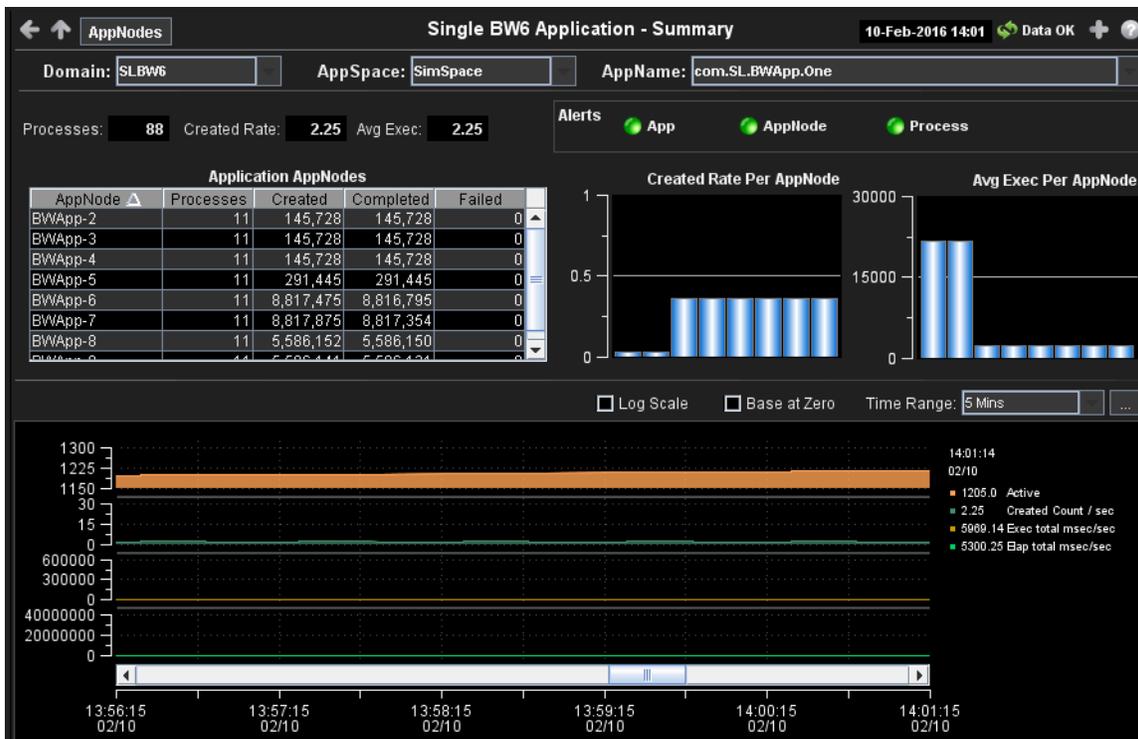
## BW6 Single Application Summary

View current and historical metrics for a single BusinessWorks 6 application across multiple nodes. Use this display to investigate performance issues of application AppNodes within an AppSpace. Use this display to view all available data for each AppNode by Domain and AppSpace.

This display includes a list of AppNodes with their host names and memory metrics, bar graphs per AppNode for process creation and execution, and trend graphs of process creation and execution metrics.

The summary display also shows the AppNodes of the deployment and process metrics totaled by AppNode. This is useful to see the deployment and load balancing of the Application in current and historical time.

Choose a domain, AppSpace and Application from the drop-down menus. Drill-down and investigate by clicking an AppNode in the table to view details in the “BW6 Single AppNode Summary” display.



**Title Bar:** Indicators and functionality might include the following:

 Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

### Filter By:

The display might include these filtering options:

**Domain:** Choose a domain to show data for in the display.

**AppSpace** Choose an AppSpace to show data for in the display.

**AppName:** Choose an AppName to show data for in the display.

### Fields and Data:

**Processes:** The number of processes currently running for the selected application.

**Created Rate:** The number of processes created per second for the selected application.

**Avg Exec:** The average number of seconds for processes to execute for the selected application.

### Alerts

Indicates the greatest severity level and the number of open **App**, **AppNode** and **Process** alerts for the selected application. Click on the alert indicator to drill down to the ["BW6 All Applications Table"](#) display, ["BW6 All AppNodes Table"](#) display and ["BW6 All Processes Table"](#) display, respectively, to view current alerts for the selected application.

Values range from **0** to **2**, where **2** is the greatest Severity:

-  One or more alerts exceeded their ALARM LEVEL threshold.
-  One or more alerts exceeded their WARNING LEVEL threshold.
-  No alert thresholds have been exceeded.

### Application Appnodes Table

Each row in the table is a different AppNode. Column values describe processes for the selected application on that AppNode. Click a row to view AppNode details in the ["BW6 Single AppNode Summary"](#) display.

**AppNode** The name of the AppNode.

**Processes** The number of processes currently running on the AppNode.

**Created** The total number of processes created on the AppNode.

**Completed** The total number of completed processes on the AppNode.

**Failed** The total number of failed processes on the AppNode.

### Created Rate Per AppNode Bar Graph

The bar graph shows the current process creation rate per AppNode. Click to drill-down and investigate in the ["BW6 Single AppSlice Summary"](#) display.

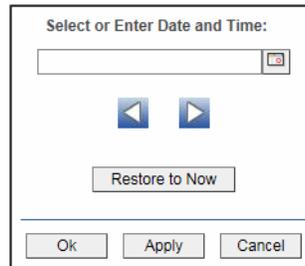
### AvgExec Per AppNode Bar Graph

The bar graph shows the current average process execution rate per AppNode for the selected application. Click to drill-down and investigate in the ["BW6 Single AppSlice Summary"](#) display.

**Trend Graphs**

Traces the sum of process metrics across all processes in all slices of the selected application.

- Active** Traces the number of currently active application processes.
- Created Count / sec** Traces the number of created application processes.
- Exec total msec/sec** Traces the rate at which the application is accumulating process execution time, in milliseconds per second.
- Elap total msec/sec** Traces the rate at which the application accumulates process elapsed time, in milliseconds per second.
- Log Scale** Select to enable a logarithmic scale. Use **Log Scale** to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. **Log Scale** makes data on both scales visible by applying logarithmic values rather than actual values to the data.
- Base at Zero** Select to use zero (0) as the Y axis minimum for all graph traces.
- Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

**BW6 AppNodes**

These displays present internal JVM memory and host CPU utilization for BusinessWorks 6 AppNodes and their resources. This is useful because the AppNode performance is dependent on both internal and external factors and they sometimes interact. Displays in this View are:

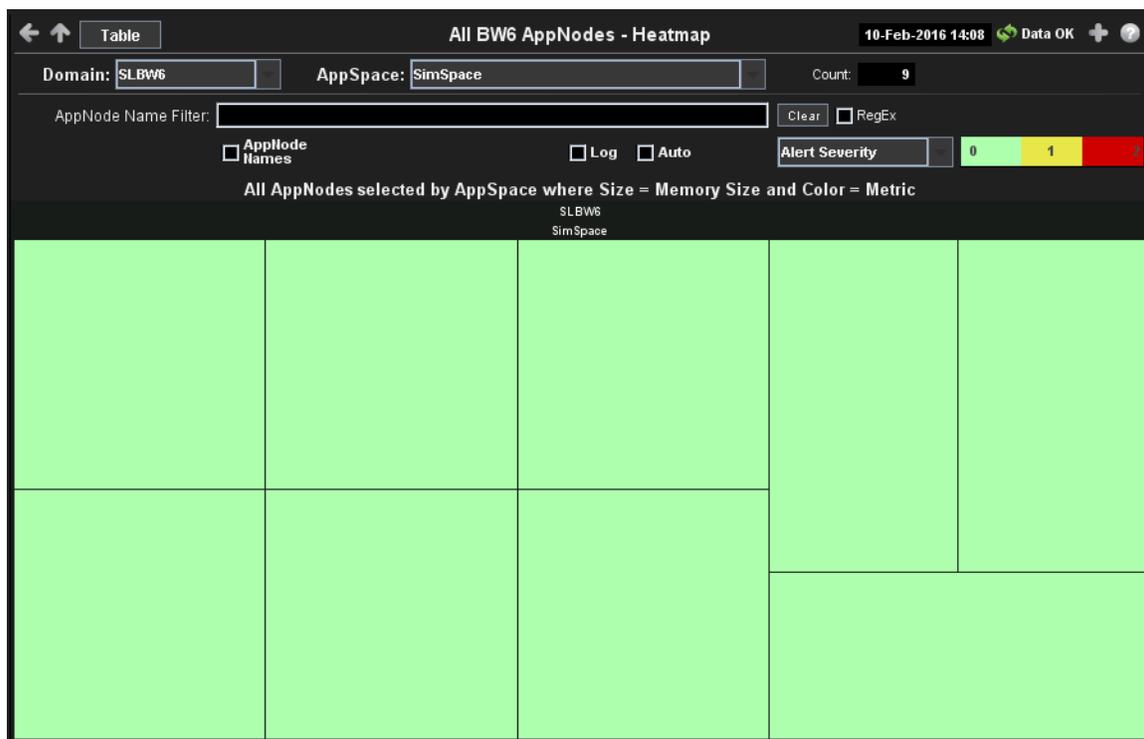
- [“BW6 All AppNodes Heatmap” on page 635](#): A color-coded heatmap view of utilization metrics.
- [“BW6 All AppNodes Table” on page 637](#): A tabular view of all available utilization data in this BusinessWorks 6 View.
- [“BW6 Single AppNode Summary” on page 639](#): Current and historical metrics for a single AppNode.

## BW6 All AppNodes Heatmap

View the most critical JVM memory and host resource utilization for BusinessWorks 6 AppNodes. Use this display to quickly identify AppNodes with critical alerts.

Each rectangle in the heatmap represents an AppNode. The rectangle color indicates the most critical alert state associated with the AppNode. The rectangle size represents the maximum memory used in the rectangle; a larger size is a larger value.

Choose a domain and AppSpace from the drop-down menus. Choose a different metric to display from the **Metric** drop-down menu. Enter a string in the **AppNode Name Filter** field to limit data shown in the display. Use the **AppNode Names** check-box  to include or exclude labels in the heatmap. Mouse over a rectangle to see additional metrics. By default, this display shows **Alert Severity**. Drill-down and investigate by clicking a rectangle in the heatmap to view details for the selected application in the “[BW6 Single AppNode Summary](#)” display.



**Title Bar:** Indicators and functionality might include the following:

← ↑ Open the previous and upper display.

Table Navigate to displays commonly accessed from this display.

19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

🚨 Open the **Alert Views - RTView Alerts Table** display.

⊕ Open an instance of this display in a new window.

🔗 Open the online help page for this display.

**Filter By:**

The display might include these filtering options:

- Domain:** Choose a domain to show data for in the display.
- AppSpace:** Choose an AppSpace to show data for in the display.
- Count:** The total number of AppNodes in the AppSpace.

**Fields and Data:**

- AppNode Name Filter** Enter a string to limit data shown in the display.
- Clear** Clears the **Application Name Filter** entries from the display.
- RegEx** Toggles the **Search Text** field to accept Regular Expressions for filtering.
- AppNode Names** Check to include labels in the heatmap.
- Log** Select to enable a logarithmic scale. Use **Log Scale** to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. **Log Scale** makes data on both scales visible by applying logarithmic values rather than actual values to the data.
- Auto** Select to enable auto-scaling. When auto-scaling is activated, the color gradient bar's maximum range displays the highest value. NOTE: Some metrics auto-scale automatically, even when **Auto** is not selected.
- Metric** Choose a metric to view in the display.
- Alert Severity** The maximum level of alerts in the heatmap rectangle. Values range from **0** - **2**, as indicated in the color gradient  bar, where **2** is the highest Alert Severity:
-  Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.
  -  Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.
  -  Green indicates that no metrics have exceeded their alert thresholds.
- Alert Count** The total number of critical and warning alerts in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average alert count.
- CPU Used%** The percent (%) CPU used in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
- Memory Used%** The percent (%) memory used in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
- Active Processes** The number of currently active processes in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.

- Created Processes** The number of processes created in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
- Created /sec** The number of processes created per second in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
- Error Count** The total number of process errors in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average alert count.

### BW6 All AppNodes Table

View BusinessWorks 6 data shown in the “[BW6 All AppNodes Heatmap](#)” display, and additional details, in a tabular format. Use this display to view all available data for each AppNode by Domain and AppSpace.

Each row in the table is an AppNode. Choose a domain and AppSpace from the drop-down menus. Click a column header to sort column data in numerical or alphabetical order. Enter a string in the **Application Name Filter** field to limit data shown in the display.

Drill-down and investigate by clicking a row to view details for the selected AppNode in the “[BW6 Single AppNode Summary](#)” display.



| Domain | AppSpace | AppNode | Alert Level   | Alert Count | Host           | Process Count | Active Threads | Total Memory | Used Memory |
|--------|----------|---------|---|-------------|----------------|---------------|----------------|--------------|-------------|
| SLBW6  | SimSpace | BWApp-2 |  |             | slapm(slapm)   | 22            | 0              | 32,374,784   | 14,926,352  |
| SLBW6  | SimSpace | BWApp-1 |  |             | slmware(slmon) | 11            | 8              | 33,226,752   | 20,778,176  |
| SLBW6  | SimSpace | BWApp-3 |  |             | slapm(slapm)   | 22            | 0              | 37,027,840   | 16,324,336  |
| SLBW6  | SimSpace | BWApp-7 |  |             | slxp10(slapm)  | 11            | 8              | 14,221,312   | 10,849,584  |
| SLBW6  | SimSpace | BWApp-6 |  |             | slxp10(slapm)  | 11            | 8              | 16,187,392   | 14,082,536  |
| SLBW6  | SimSpace | BWApp-8 |  |             | slwmrh2(slapm) | 11            | 8              | 32,440,320   | 9,332,816   |
| SLBW6  | SimSpace | BWApp-9 |  |             | slwmrh2(slapm) | 11            | 8              | 32,440,320   | 12,141,144  |
| SLBW6  | SimSpace | BWApp-5 |  |             | slapm(slapm)   | 11            | 0              | 36,241,408   | 33,767,136  |
| SLBW6  | SimSpace | BWApp-4 |  |             | slapm(slapm)   | 11            | 0              | 36,831,232   | 28,654,848  |

**Title Bar:** Indicators and functionality might include the following:

  Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

### Filter By:

The display might include these filtering options:

**Domain:** Choose a domain to show data for in the display.

**AppSpace** Choose an AppSpace to show data for in the display.

### Fields and Data:

**Count:** The total number of rows in the table.

**AppNode Name Filter** Enter a string to limit data shown in the display.

**Clear** Clears the **Application Name Filter** entries from the display.

**RegEx** Toggles the **Search Text** field to accept Regular Expressions for filtering.

### Table:

Column values describe the AppNode.

**Domain** The domain in which the AppNode resides.

**AppSpace** The AppSpace in which the AppNode resides.

**AppNode** The name of the AppNode.

**Alert Level** The most critical alert state for alerts in the row:

 Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.

 Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.

 Green indicates that no metrics have exceeded their alert thresholds.

**Alert Count** The total number of active alerts for the AppNode.

**Host** The host on which the AppNode resides.

**Process Count** The number of processes running.

**Active Threads** The number of currently active threads.

**Total Memory** The total amount of used and free memory, in megabytes.

**Used Memory** The amount of used memory, in megabytes.

**Free Memory** The amount of free memory, in megabytes.

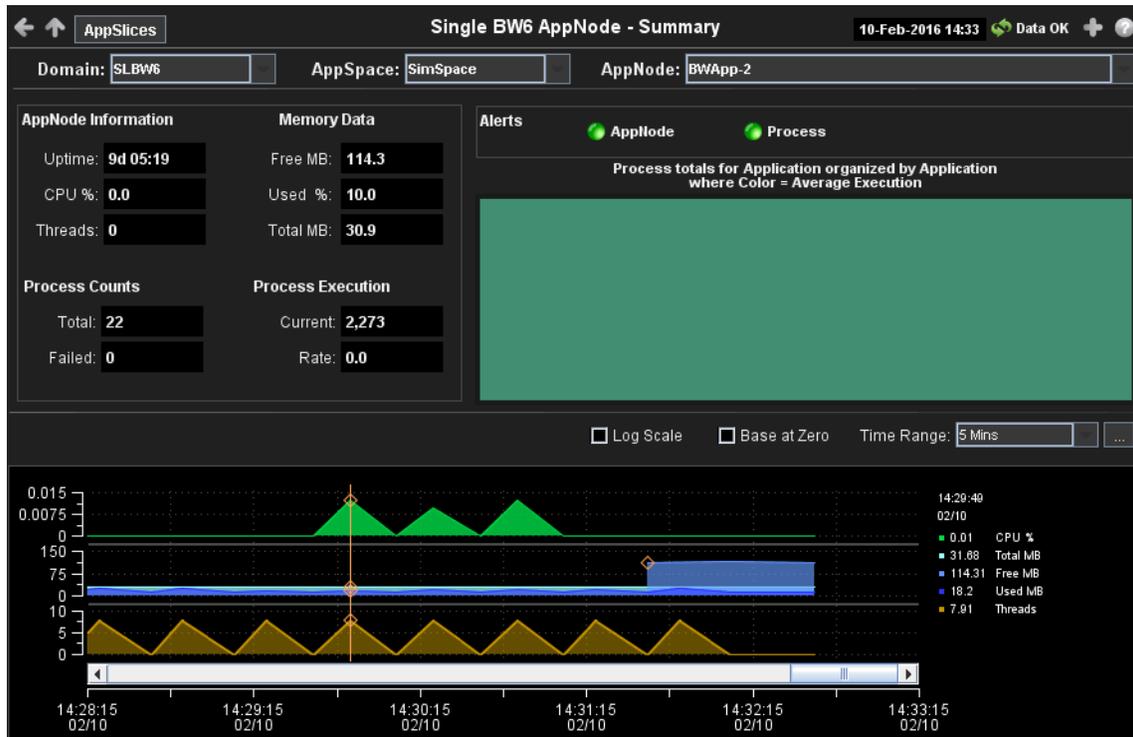
|                            |   |
|----------------------------|---|
| <b>Used Memory%</b>        | The percent (%) used memory.                                  |
| <b>Used CPU%</b>           | The percent (%) used CPU.                                     |
| <b>System Process ID</b>   | A unique string identifier for the process.                   |
| <b>Up Since</b>            | The date and time the AppNode was last started.               |
| <b>Active Processes</b>    | The number of currently active processes.                     |
| <b>Suspended Processes</b> | The number of suspended application processes.                |
| <b>Failed Processes</b>    | The number of failed application processes.                   |
| <b>Completed Processes</b> | The number of completed application processes.                |
| <b>Created /sec</b>        | The number of application processes created per second.       |
| <b>Suspended / sec</b>     | The number of application processes suspended per second.     |
| <b>Failed /sec</b>         | The number of failed application processes per second.        |
| <b>Exec Time / sec</b>     | The number of application processes executed per second.      |
| <b>Recent Exec Time</b>    | The number of seconds for the most recently executed process. |
| <b>Average Exec Time</b>   | The average number of seconds for all processes to execute.   |
| <b>Time Stamp</b>          | The date and time the row data was last updated.              |
| <b>Source</b>              | Name of RTView Data Server sending this data (or localhost).  |

## BW6 Single AppNode Summary

View current and historical utilization and performance metrics for a single BusinessWorks 6 AppNode. Use this display to investigate performance issues on an AppNode.

This display includes a heatmap showing most critical alerts pertaining to process execution, and trend graphs tracing CPU utilization and thread count.

Choose a domain, AppSpace and AppNode from the drop-down menus. Use the **Time-Range** to “zoom-in” or “zoom-out” on a specific time frame in the trend graph. Drill-down and investigate by clicking an AppNode in the table to view details in the “**BW6 Single AppNode Summary**” display.



**Title Bar:** Indicators and functionality might include the following:

← ↑ Open the previous and upper display.

Table Navigate to displays commonly accessed from this display.

19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

+ Open an instance of this display in a new window.

? Open the online help page for this display.

### Filter By:

The display might include these filtering options:

**Domain:** Choose a domain to show data for in the display.

**AppSpace** Choose an AppSpace to show data for in the display.

**AppNode:** Choose an AppNode to show data for in the display.

### Fields and Data:

**AppNode Information** **Uptime:** The number of days, hours and minutes since the AppNode started.

**CPU%** The percent (%) CPU used on the AppNode.

|                          |  |   |
|--------------------------|--|---|
|                          | <b>Threads:</b>  | The number of currently active threads for the AppNode.   |
| <b>Memory Data</b>       | <b>Free:</b>   | The amount of available memory on the AppNode.            |
|                          | <b>Used%</b>   | The percent (%) memory used on the AppNode.               |
|                          | <b>Total</b>   | The total amount of memory on the AppNode.                |
| <b>Process Counts</b>    | <b>Total:</b>  | The number of currently active processes for the AppNode. |
|                          | <b>Failed:</b>   | The number of failed processes for the AppNode.           |
| <b>Process Execution</b> | <b>Current</b>   | The number of processes executed by the AppNode.          |
|                          | <b>Rate:</b>   | The number of processes executed per second.              |
| <b>Alerts</b>            | Indicates the greatest severity level and the number of open <b>AppNode</b> and <b>Process</b> alerts for the selected AppNode. Click on the alert indicator to drill down to the <a href="#">"BW6 All AppNodes Table"</a> display and <a href="#">"BW6 All Processes Table"</a> display, respectively, to view current alerts for the selected application.<br>Values range from <b>0</b> to <b>2</b> , where <b>2</b> is the greatest Severity:<br><ul style="list-style-type: none"> <li><span style="color: red;">●</span> One or more alerts exceeded their ALARM LEVEL threshold.</li> <li><span style="color: yellow;">●</span> One or more alerts exceeded their WARNING LEVEL threshold.</li> <li><span style="color: green;">●</span> No alert thresholds have been exceeded.</li> </ul> |   |

### Heatmap

Each rectangle in the heatmap represents an AppSlice. The rectangle color indicates the most critical **Average Exec Time** alert state associated with the AppSlice. The rectangle size represents the maximum number of processes executed in the rectangle; a larger size is a larger value. Click a rectangle to drill-down and investigate in the ["BW6 Single AppSlice Summary"](#) display.

### Trend Graphs

Traces the sum of process metrics across all processes for all applications on the AppNode.

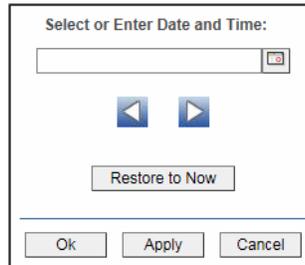
- **CPU%**: The percent (%) CPU used on the AppNode.
- **Total MB**: The amount of memory used.
- **Free MB**: The amount of available memory.
- **Used MB**: The amount of used memory.
- **Threads**: The number of threads.

#### Log Scale

Select to enable a logarithmic scale. Use **Log Scale** to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. **Log Scale** makes data on both scales visible by applying logarithmic values rather than actual values to the data.

**Base at Zero** Select to use zero (0) as the Y axis minimum for all graph traces.

**Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

## BW6 AppSlices

These displays present process metrics totaled by Application and AppNode for AppSlices. This is useful to see how the application is distributed and how each part of it is performing. The AppSlice is the part of an application running on a specific AppNode when the application is deployed to multiple AppNodes. Displays in this View are:

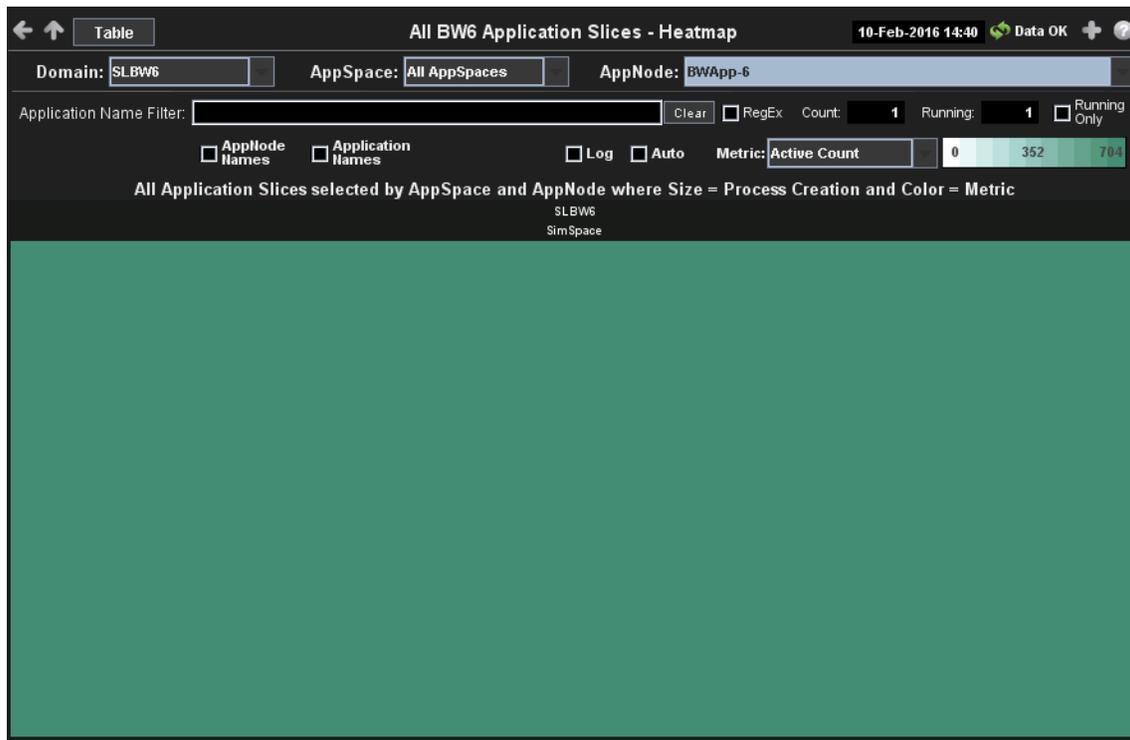
- [“BW6 All AppSlices Heatmap” on page 642](#): A color-coded heatmap view of process creation and execution metrics.
- [“BW6 All AppSlices Table” on page 645](#): A tabular view of all available data in this BusinessWorks 6 View.
- [“BW6 Single AppSlice Summary” on page 647](#): Current and historical metrics for a single AppSlice.

### BW6 All AppSlices Heatmap

View the most critical performance metrics for BusinessWorks 6 AppSlices. Use this display to quickly identify AppSlices with high process execution numbers.

Each rectangle in the heatmap represents an AppSlice. The rectangle color indicates the process execution numbers for the AppSlice. The rectangle size represents the number of processes created in the rectangle; a larger size is a larger value.

Choose a domain, AppSpace and AppNode from the drop-down menus. Choose a different metric to display from the **Metric** drop-down menu. Enter a string in the **Application Name Filter** field to limit data shown in the display. Use the **AppNode Names** and **Application Names** check-boxes  to include or exclude labels in the heatmap. Mouse over a rectangle to see additional metrics. By default, this display shows **Active Count**. Drill-down and investigate by clicking a rectangle in the heatmap to view details for the selected application in the “[BW6 Single AppSlice Summary](#)” display.



**Title Bar:** Indicators and functionality might include the following:

Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.  
 Open the **Alert Views - RTView Alerts Table** display.  
 Open an instance of this display in a new window.  
 Open the online help page for this display.

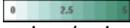
#### Filter By:

The display might include these filtering options:

- Domain:** Choose a domain to show data for in the display.
- AppSpace** Choose an AppSpace to show data for in the display.
- AppNode:** Choose an AppNode to show data for in the display.

#### Fields and Data:

|                                |  |
|--------------------------------|--|
| <b>Application Name Filter</b> | Enter a string to limit data shown in the display.   |
| <b>Clear</b>                   | Clears the <b>Application Name Filter</b> entries from the display.  |
| <b>RegEx</b>                   | Toggles the <b>Search Text</b> field to accept Regular Expressions for filtering.  |
| <b>Count</b>                   | The number of AppNodes in the display.   |
| <b>Running</b>                 | The total number of AppSpaces currently running in the display.  |
| <b>Running Only</b>            | Select to show only running applications in the display.   |
| <b>AppNode Names</b>           | Check to include labels in the heatmap.  |
| <b>Application Names</b>       | Check to include labels in the heatmap.  |
| <b>Log</b>                     | Select to enable a logarithmic scale. Use <b>Log Scale</b> to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. <b>Log Scale</b> makes data on both scales visible by applying logarithmic values rather than actual values to the data. |
| <b>Auto</b>                    | Select to enable auto-scaling. When auto-scaling is activated, the color gradient bar's maximum range displays the highest value. NOTE: Some metrics auto-scale automatically, even when <b>Auto</b> is not selected.  |
| <b>Metric</b>                  | Choose a metric to view in the display.  |
| <b>Active Count</b>            | The total number of active processes in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.                              |
| <b>Completed Count</b>         | The total number of completed processes in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.                          |
| <b>Suspended Count</b>         | The total number of suspended processes in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.                          |
| <b>Failed Count</b>            | The total number of failed processes in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.                              |
| <b>Created / sec</b>           | The number of processes created per second in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.                       |

|                              |   |
|------------------------------|---|
| <b>Suspended / sec</b>       | The number of suspended processes per second in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.  |
| <b>Failed / sec</b>          | The number of failed processes per second in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.   |
| <b>Exec Time / sec</b>       | The process execution time per second in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.  |
| <b>Most Recent Exec Time</b> | The execution time for the most recently executed process in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.  |
| <b>Average Exec Time</b>     | The average execution time for all processes in the heatmap rectangle, calculated by dividing the delta execution time for the interval by the delta completed, or the number of process instances that completed in the interval. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count. |
| <b>Average Elapsed Time</b>  | The average elapsed time for all processes in the heatmap rectangle, calculated by dividing the delta elapsed time for the interval by the delta completed, or the number of process instances that completed in the interval. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.   |

## BW6 All AppSlices Table

View BusinessWorks 6 data shown in the “[BW6 All AppSlices Heatmap](#)”, and additional details, in a tabular format.

Each row in the table is an AppSlice. Choose a domain (or **All Domains**), an AppSpace (or **All AppSpaces**) and an AppNode (or **All AppNodes**) from the drop-down menus. Click a column header to sort column data in numerical or alphabetical order. Enter a string in the **Application Name Filter** field to limit data shown in the display.

Drill-down and investigate by clicking a row to view details in the “[BW6 Single AppSlice Summary](#)” display.

| Domain | AppSpace | AppNode | Name             | Version | State   | Module      |
|--------|----------|---------|------------------|---------|---------|-------------|
| SLBW6  | SimSpace | BWApp-2 | com.SL.BWApp.One | 1       | Running | BWAppModule |

**Title Bar:** Indicators and functionality might include the following:

Open the previous and upper display.

Navigate to displays commonly accessed from this display.

The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

Open the online help page for this display.

#### Filter By:

The display might include these filtering options:

**Domain:** Choose a domain to show data for in the display.

**AppSpace** Choose an AppSpace to show data for in the display.

**AppNode** Choose an AppNode to show data for in the display.

**Application Name Filter** Enter a string to limit data shown in the display.

**Clear** Clears the **Application Name Filter** entries from the display.

**RegEx** Toggles the **Application Name Filter** to accept Regular Expressions for filtering.

#### Fields and Data:

|                     |   |
|---------------------|---|
| <b>Count:</b>       | The total number of rows in the table.                              |
| <b>Running</b>      | The total number of applications currently running in the AppSpace. |
| <b>Running Only</b> | Select to show only running applications in the display.            |

**Table:**

Each row in the table is a different AppNode.

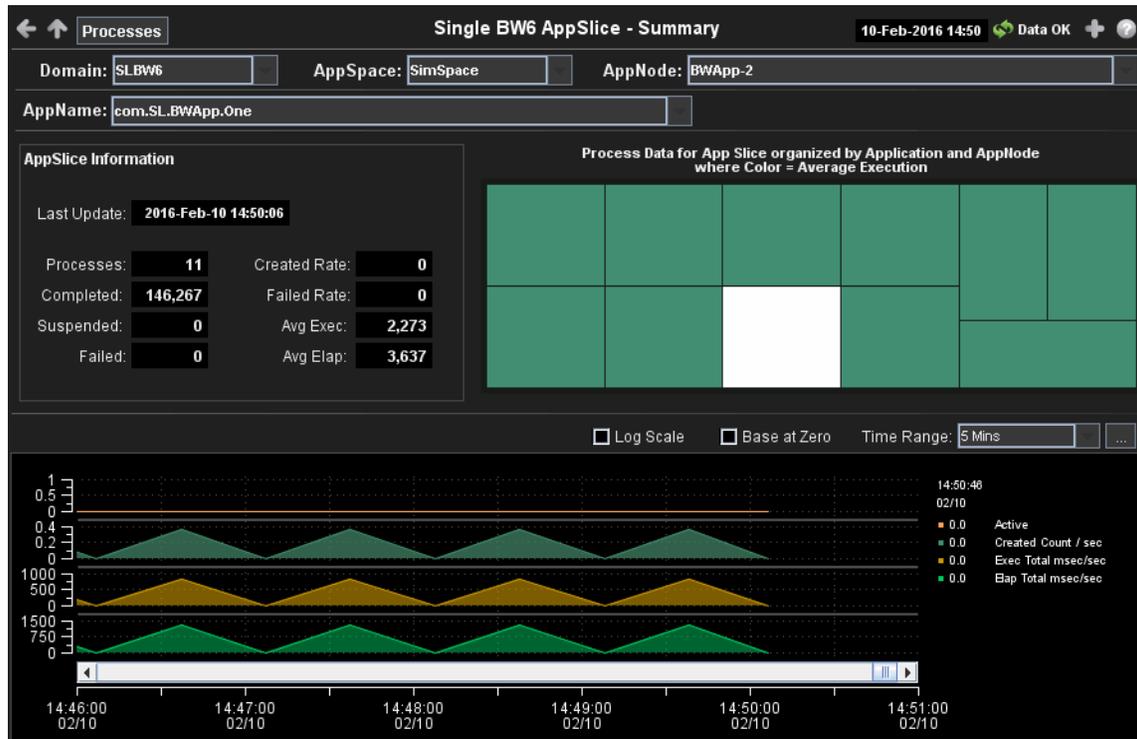
|                              |   |
|------------------------------|---|
| <b>Domain</b>                | The domain in which the AppSpace resides.   |
| <b>AppSpace</b>              | The AppSpace the AppNode is associated with.  |
| <b>AppNode</b>               | The name of the selected AppNode.   |
| <b>Name</b>                  | The name of the application.  |
| <b>Version</b>               | The application version.  |
| <b>State</b>                 | The current status of the application. Valid values are <b>Running</b> and <b>Stopped</b> . |
| <b>Module</b>                | The application module.   |
| <b>Shared Module</b>         | The shared module, if any.  |
| <b>Active Processes</b>      | The number of currently active application processes.                                       |
| <b>Suspended Processes</b>   | The number of suspended application processes.  |
| <b>Failed Processes</b>      | The number of failed application processes.   |
| <b>Completed Processes</b>   | The number of completed application processes.  |
| <b>Created /sec</b>          | The number of application processes created per second.                                     |
| <b>Suspended /sec</b>        | The number of application process suspensions per second.                                   |
| <b>Failed /sec</b>           | The number of application process failures per second.                                      |
| <b>Exec Time /sec</b>        | The number of processes executed per second.  |
| <b>Recent Exec Time /sec</b> | The number of seconds for the most recently executed process.                               |
| <b>Average Exec Time</b>     | The average number of seconds for all processes to execute.                                 |
| <b>Time Stamp</b>            | The date and time the row data was last updated.  |
| <b>Source</b>                | Name of RTView Data Server sending this data (or localhost).                                |

## BW6 Single AppSlice Summary

View current and historical utilization and performance metrics for a single BusinessWorks 6 AppSlice. Use this display to investigate performance issues on an AppSlice level.

This display includes a heatmap showing the most critical process execution alerts for AppSlices on the selected application, and trend graphs tracing process execution times.

Choose a domain, AppSpace, AppNode and AppNode from the drop-down menus. Use the **Time-Range** to “zoom-in” or “zoom-out” on a specific time frame in the trend graph. Drill-down and investigate by clicking a process in the heatmap to view details in the “[BW6 Single Process Summary](#)” display.



**Title Bar:** Indicators and functionality might include the following:

- Open the previous and upper display.
- Navigate to displays commonly accessed from this display.
- The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

- The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

#### Filter By:

The display might include these filtering options:

- Domain:** Choose a domain to show data for in the display.
- AppSpace:** Choose an AppSpace to show data for in the display.
- AppNode:** Choose an AppNode to show data for in the display.
- AppName:** Choose an AppName to show data for in the display.

#### Fields and Data:

- AppSlice Information** **Last Update:** The date and time the data was last updated.

|                      |   |
|----------------------|---|
| <b>Processes</b>     | The number of active processes.   |
| <b>Completed:</b>    | The total number of completed processes summed across all processes in one AppSlice of the application. |
| <b>Suspended:</b>    | The total number of suspended processes   |
| <b>Failed:</b>       | The total number of failed processes  |
| <b>Created Rate:</b> | The number of application processes created per second.   |
| <b>Failed Rate:</b>  | The number of failed application processes per second.  |
| <b>Avg Exec:</b>     | The average number of seconds for processes to execute.   |
| <b>Avg Elap:</b>     | The average amount of elapsed time for processes, in seconds.   |

### Heatmap

Each rectangle in the heatmap represents one process in an AppSlice. The rectangle color indicates the most critical **Average Exec Time** alert state associated with the AppSlice. The rectangle size represents the processes execution time in the rectangle; a larger size is a larger value. Click a rectangle to drill-down and investigate in the ["BW6 Single Process Summary"](#) display.

### Trend Graphs

Traces the sum across all processes in one AppSlice of the application.

- **Active:** Traces the number of active processes.
- **Created Count:** Traces the number of processes created.
- **Exec Total msec/sec:** Traces the rate at which the application accumulates process execution time, in milliseconds per second.
- **Elap Total msec/sec:** Traces the rate at which the application is accumulating process elapsed time, in milliseconds per second.

**Log Scale** Select to enable a logarithmic scale. Use **Log Scale** to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. **Log Scale** makes data on both scales visible by applying logarithmic values rather than actual values to the data.

**Base at Zero** Select to use zero (0) as the Y axis minimum for all graph traces.

**Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .

By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

## BW6 Processes

These displays present performance data for BusinessWorks 6 processes. Use these displays to verify that individual BusinessWorks 6 processes are executing and using resources as expected. Displays in this View are:

- [“BW6 All Processes Heatmap” on page 650](#): A color-coded heatmap view of selected process performance metrics.
- [“BW6 All Processes Table” on page 653](#): A tabular view of all available process performance data in this BusinessWorks 6 View.
- [“BW6 Single Process Summary” on page 656](#): Current and historical metrics for a single process.

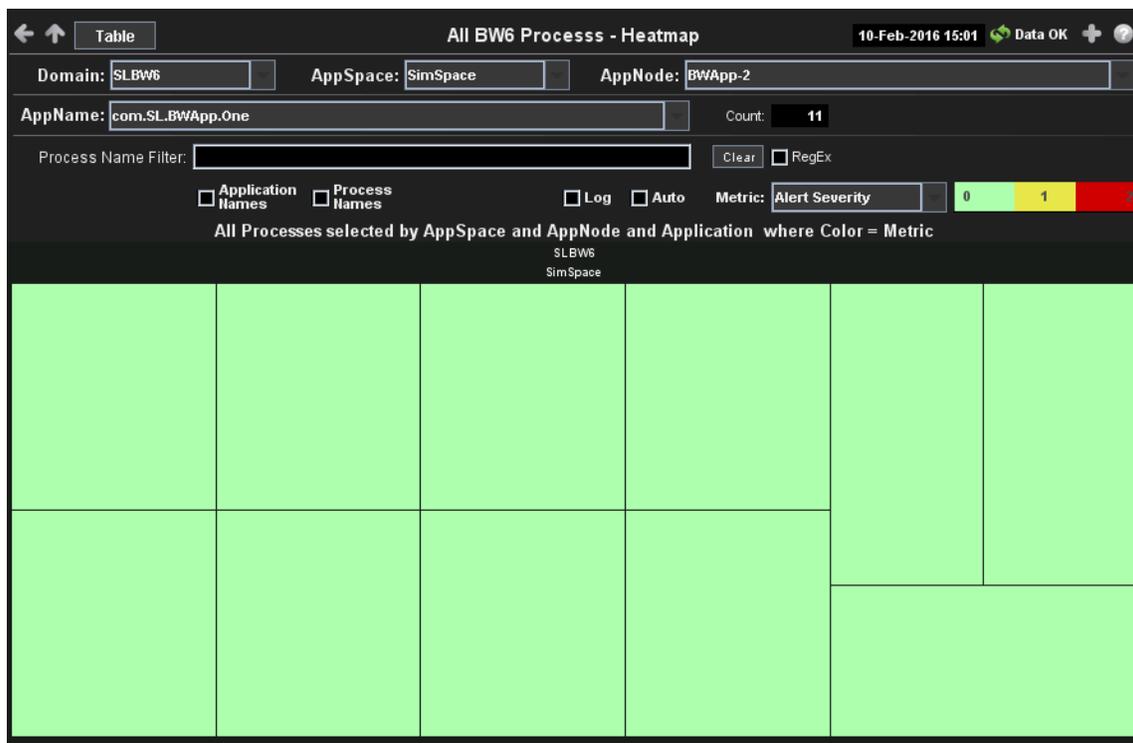
### BW6 All Processes Heatmap

View the most critical BusinessWorks 6 alerts pertaining to process creation and execution. Use this display to quickly identify processes with critical alerts.

Each rectangle in the heatmap represents a process. The rectangle color indicates the most critical alert state associated with the processes (the rectangle size is uniform for all processes.)

Choose a domain, applications, AppNode and AppSpace from the drop-down menus. Choose a different metric to display from the **Metric** drop-down menu. Enter a string in the **Process Name Filter** field to limit data shown in the display. Use the **Application Names** and **Process Names** check-boxes  to include or exclude labels in the heatmap. Mouse over a rectangle to see additional metrics. By default, this display shows **Alert Severity**.

Drill-down and investigate by clicking a rectangle in the heatmap to view details in the [“BW6 Single Process Summary”](#) display.



**Title Bar:** Indicators and functionality might include the following:

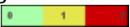
-  Open the previous and upper display.
-  **Table** Navigate to displays commonly accessed from this display.
-  **19-Feb-2014 16:50** The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
-  **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
-  Open the **Alert Views - RTView Alerts Table** display.
-  Open an instance of this display in a new window.
-  Open the online help page for this display.

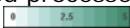
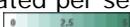
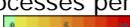
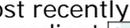
### Filter By:

The display might include these filtering options:

- Domain:** Choose a domain to show data for in the display.
- AppSpace** Choose an AppSpace to show data for in the display.
- AppNode:** Choose an AppNode to show data for in the display.
- AppName** Choose an AppName to show data for in the display.
- Count:** The total number of processes currently shown in the display.

### Fields and Data:

- Process Name Filter** Enter a string to limit data shown in the display.
  - Clear** Clears the **Processes Name Filter** entries from the display.
- RegEx** Toggles the **Processes Name Filter** to accept Regular Expressions for filtering.
- Application Names** Check to include labels in the heatmap.
- Process Names** Check to include labels in the heatmap.
- Log** Select to enable a logarithmic scale. Use **Log Scale** to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. **Log Scale** makes data on both scales visible by applying logarithmic values rather than actual values to the data.
- Auto** Select to enable auto-scaling. When auto-scaling is activated, the color gradient bar's maximum range displays the highest value. NOTE: Some metrics auto-scale automatically, even when **Auto** is not selected.
- Metric** Choose a metric to view in the display.
  - Alert Severity** The maximum level of alerts in the heatmap rectangle. Values range from **0** - **2**, as indicated in the color gradient  bar, where **2** is the highest Alert Severity:
    -  Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.
    -  Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.
    -  Green indicates that no metrics have exceeded their alert thresholds.

|                              |   |
|------------------------------|---|
| <b>Alert Count</b>           | The total number of critical and warning alerts in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average alert count.       |
| <b>Active Count</b>          | The total number of active processes in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.                         |
| <b>Completed Count</b>       | The total number of completed processes in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.                     |
| <b>Suspended Count</b>       | The total number of suspended processes in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.                     |
| <b>Failed Count</b>          | The total number of failed processes in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.                         |
| <b>Created / sec</b>         | The number of processes created per second in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.                |
| <b>Suspended / sec</b>       | The number of suspended processes per second in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.              |
| <b>Failed / sec</b>          | The number of failed processes per second in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.                 |
| <b>Exec Time / sec</b>       | The process execution time per second in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.                     |
| <b>Most Recent Exec Time</b> | The execution time for the most recently executed process in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count. |

**Average Exec Time**

The average execution time for all processes in the heatmap rectangle, calculated by dividing the delta execution time for the interval by the delta completed, or the number of process instances that completed in the interval. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.

**Most Recent Elapsed Time**

The elapsed time for the most recent process in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.

**Average Elapsed Time**

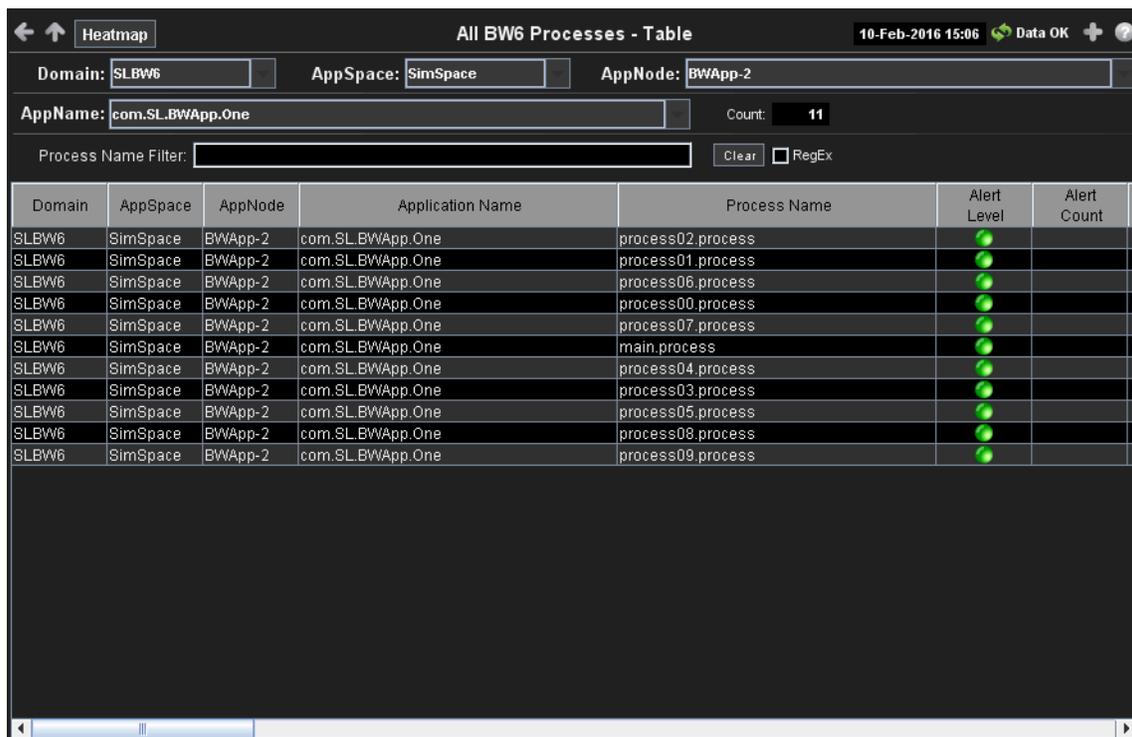
The average elapsed time for all processes in the heatmap rectangle, calculated by dividing the delta elapsed time for the interval by the delta completed, or the number of process instances that completed in the interval. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.

**BW6 All Processes Table**

View BusinessWorks 6 data shown in the “[BW6 All Applications Heatmap](#)”, and additional details, in a tabular format.

Each row in the table is a process. Choose a domain, applications, AppNode and AppSpace from the drop-down menus. Click a column header to sort column data in numerical or alphabetical order. Enter a string in the **Process Name Filter** field to limit data shown in the display.

Drill-down and investigate by clicking a row to view details for the selected process in the “[BW6 Single Process Summary](#)” display



| Domain | AppSpace | AppNode | Application Name | Process Name      | Alert Level   | Alert Count |
|--------|----------|---------|------------------|-------------------|---|-------------|
| SLBW6  | SimSpace | BWApp-2 | com.SL.BWApp.One | process02.process |  |             |
| SLBW6  | SimSpace | BWApp-2 | com.SL.BWApp.One | process01.process |  |             |
| SLBW6  | SimSpace | BWApp-2 | com.SL.BWApp.One | process06.process |  |             |
| SLBW6  | SimSpace | BWApp-2 | com.SL.BWApp.One | process00.process |  |             |
| SLBW6  | SimSpace | BWApp-2 | com.SL.BWApp.One | process07.process |  |             |
| SLBW6  | SimSpace | BWApp-2 | com.SL.BWApp.One | main.process      |  |             |
| SLBW6  | SimSpace | BWApp-2 | com.SL.BWApp.One | process04.process |  |             |
| SLBW6  | SimSpace | BWApp-2 | com.SL.BWApp.One | process03.process |  |             |
| SLBW6  | SimSpace | BWApp-2 | com.SL.BWApp.One | process05.process |  |             |
| SLBW6  | SimSpace | BWApp-2 | com.SL.BWApp.One | process08.process |  |             |
| SLBW6  | SimSpace | BWApp-2 | com.SL.BWApp.One | process09.process |  |             |

**Title Bar:** Indicators and functionality might include the following:

  Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

### Filter By:

The display might include these filtering options:

**Domain:** Choose a domain to show data for in the display.

**AppSpace** Choose an AppSpace to show data for in the display.

**AppNode:** Choose an AppNode to show data for in the display.

**AppName** Choose an AppName to show data for in the display.

### Fields and Data:

**Count:** The total number of processes in the AppSpace.

**Process Name Filter** Enter a string to limit data shown in the display.

**Clear** Clears the **Application Name Filter** entries from the display.

**RegEx** Toggles the **Application Name Filter** to accept Regular Expressions for filtering.

### Table:

Each row in the table is a different AppSlice. Column values are associated with the process.

**Domain** The domain in which the process resides.

**AppSpace** The AppSpace in which the process resides.

**AppNode** The AppSpace in which the process resides.

**Application Name** The name of the application in which the process is running.

**Process Name** The name of the process.

**Alert Level** The most critical alert state for alerts in the row:

 Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.

 Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.

 Green indicates that no metrics have exceeded their alert thresholds.

**Alert Count** The total number of active alerts for the process.

**Total Exec Time** The total amount of time for executed processes.

|                            |   |
|----------------------------|---|
| <b>Delta Exec Time</b>     | The amount of execution time since the last data update, in seconds.      |
| <b>Exec Time/sec</b>       | The amount of execution time, in seconds.                                 |
| <b>Recent Exec Time</b>    | The amount of execution time for the most recent data update, in seconds. |
| <b>Total Elapsed Time</b>  | The total amount of time for elapsed processes.                           |
| <b>Delta Elapsed Time</b>  | The amount of elapsed time since the last update, in seconds.             |
| <b>Elapsed Time/sec</b>    | The amount of elapsed time per second.                                    |
| <b>Recent Elapsed Time</b> | The amount of elapsed time for the most recent data update, in seconds.   |
| <b>Active</b>              | The number of currently active processes.                                 |
| <b>Created</b>             | The number of processes created.  |
| <b>Suspended</b>           | The number of process suspensions.  |
| <b>Failed</b>              | The number of process failures.   |
| <b>Completed</b>           | The number of completed processes.  |
| <b>Delta Active</b>        | The number of active processes since the last data update.                |
| <b>Active/sec</b>          | The number of active processes per second.                                |
| <b>Delta Created</b>       | The number of created processes since the last data update.               |
| <b>Created/sec</b>         | The number of created processes per second.                               |
| <b>Delta Suspended</b>     | The number of suspended processes since the last data update.             |
| <b>Suspended/sec</b>       | The number of suspended processes per second.                             |
| <b>Delta Completed</b>     | The number of completed processes since the last data update.             |
| <b>Completed/sec</b>       | The number of completed processes per second.                             |
| <b>Delta Failed</b>        | The number of failed processes since the last data update.                |
| <b>Failed/sec</b>          | The number of failed processes per second.                                |
| <b>Min Exec Time</b>       | The least amount of execution time, in seconds.                           |
| <b>Max Exec Time</b>       | The greatest amount of execution time, in seconds.                        |
| <b>Average Exec Time</b>   | The average amount of time for executed processes.                        |
| <b>Min Elapsed Time</b>    | The least amount of elapsed time, in seconds.                             |

|                             |   |
|-----------------------------|---|
| <b>Max Elapsed Time</b>     | The greatest amount of elapsed time, in seconds.                          |
| <b>Average Elapsed Time</b> | The average amount of time for elapsed processes.                         |
| <b>Count Since Reset</b>    | The number of times the process has executed since statistics were reset. |
| <b>Main Process</b>         | The name of the main process.   |
| <b>Application Version</b>  | The application version.  |
| <b>Module Name</b>          | The application module.   |
| <b>Module Version</b>       | The module version.   |
| <b>Time Stamp</b>           | The date and time the row data was last updated.                          |
| <b>Source</b>               | Name of RTView Data Server sending this data (or localhost).              |

## BW6 Single Process Summary

View current and historical execution metrics for a single BusinessWorks 6 process. Use this display to investigate performance issues for a process.

This display includes trend graphs tracing process and activity execution counts and times.

Choose a domain, application, AppNode and AppSpace from the drop-down menus. Use the **Time-Range** to “zoom-in” or “zoom-out” on a specific time frame in the trend graph.



**Title Bar:** Indicators and functionality might include the following:

  Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

### Filter By:

The display might include these filtering options:

- Domain:** Choose a domain to show data for in the display.
- AppSpace** Choose an AppSpace to show data for in the display.
- AppNode:** Choose an AppNode to show data for in the display.
- AppName** Choose an application to show data for in the display.
- Process** Choose a process to show data for in the display.

### Fields and Data:

- Activity Count:** The number of activities defined for the process.
- Main Process:** The name of the main process.
- Active** Number of active instances for this process definition. This number is calculated using the Hawk method named GetProcesses. This method returns information about process instances that are active at the time of update. The value here displays the current total count of all active instances discovered for this process definition. The trend below displays the same value over time.
- Active/sec** The number of currently active application processes per second.
- Created**
  - Total** The number of process instances created for this process definition.
  - Current** The number of process instances created this update cycle.
  - Rate** The number of process instances created per second.
- Completed**
  - Total** The number of process instances completed for this process definition.
  - Current** The number of process instances completed this update cycle.
  - Rate** The number of process instances completed per second.
- Errors**
  - Total** The number of errors accumulated by all process instances.
  - Current** The number of errors accumulated this update cycle.
  - Rate** The number of errors accumulated per second.
- Execution**
  - Min** The shortest execution time of any process instance, in milliseconds.
  - Max** The longest execution time of any process instance, in milliseconds.

|                |                |  |
|----------------|----------------|--|
|                | <b>Average</b> | The average execution time for all completed process instances, in milliseconds. |
|                | <b>Current</b> | The amount of time accumulated this update cycle.                                |
|                | <b>Rate</b>    | The amount of time accumulated per second.                                       |
| <b>Elapsed</b> | <b>Min</b>     | The shortest elapsed time of any process instance, in milliseconds.              |
|                | <b>Max</b>     | The longest elapsed time of any process instance, in milliseconds.               |
|                | <b>Average</b> | The average elapsed time for all completed process instances, in milliseconds.   |
|                | <b>Current</b> | The amount of elapsed time accumulated this update cycle.                        |
|                | <b>Rate</b>    | The amount of elapsed time accumulated per second.                               |

### Trend Graphs

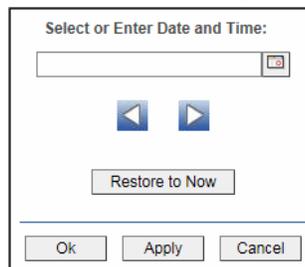
Traces application process and activity metrics for the selected process.

- **Active Count:** Traces the number of currently active processes.
- **Created Count:** Traces the number of created processes.
- **Process Elapsed Time/sec:** Traces the rate at which the application is accumulating process elapsed time, in milliseconds per second.
- **Process Exec Time/sec:** Traces the rate at which the application is accumulating process execution time, in milliseconds per second.
- **All Activities Exec Count/sec:** Traces the number of executed activities per second.
- **All Activities Exec Time/sec:** Traces the amount of execution time for executed activities per second.

**Log Scale** Select to enable a logarithmic scale. Use **Log Scale** to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. **Log Scale** makes data on both scales visible by applying logarithmic values rather than actual values to the data.

**Base at Zero** Select to use zero (0) as the Y axis minimum for all graph traces.

**Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

## BW Engines

These displays present performance metrics for BW5 Engines. Displays in this View are:

- [“All Engines Heatmap” on page 659](#): Performance metrics of CPU and memory utilization for all BW Engines.
- [“All Engines Table” on page 662](#): Available metrics from the Hawk microagent for each BW Engine.
- [“All Engines Grid” on page 665](#): Displays the main health metrics and a single trend graph per engine, summarizing the status of each BW Engine.
- [“Single Engine Summary” on page 667](#): Detailed performance metrics and alert status for a single BW Engine.

### All Engines Heatmap

Quick view of BW5 Engines status for the selected **Filter** and **Server**. Each rectangle in the heatmap represents an engine. Rectangle size represents Max Heap Size and the color represents the most severe value in the heatmap rectangle is shown for the selected Metric. By default, the maximum **Alert Severity** is shown:

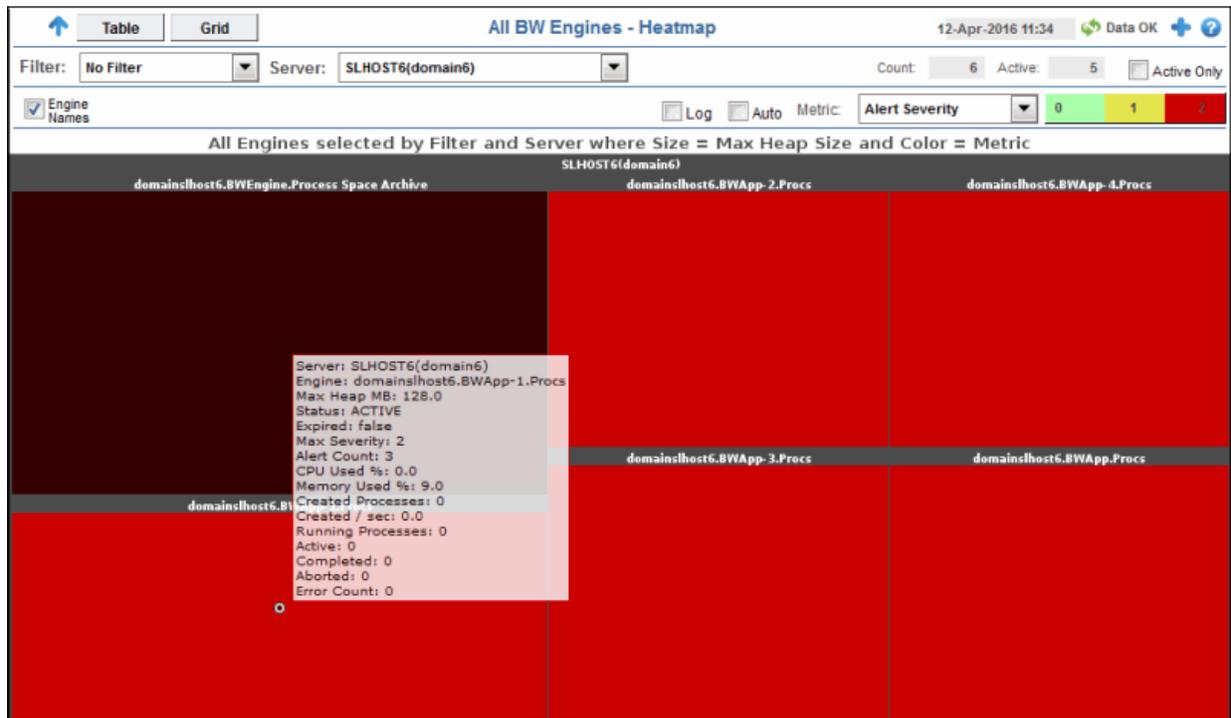
Values range from **0** - **2**, as indicated in the color gradient  bar, where **2** is the highest Alert Severity:

- Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.
- Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.
- Green indicates that no metrics have exceeded their alert thresholds.

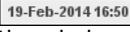
Mouseover to see the following performance metrics:

- **Server**: Server agent name.
- **Engine**: Engine name.
- **Max Heap MB**: Maximum heap allocated to this engine for the JVM.
- **Status**: ACTIVE, STOPPED or LIMITED.
- **Expired**: When checked, data has not been received from this host in the specified amount of time. The host will be removed from the Monitor in the specified amount of time. The default setting is **60** seconds.
- **Alert Count**: Number of current alerts
- **CPU Used %**: Percent of server CPU used by engine.
- **Memory Used %**: Percentage of allocated memory currently consumed by this engine from within the JVM. Equal to the value of:  $(100 * \text{UsedBytes}) / \text{MaxBytes}$ . NOTE: Percent used is Long.
- **Created Processes**: The total number of processes created.
- **Created / sec**: The number of processes created per second.
- **Running Processes**: The number of currently running processes.
- **Active**: The number of currently active processes.
- **Completed**: The total number of completed processes.
- **Aborted**: The total number of aborted processes.
- **Error Count**: The total number of errors.

Click on a node to drill down to the “Single Engine Summary” display to look at number of processes running, threads, history of memory utilization and other performance metrics for a specific engine. Mouse-over nodes to view details about engine performance and status.



**Title Bar:** Indicators and functionality might include the following:


 Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

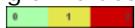
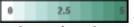
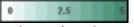
 Open an instance of this display in a new window.

 Open the online help page for this display.

### Filter By:

The display might include these filtering options:

- Filter:** Choose a filter to show data for in the display. By default, the **Filter:** drop-down menu only contains the **No Filter** option. To create your own filtering options, see **Creating Customized Filters** in the User's Guide.
- Server:** Choose a server to show data for in the display.
- Count:** The total number of engines in the display.
- Active** Number of engines currently active.
- Active Only** If selected, only engines with a status of ACTIVE are displayed. Otherwise, if deselected, all engines for the given Filter/Server selection are displayed.
- Engine Names** Select this check box to display the names of the engines above their respective rectangles in the heatmap.

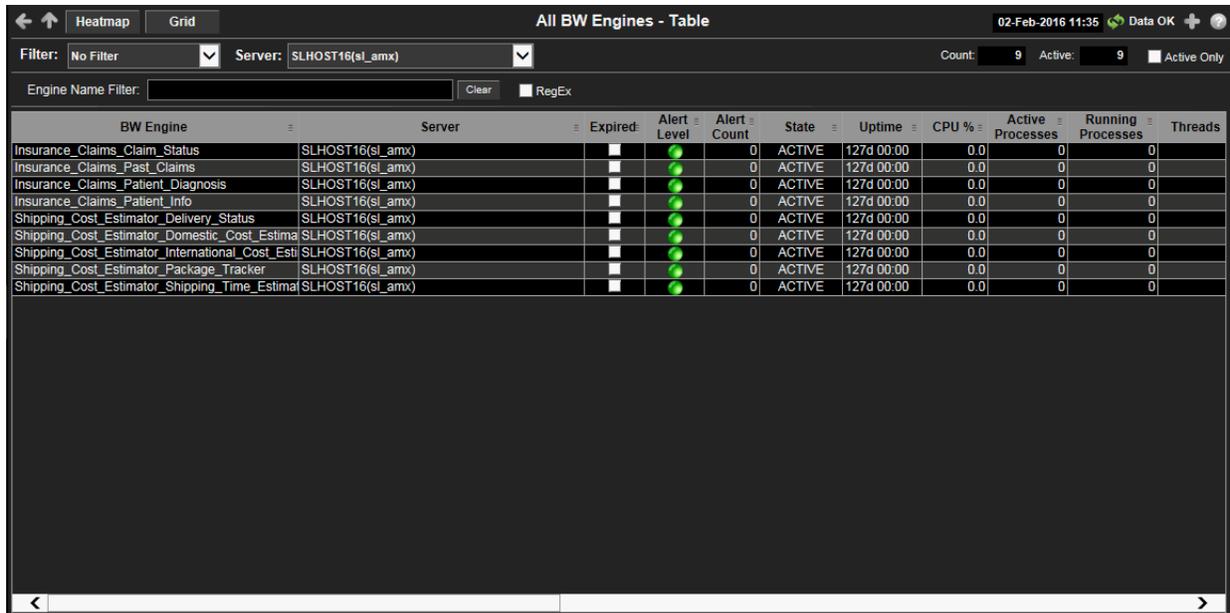
|                          |  |
|--------------------------|--|
| <b>Log</b>               | Select to enable a logarithmic scale. Use <b>Log Scale</b> to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. <b>Log Scale</b> makes data on both scales visible by applying logarithmic values rather than actual values to the data.   |
| <b>Auto</b>              | Select to enable auto-scaling. When auto-scaling is activated, the color gradient bar's maximum range displays the highest value. NOTE: Some metrics auto-scale automatically, even when <b>Auto</b> is not selected.  |
| <b>Metric</b>            | Choose a metric to view in the display.  |
| <b>Alert Severity</b>    | <p>The maximum level of alerts in the heatmap rectangle. Values range from <b>0</b> - <b>2</b>, as indicated in the color gradient  bar, where <b>2</b> is the highest Alert Severity:</p> <ul style="list-style-type: none"> <li> Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.</li> <li> Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.</li> <li> Green indicates that no metrics have exceeded their alert thresholds.</li> </ul> |
| <b>Alert Count</b>       | The total number of critical and warning alerts in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average alert count.  |
| <b>CPU Used%</b>         | The percent (%) CPU used in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.  |
| <b>Memory Used%</b>      | The percent (%) memory used in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.   |
| <b>Active Processes</b>  | The number of currently active processes in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.   |
| <b>Running Processes</b> | The number of currently running processes in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.  |
| <b>Created Processes</b> | The number of created processes in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.   |

**Created/ sec** The number of created processes in the heatmap rectangle, per second. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.

**Error Count** The total number of errors in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average alert count.

## All Engines Table

Each row in the table is an engine. Metrics are made available by the Hawk microagent for the engine (for details, refer to documentation for TIBCO ActiveMatrix Business Works Administration, Appendix A: TIBCO Hawk Microagent Methods). Click on a row to drill down to the “Single Engine Summary” display.



| BW Engine                                       | Server           | Expired                  | Alert Level | Alert Count | State  | Uptime     | CPU % | Active Processes | Running Processes | Threads |
|---|------------------|--------------------------|-------------|-------------|--------|------------|-------|------------------|-------------------|---------|
| Insurance_Claims_Claim_Status                   | SLHOST16(sl_amx) | <input type="checkbox"/> |             | 0           | ACTIVE | 127d 00:00 | 0.0   | 0                | 0                 | 0       |
| Insurance_Claims_Past_Claims                    | SLHOST16(sl_amx) | <input type="checkbox"/> |             | 0           | ACTIVE | 127d 00:00 | 0.0   | 0                | 0                 | 0       |
| Insurance_Claims_Patient_Diagnosis              | SLHOST16(sl_amx) | <input type="checkbox"/> |             | 0           | ACTIVE | 127d 00:00 | 0.0   | 0                | 0                 | 0       |
| Insurance_Claims_Patient_Info                   | SLHOST16(sl_amx) | <input type="checkbox"/> |             | 0           | ACTIVE | 127d 00:00 | 0.0   | 0                | 0                 | 0       |
| Shipping_Cost_Estimator_Delivery_Status         | SLHOST16(sl_amx) | <input type="checkbox"/> |             | 0           | ACTIVE | 127d 00:00 | 0.0   | 0                | 0                 | 0       |
| Shipping_Cost_Estimator_Domestic_Cost_Estima    | SLHOST16(sl_amx) | <input type="checkbox"/> |             | 0           | ACTIVE | 127d 00:00 | 0.0   | 0                | 0                 | 0       |
| Shipping_Cost_Estimator_International_Cost_Esti | SLHOST16(sl_amx) | <input type="checkbox"/> |             | 0           | ACTIVE | 127d 00:00 | 0.0   | 0                | 0                 | 0       |
| Shipping_Cost_Estimator_Package_Tracker         | SLHOST16(sl_amx) | <input type="checkbox"/> |             | 0           | ACTIVE | 127d 00:00 | 0.0   | 0                | 0                 | 0       |
| Shipping_Cost_Estimator_Shipping_Time_Estima    | SLHOST16(sl_amx) | <input type="checkbox"/> |             | 0           | ACTIVE | 127d 00:00 | 0.0   | 0                | 0                 | 0       |

**Title Bar:** Indicators and functionality might include the following:

Open the previous and upper display.

Navigate to displays commonly accessed from this display.

The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

Open the online help page for this display.

**Filter By:**

The display might include these filtering options:

|                           |   |
|---------------------------|---|
| <b>Filter:</b>            | Choose a filter to show data for in the display. By default, the <b>Filter:</b> drop-down menu only contains the <b>No Filter</b> option. To create your own filtering options, see <b>Creating Customized Filters</b> in the User's Guide. |
| <b>Server:</b>            | Choose a server to show data for in the display.  |
| <b>Count</b>              | Number of engines currently being displayed.  |
| <b>Active</b>             | Number of engines currently active.   |
| <b>Active Only</b>        | If selected, only engines with a status of ACTIVE are displayed. Otherwise, if deselected, all engines for the given Filter/Server selection are displayed.   |
| <b>Engine Name Filter</b> | Enter all or part of engine name to view specific engines. NOTE: Wild card characters are supported.  |
|                           | <b>Clear</b> Removes Engine Name Filter and all engines for the given Filter/Server selection are displayed.  |
| <b>RegEx</b>              | If selected, the specified Engine Name Filter will be interpreted as a full Regular Expression rather than a simple wildcard.   |

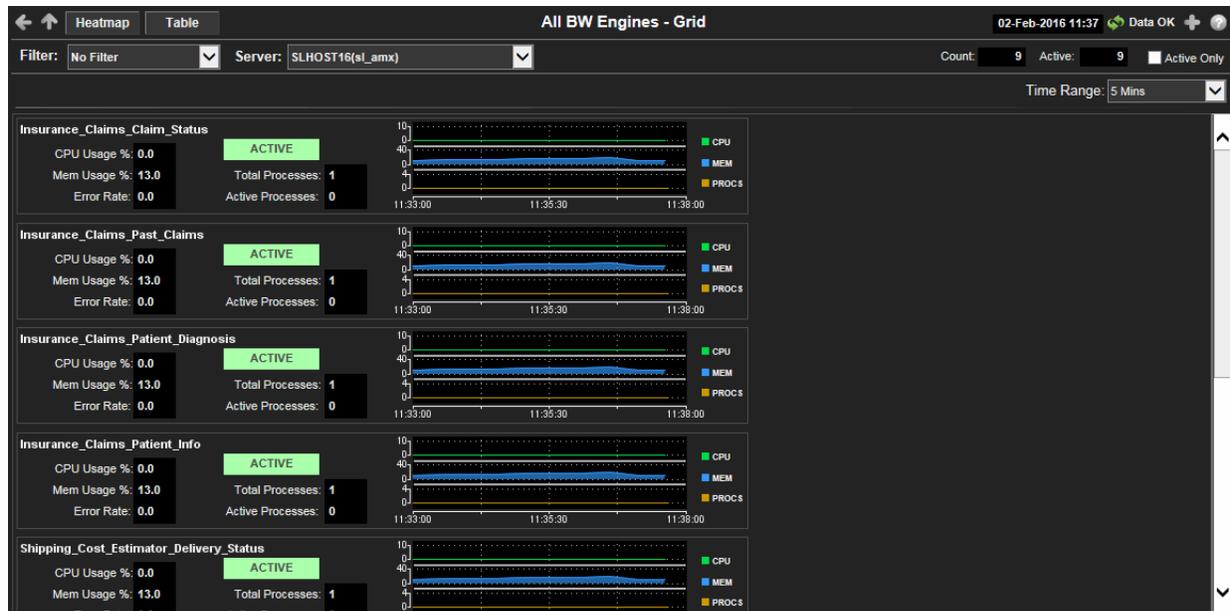
**Table:**

|                          |  |
|--------------------------|--|
| <b>BW Engine</b>         | BW Engine name.  |
| <b>Server</b>            | Server agent name.   |
| <b>Expired</b>           | When checked, data has not been received from this host in the specified amount of time. The host will be removed from the Monitor in the specified amount of time. The default setting is <b>60</b> seconds.  |
| <b>Alert Level</b>       | The most critical alert state for alerts in the row:<br> Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.<br> Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.<br> Green indicates that no metrics have exceeded their alert thresholds. |
| <b>Alert Count</b>       | Number of current alerts   |
| <b>State</b>             | Engine status: ACTIVE, STOPPED, LIMITED, etc. (See <b>All Servers Grid</b> ).  |
| <b>Uptime</b>            | Uptime in milliseconds since the engine was started.   |
| <b>CPU %</b>             | Percent of server CPU used by engine.  |
| <b>Active Processes</b>  | Number of active processes calculated each update period using data returned by the Hawk method GetProcesses.  |
| <b>Running Processes</b> | Number of running processes.   |
| <b>Threads</b>           | Number of threads used by the engine.  |
| <b>Memory Used%</b>      | Percentage of allocated memory currently consumed by this engine from within the JVM. Equal to the value of: (100*UsedBytes) divided by MaxBytes. NOTE: Percent used is Long.  |
| <b>Max Heap Size</b>     | Maximum heap allocated to this engine for the JVM.   |
| <b>Total Bytes</b>       | Maximum heap memory this JVM has used.   |

|                             |  |
|-----------------------------|--|
| <b>Used Bytes</b>           | Total bytes of memory within the JVM currently used by the engine. Equal to value of: MaxBytes minus FreeBytes.                          |
| <b>Free Bytes</b>           | Amount of available memory from within the JVM.  |
| <b>Mem Usage KBytes</b>     | Server memory in KB used by engine.  |
| <b>Errors</b>               | Total number of errors since the engine was started.   |
| <b>Delta Errors</b>         | Current number of new errors.  |
| <b>Errors/sec</b>           | Error rate per second.   |
| <b>Created Processes</b>    | The total number of processes that were created.   |
| <b>Completed Processes</b>  | The total number of processes that were completed.   |
| <b>Aborted Processes</b>    | The total number of processes that were aborted.   |
| <b>Process ID</b>           | Process ID of engine as recognized by the server.  |
| <b>Micro Agent Instance</b> | Unique ID of the microagent reporting the metrics.   |
| <b>Deployment</b>           | Name of Deployment.  |
| <b>Domain</b>               | Name of Domain.  |
| <b>BW Version</b>           | The TIBCO BusinessWorks version currently in use on the server.  |
| <b>Source</b>               | Name of RTView Data Server sending this data (or localhost).   |
| <b>Time Stamp</b>           | Time of last update.   |
| <b>Process Name</b>         | Name of the BW Engine process on the server.<br>Note: This information is not displayed in the table but is present in "raw" cache data. |
| <b>Host</b>                 | Host name of server.<br>Note: This information is not displayed in the table but is present in "raw" cache data.                         |
| <b>Adapter Name</b>         | Name of adapter.<br>Note: This information is not displayed in the table but is present in "raw" cache data.                             |
| <b>Instance ID</b>          | Instance ID name of the engine.<br>Note: This information is not displayed in the table but is present in "raw" cache data.              |
| <b>Version</b>              | Engine project version number.<br>Note: This information is not displayed in the table but is present in "raw" cache data.               |

## All Engines Grid

Displays the main health metrics and a single trend graph per engine, summarizing the status of each BW5 Engine. Click on an engine icon to drill down to the “[Single Engine Summary](#)” display.



**Title Bar:** Indicators and functionality might include the following:

Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

Open the online help page for this display.

### Filter By:

The display might include these filtering options:

**Filter:** Choose a filter to show data for in the display. By default, the **Filter:** drop-down menu only contains the **No Filter** option. To create your own filtering options, see **Creating Customized Filters** in the User's Guide.

**Server:** Choose a server to show data for in the display.

**Count** Number of engines currently being displayed.

**Active** Number of engines currently active.

**Active Only** Toggle this setting to display active servers or all servers.

**Time Range** Choose a time range. Also sets range for the **Single Engine Summary** display. Options are:

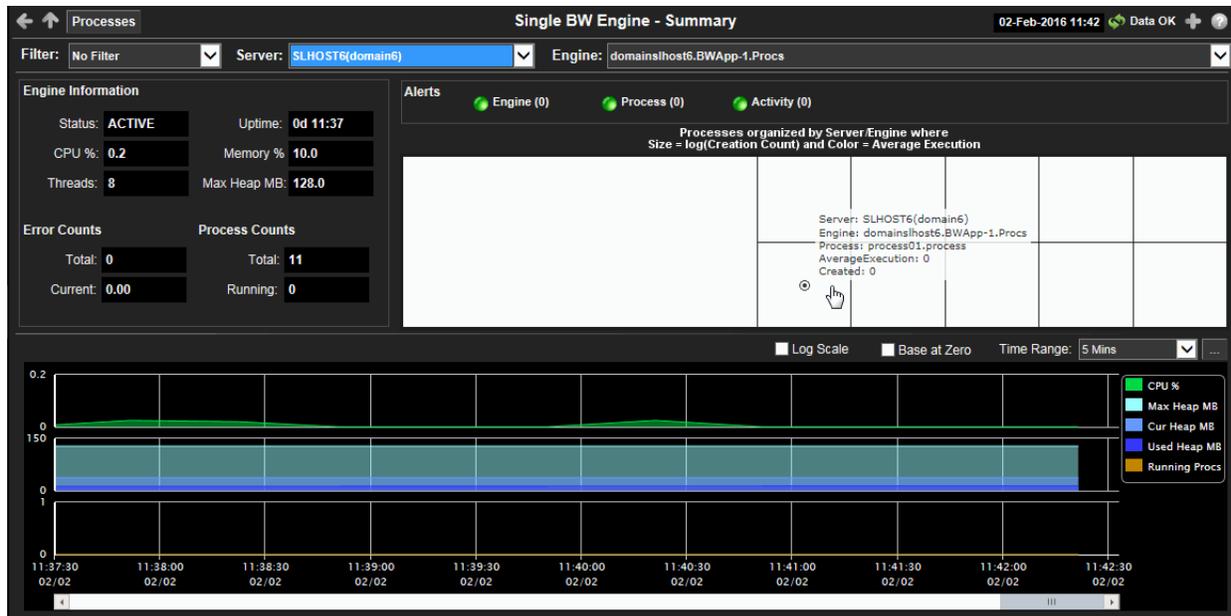
**All Data, 2 Mins, 5 Mins, 20 Mins, 1 Hour, 2 Hours, 4 Hours, 8 Hours, 24 Hours, 2 Days and 7 Days.**

## Fields and Data

|                         |  |
|-------------------------|--|
| <b>Engine Name</b>      | Name of the engine.  |
| <b>Status</b>           | Indicates the current state of the engine: <ul style="list-style-type: none"> <li>• <b>ACTIVE</b> Indicates the BW microagent is providing live data and the engine is assumed active.</li> <li>• <b>SUSPENDED</b> This state is reported by the BW microagent.</li> <li>• <b>STANDBY</b> This state is reported by the BW microagent.</li> <li>• <b>STOPPING</b> This state is reported by the BW microagent.</li> <li>• <b>STOPPED</b> This state is reported by the BW microagent.</li> <li>• <b>LIMITED</b> Live data has been received from TIBCO, but deployment data from the custom RTView microagent has not been received.</li> <li>• <b>EXPIRED</b> Indicates the server associated with the engine is unavailable or stopped sending data. A server is EXPIRED when the threshold specified by the \$bwserverExpirationTime substitution is exceeded. The default is 75 seconds. An EXPIRED engine is deleted from displays when the associated server \$bwserverExpirationTimeForDelete substitution exceeds its specified threshold. The default is 3600 seconds. Processes and activities associated with the engine are also deleted from displays.</li> </ul> |
| <b>CPU Usage%</b>       | Percent of server CPU in use.  |
| <b>Mem Usage%</b>       | Available physical memory (MB) remaining.  |
| <b>Error Rate</b>       | Number of errors accumulated per second.   |
| <b>Total Processes</b>  | Number of process definitions for this engine.   |
| <b>Active Processes</b> | Number of process instances currently active.  |
| <b>Trend Graphs</b>     | Traces data for the server.  |
| <b>CPU</b>              | Traces percent of server CPU in use.   |
| <b>MEM</b>              | Traces available physical memory remaining.  |
| <b>PROCS</b>            | Traces total number of active processes.   |

## Single Engine Summary

Several views show historical and current performance metrics for a single engine, including the number of processes running, threads, history of memory utilization, and trend graphs of memory utilization. In this display, when an engine is **Stopped** the engine name is appended with **(X)**, the background color is light red and Uptime is zero.



**Title Bar:** Indicators and functionality might include the following:

Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

Open the online help page for this display.

**Note:** Clicking the **Processes** button in the Title Bar takes you to the [“All Processes Heatmap”](#). Clicking the **JVM** button, which is automatically enabled when a JMX connection is defined for the engine, takes you to the **JVM CPU/Mem Summary** display. See **Enable Monitoring Via JMX** for more information on enabling a JMX connection.

### Filter By:

The display might include these filtering options:

**Filter:** Choose a filter to show data for in the display. By default, the **Filter:** drop-down menu only contains the **No Filter** option. To create your own filtering options, see **Creating Customized Filters** in the User's Guide.

**Server:** Choose a server to show data for in the display.

**Engine:** Choose an engine to show data for in the display. An engine is not running when the engine name is appended with **(X)**.

## Fields and Data

### Engine Information

|                    |                  |  |
|--------------------|------------------|--|
| <b>Status</b>      | <b>ACTIVE</b>    | The BW microagent is providing live data and the engine is assumed active.   |
|                    | <b>SUSPENDED</b> | This state is reported by the BW microagent.   |
|                    | <b>STANDBY</b>   | This state is reported by the BW microagent.   |
|                    | <b>STOPPING</b>  | This state is reported by the BW microagent.   |
|                    | <b>STOPPED</b>   | This state is reported by the BW microagent.   |
|                    | <b>LIMITED</b>   | Live data has been received from TIBCO, but deployment data from the custom RTView MicroAgent has not been received.   |
|                    | <b>EXPIRED</b>   | The associated server for the engine is currently in an EXPIRED state and is unavailable or stopped sending data.<br><br>A server is EXPIRED when the threshold specified by the \$bwserverExpirationTime substitution is exceeded. The default is 75 seconds.<br><br>An EXPIRED server is deleted from displays when the threshold specified by the \$bwserverExpirationTimeForDelete substitution is exceeded. The default is 3600 seconds. Engines, processes and activities associated with the server are also deleted from displays. |
| <b>Uptime</b>      |                  | Days hours and minutes since the engine was started.   |
| <b>CPU%</b>        |                  | Percent of server CPU used by engine.  |
| <b>Memory %</b>    |                  | Available physical memory remaining (in MB).   |
| <b>Threads</b>     |                  | Number of threads used by this engine  |
| <b>Max Heap MB</b> |                  | Maximum heap allocated to this engine for the JVM.   |

### Error Counts

|                |   |
|----------------|---|
| <b>Total</b>   | Total errors accumulated by this engine.        |
| <b>Current</b> | Number of errors accumulated this update cycle. |

### Process Counts

|                |   |
|----------------|---|
| <b>Total</b>   | A BW Engine runs processes by creating instances of process definitions and making them active. A given process instance has a lifetime during which it may be suspended, swapped, queued, etc. until it is either completed or aborted.<br><br>The Total value is calculated using the Hawk method named GetProcessDefinitions that returns statistics about the instances of each process definition including cumulative counts of completed, aborted, suspended, etc. |
| <b>Running</b> | Total number of running process instances. This number is calculated using the Hawk method named GetProcessCount. It is displayed in the Monitor Engines Table as RunningProcesses. The trend below displays the same value over time as Running Procs.   |

### Alerts

Click on any alert indicator to drill down to the **BW Engine - Tables** display to view current alerts for the selected engine.

- Engine** Number of engine alerts and the most critical alert state for the engine:
- Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.
  - Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.
  - Green indicates that no metrics have exceeded their alert thresholds.
- Process** Number of process alerts and the most critical alert state for the engine:
- Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.
  - Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.
  - Green indicates that no metrics have exceeded their alert thresholds.
- Activity** Number of activity alerts and the most critical alert state for the engine:
- Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.
  - Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.
  - Green indicates that no metrics have exceeded their alert thresholds.

### Heatmap

Shows processes organized by Server/Engine where Size = Creation Count and Color = Average Execution. Click on a node to drill down to a specific engine.

### Trend Graphs

- Log Scale** Select to enable a logarithmic scale. Use **Log Scale** to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. **Log Scale** makes data on both scales visible by applying logarithmic values rather than actual values to the data.
- Base at Zero** Select to use zero (0) as the Y axis minimum for all graph traces.
- Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .

By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

## BW Processes

These displays present performance metrics for BW5 processes. Displays in this View are:

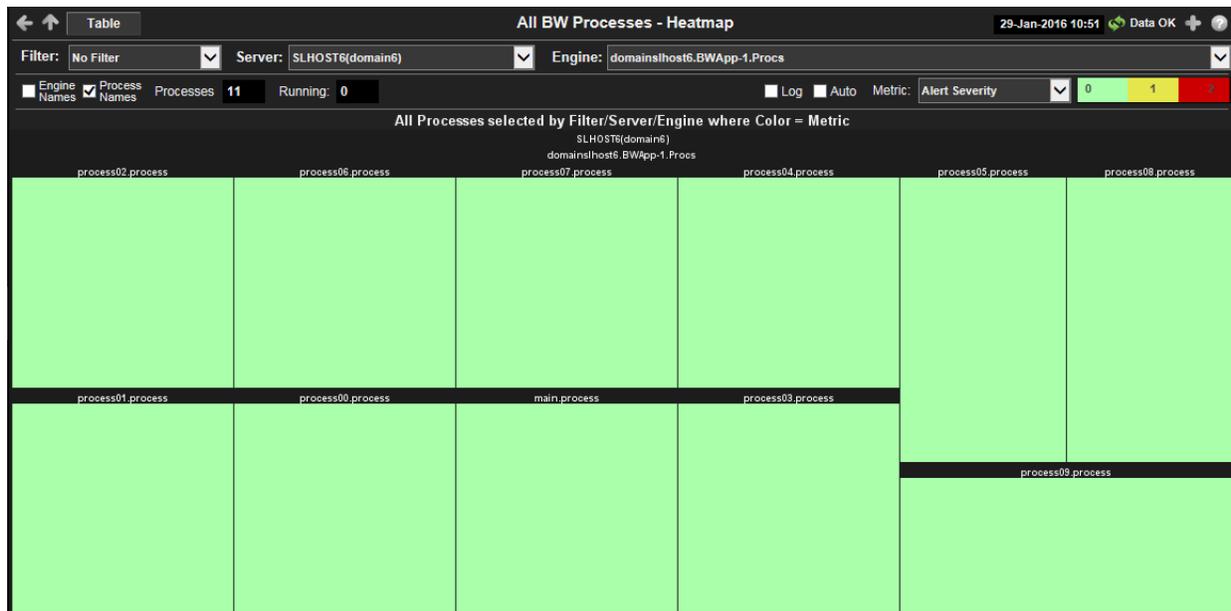
- [“All Processes Heatmap” on page 670](#): Displays process execution metrics for all BW Engines.
- [“All Processes Table” on page 673](#): Each row in the table displays all available metrics from the Hawk microagent for a process.
- [“Single Process Summary” on page 676](#): Several views show historical and current metrics for a single process, including average execution times and execution counts.

### All Processes Heatmap

Summary view of processes can show the execution times for all processes on all engines or you can filter to look at specific servers or engines. Each rectangle (node) in the heatmap represents a process. Move your mouse over a node to display current metrics. Click on a node to drill-down to the [“Single Process Summary”](#) display to view specific metrics about process behavior over a specified period of time and determine which activity in the process may be causing the bottleneck.

An engine is not running when the engine name is appended with **(X)**.

Mouse-over any node to display the current values for the metric selected from the **Metric** drop-down menu.



**Title Bar:** Indicators and functionality might include the following:

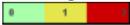
Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

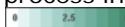
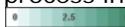
**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.  
 Open an instance of this display in a new window.  
 Open the online help page for this display.

**Filter By:**

The display might include these filtering options:

- Filter:** Choose a filter to show data for in the display. By default, the **Filter:** drop-down menu only contains the **No Filter** option. To create your own filtering options, see **Creating Customized Filters** in the User's Guide.
- Server:** Choose a server to show data for in the display.
- Engine:** Choose an engine to show data for in the display. An engine is not running when the engine name is appended with **(X)**.
- Engine Names** Select this check box to display the names of the engines above their respective rectangles in the heatmap.
- Process Names** Select this check box to display the names of the processes above their respective rectangles in the heatmap.
- Processes** The total number of processes in the display.
- Running** Number of processes currently running.
- Log** Select to enable a logarithmic scale. Use **Log Scale** to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. **Log Scale** makes data on both scales visible by applying logarithmic values rather than actual values to the data.
- Auto** Select to enable auto-scaling. When auto-scaling is activated, the color gradient bar's maximum range displays the highest value. NOTE: Some metrics auto-scale automatically, even when **Auto** is not selected.
- Metric** Choose a metric to view in the display.
- Alert Severity** The maximum level of alerts in the heatmap rectangle. Values range from **0** - **2**, as indicated in the color gradient  bar, where **2** is the highest Alert Severity:
-  Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.
  -  Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.
  -  Green indicates that no metrics have exceeded their alert thresholds.
- Alert Count** The total number of critical and warning alerts in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average alert count.
- Completed Count** The total number of completed processes in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
- Active Count** The total number of active processes in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.

|                                 |  |
|---------------------------------|--|
| <b>Aborted Count</b>            | The total number of aborted processes in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.  |
| <b>Suspended Count</b>          | The total number of suspended processes in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.  |
| <b>Exec Time / sec</b>          | The number of processes executed per second in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.   |
| <b>Created / sec</b>            | The number of processes created per second in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.  |
| <b>Aborted / sec</b>            | The number of aborted processes per second in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.  |
| <b>Suspended / sec</b>          | The number of suspended processes per second in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.  |
| <b>Most Recent Exec Time</b>    | The execution time for the most recently executed process in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.  |
| <b>Average Exec Time</b>        | The average execution time for all processes in the heatmap rectangle, calculated by dividing the delta execution time for the interval by the delta completed, or the number of process instances that completed in the interval. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count. |
| <b>Most Recent Elapsed Time</b> | The elapsed time for the most recently executed process in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.  |
| <b>Average Elapsed Time</b>     | The average elapsed time for all processes in the heatmap rectangle, calculated by dividing the delta elapsed time for the interval by the delta completed, or the number of process instances that completed in the interval. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.     |

## All Processes Table

Select a server and engine from the drop-down menus. Each row in the table is a different engine. The table displays all metrics available from the Hawk microagent for an engine. (Refer to documentation for TIBCO ActiveMatrix Business Works Administration, see Appendix A: TIBCO Hawk Microagent Methods).

Click on a row in the table to drill down to the “Single Engine Summary” display.

| BW Engine                   | Server           | BW Process        | Expired | Alert Level | Alert Count | Time Since Last Update | Total Exec Time | Exe |
|-----------------------------|------------------|-------------------|---------|-------------|-------------|------------------------|-----------------|-----|
| domainslhost6.BWApp-1.Procs | SLHOST6(domain6) | main_process      |         | Red Light   | 2           | 0                      | 0               |     |
| domainslhost6.BWApp-1.Procs | SLHOST6(domain6) | process00_process |         | Green Light | 0           | 0                      | 0               |     |
| domainslhost6.BWApp-1.Procs | SLHOST6(domain6) | process01_process |         | Green Light | 0           | 0                      | 0               |     |
| domainslhost6.BWApp-1.Procs | SLHOST6(domain6) | process02_process |         | Green Light | 0           | 0                      | 0               |     |
| domainslhost6.BWApp-1.Procs | SLHOST6(domain6) | process03_process |         | Green Light | 0           | 0                      | 0               |     |
| domainslhost6.BWApp-1.Procs | SLHOST6(domain6) | process04_process |         | Green Light | 0           | 0                      | 0               |     |
| domainslhost6.BWApp-1.Procs | SLHOST6(domain6) | process05_process |         | Green Light | 0           | 0                      | 0               |     |
| domainslhost6.BWApp-1.Procs | SLHOST6(domain6) | process06_process |         | Green Light | 0           | 0                      | 0               |     |
| domainslhost6.BWApp-1.Procs | SLHOST6(domain6) | process07_process |         | Green Light | 0           | 0                      | 0               |     |
| domainslhost6.BWApp-1.Procs | SLHOST6(domain6) | process08_process |         | Green Light | 0           | 0                      | 0               |     |
| domainslhost6.BWApp-1.Procs | SLHOST6(domain6) | process09_process |         | Green Light | 0           | 0                      | 0               |     |

**Title Bar:** Indicators and functionality might include the following:

Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.  
 Open the **Alert Views - RTView Alerts Table** display.  
 Open an instance of this display in a new window.  
 Open the online help page for this display.

### Filter By:

The display might include these filtering options:

- Filter:** Choose a filter to show data for in the display. By default, the **Filter:** drop-down menu only contains the **No Filter** option. To create your own filtering options, see **Create Customized Filters** for more information.
- Server:** Choose a server to show data for in the display.
- Engine:** Choose an engine to show data for in the display. An engine is not running when the engine name is appended with **(X)**.

### Table:

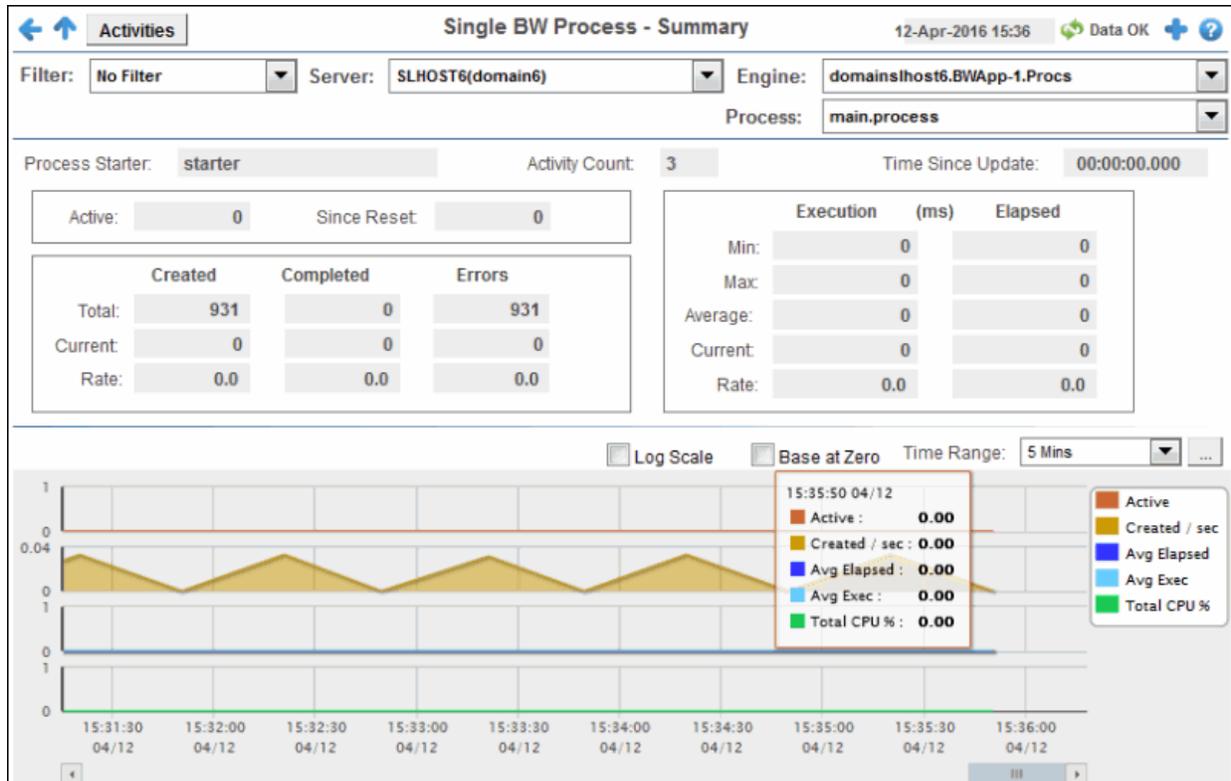
- BW Engine** BW Engine name.
- Server** Server agent name.

|                             |  |
|-----------------------------|--|
| <b>BW Process</b>           | The name of the process.   |
| <b>Expired</b>              | When checked, data has not been received from this host in the specified amount of time. The host will be removed from the Monitor in the specified amount of time. The default setting is <b>60</b> seconds.  |
| <b>Alert Level</b>          | The most critical alert state for alerts in the row:<br> Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.<br> Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.<br> Green indicates that no metrics have exceeded their alert thresholds. |
| <b>Alert Count</b>          | Number of current alerts   |
| <b>Active</b>               | Number of active processes.  |
| <b>Total CPU</b>            | Total CPU usage in percent.  |
| <b>Created/sec</b>          | Change in Created per second.  |
| <b>Completed/sec</b>        | Change in Completed per second.  |
| <b>Delta Created</b>        | Change in Created this update.   |
| <b>Delta Completed</b>      | Change in Completed this update.   |
| <b>Created</b>              | Number of process instances created for this process definition.   |
| <b>Completed</b>            | Number of process instances successfully completed.  |
| <b>Total Exec Time</b>      | Total execution time (in milliseconds) for all successfully completed process instances.   |
| <b>Delta Exec Time</b>      | Execution time accumulated this update cycle.  |
| <b>Exec Time/sec</b>        | Delta Execution time per second.   |
| <b>Min Exec Time</b>        | Time (in milliseconds) of the process instance that has the shortest execution time.   |
| <b>Max Exec Time</b>        | Time (in milliseconds) of the process instance that has the longest execution time.  |
| <b>Average Exec Time</b>    | Average execution time (in milliseconds) for all successfully completed process instances.   |
| <b>Recent Exec Time</b>     | The time since the last execution was performed.   |
| <b>Total Elapsed Time</b>   | Total elapsed time (in milliseconds) for all successfully completed process instances.   |
| <b>Delta Elapsed Time</b>   | Change in TotalElapsed this update.  |
| <b>Elapsed Time/sec</b>     | Change in TotalElapsed per second.   |
| <b>Min Elapsed Time</b>     | Elapsed clock time (in milliseconds) of the process instance that has the shortest amount of elapsed time.   |
| <b>Max Elapsed Time</b>     | Elapsed clock time (in milliseconds) of the process instance that has the longest amount of elapsed time.  |
| <b>Average Elapsed Time</b> | Average elapsed clock time (in milliseconds) for all successfully completed process instances.   |

|                               |   |
|-------------------------------|---|
| <b>Recent Elapsed Time</b>    | The time since the last execution of the process was performed.                         |
| <b>Aborted</b>                | Number of times process instances have been aborted.                                    |
| <b>Delta Aborted</b>          | Change in Aborted this update.  |
| <b>Aborted/sec</b>            | Change in Aborted per second.   |
| <b>Queued</b>                 | Number of times process instances have been queued for execution.                       |
| <b>Delta Queued</b>           | Change in Queued this update.   |
| <b>Queued/sec</b>             | Change in Queued per second.  |
| <b>Suspended</b>              | Number of times process instances have been suspended.                                  |
| <b>Delta Suspended</b>        | Change in Suspended this update.  |
| <b>Suspended/sec</b>          | Change in Suspended per second.   |
| <b>Checkpointed</b>           | Number of times process instances have executed a checkpoint.                           |
| <b>Delta Checkpointed</b>     | Change in Checkpointed this update.   |
| <b>Checkpointed/sec</b>       | Change in Checkpointed per second.  |
| <b>Swapped</b>                | Number of times process instances have been swapped to disk.                            |
| <b>Delta Swapped</b>          | Change in Swapped this update.  |
| <b>Swapped/sec</b>            | Change in Swapped per second.   |
| <b>Time Since Last Update</b> | Time since the last update.   |
| <b>Domain</b>                 | Name of TIBCO Domain.   |
| <b>Starter</b>                | Name of the process starter for the process.  |
| <b>MicroAgent Instance</b>    | Unique ID of the microagent reporting the metrics.                                      |
| <b>CountSince Reset</b>       | Number of process instances that have completed since the last reset of the statistics. |
| <b>Source</b>                 | Name of RTView Data Server sending this data (or localhost).                            |
| <b>Time Stamp</b>             | Time of last update.  |

## Single Process Summary

Detailed performance metrics and alert status for a single BW process. Select a server, engine and process from the drop-down menus. The background color of the display is red when the selected engine is stopped.



**Title Bar:** Indicators and functionality might include the following:



Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.



The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.



The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.



Open the **Alert Views - RTView Alerts Table** display.



Open an instance of this display in a new window.



Open the online help page for this display.

### Filter By:

The display might include these filtering options:

- Filter:** Choose a filter to show data for in the display. By default, the **Filter:** drop-down menu only contains the **No Filter** option. To create your own filtering options, see **Creating Customized Filters** in the User's Guide.
- Server:** Choose a server to see metrics for.
- Engine:** Choose a server to see metrics for. An engine is not running when the engine name is appended with **(X)**.
- Process:** Choose a process to see metrics for.

|                          |   |
|--------------------------|---|
| <b>Process Starter</b>   | Name of the process starter for the process.  |
| <b>Activity Count</b>    | Number of activities defined for this process.  |
| <b>Time Since Update</b> | Time since the last update to file of statistics.   |
| <b>Active</b>            | Number of active instances for this process definition. This number is calculated using the Hawk method named GetProcesses. This method returns information about process instances that are active at the time of update. The value here displays the current total count of all active instances discovered for this process definition. The trend below displays the same value over time. |
| <b>Since Reset</b>       | Number of activity executions that have completed since the last reset of the statistics. This is the number retrieved from the Hawk method named GetProcessDefinition which returns ExecutionCountSinceReset.  |

**Execution Counts**

Most recent execution counts for this process.

|                  |                |   |
|------------------|----------------|---|
| <b>Created</b>   | <b>Total</b>   | Number of process instances created for this process definition.      |
|                  | <b>Current</b> | Number of process instances created this update cycle.                |
|                  | <b>Rate</b>    | Number of process instances created per second.                       |
| <b>Completed</b> | <b>Total</b>   | Number of process instances successfully completed.                   |
|                  | <b>Current</b> | Number of process instances successfully completed this update cycle. |
|                  | <b>Rate</b>    | Number of process instances successfully completed per second.        |
| <b>Errors</b>    | <b>Total</b>   | Number of errors accumulated by all process instances.                |
|                  | <b>Current</b> | Number of errors accumulated this update cycle.                       |
|                  | <b>Rate</b>    | Number of errors accumulated per second.                              |

**Execution (ms) Elapsed**

Execution and elapsed times in milliseconds for this process.

|                |   |
|----------------|---|
| <b>Min</b>     | Shortest time of any process instance.                            |
| <b>Max</b>     | Longest time of any process instance.                             |
| <b>Average</b> | Average time across all successfully completed process instances. |
| <b>Current</b> | Time accumulated this update cycle.                               |
| <b>Rate</b>    | Time accumulated per second.                                      |

**Trend Graphs**

- **Active:** Traces the number of currently active processes.
- **Created / sec:** Traces the number of created processes per second.
- **Avg Elapsed:** Traces the average number of elapsed processes. This value is calculated by dividing the delta elapsed time for the interval by the delta completed, or the number of process instances that completed in the interval.
- **Avg Exec:** Traces the average number of executed processes. This value is calculated by dividing the delta executed time for the interval by the delta completed, or the number of process instances that completed in the interval.
- **Total CPU %:** Traces CPU utilization by processes, in percent.

- Log Scale** Select to enable a logarithmic scale. Use **Log Scale** to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. **Log Scale** makes data on both scales visible by applying logarithmic values rather than actual values to the data.
- Base at Zero** Select to use zero (0) as the Y axis minimum for all graph traces.
- Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

## BW Activities

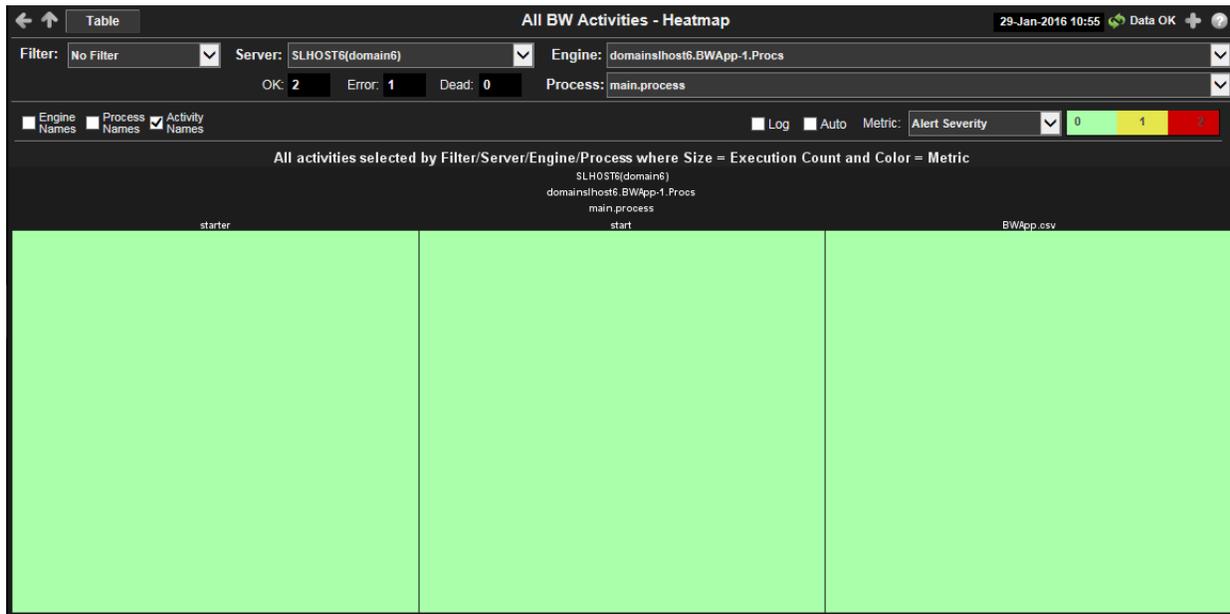
These displays present performance metrics for BW5 activities. Displays in this View are:

- [“All Activities Heatmap” on page 678](#): Displays execution performance metrics for all BW activities.
- [“All Activities Table” on page 681](#): Each row in the table displays all available metrics from the Hawk microagent for an activity.
- [“Single Activity Summary” on page 684](#): Historical and current performance metrics for a single activity, including average execution times and execution counts.

## All Activities Heatmap

Summary view of activities shows the execution times for all activities on all engines, or you can filter to look at specific servers, engines or processes. An engine is not running when the engine name is appended with **(X)**.

Move your mouse over a node to display current metrics. Click on a node to drill down to the “Single Activity Summary” display to view specific metrics about activity behavior over a specified period of time.



**Title Bar:** Indicators and functionality might include the following:

← ↑ Open the previous and upper display.  
 Table Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

⚠ Open the **Alert Views - RTView Alerts Table** display.

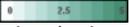
⊕ Open an instance of this display in a new window.

🔗 Open the online help page for this display.

### Filter By:

The display might include these filtering options:

|                     |   |
|---------------------|---|
| <b>Filter:</b>      | Choose a filter to show data for in the display. By default, the <b>Filter:</b> drop-down menu only contains the <b>No Filter</b> option. To create your own filtering options, see <b>Creating Customized Filters</b> in the User's Guide. |
| <b>Server:</b>      | Choose a server to show data for in the display.  |
| <b>Engine:</b>      | Choose an engine to show data for in the display. An engine is not running when the engine name is appended with <b>(X)</b> .   |
| <b>Process</b>      | Select from the menu to view activities running on a specific process or all processes.   |
| <b>OK</b>           | Number of activities that reported their Last Return Code as <b>OK</b> .  |
| <b>Error</b>        | Number of activities that reported their Last Return Code as <b>Error</b> .   |
| <b>Dead</b>         | Number of activities that reported their Last Return Code as <b>Dead</b> .  |
| <b>Engine Names</b> | Select this check box to display the names of the engines above their respective rectangles in the heatmap.   |

|                        |  |
|------------------------|--|
| <b>Process Names</b>   | Select this check box to display the names of the processes above their respective rectangles in the heatmap.  |
| <b>Activity Names</b>  | Select this check box to display the names of the activities above their respective rectangles in the heatmap.   |
| <b>Log</b>             | Select to enable a logarithmic scale. Use <b>Log Scale</b> to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. <b>Log Scale</b> makes data on both scales visible by applying logarithmic values rather than actual values to the data.   |
| <b>Auto</b>            | Select to enable auto-scaling. When auto-scaling is activated, the color gradient bar's maximum range displays the highest value. NOTE: Some metrics auto-scale automatically, even when <b>Auto</b> is not selected.  |
| <b>Metric</b>          | Choose a metric to view in the display.  |
| <b>Alert Severity</b>  | <p>The maximum level of alerts in the heatmap rectangle. Values range from <b>0</b> - <b>2</b>, as indicated in the color gradient  bar, where <b>2</b> is the highest Alert Severity:</p> <ul style="list-style-type: none"> <li> Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.</li> <li> Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.</li> <li> Green indicates that no metrics have exceeded their alert thresholds.</li> </ul> |
| <b>Alert Count</b>     | The total number of critical and warning alerts in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average alert count.   |
| <b>Exec Count</b>      | The total number of executed processes in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.  |
| <b>Error Count</b>     | The total number of errors in the heatmap rectangle. The color gradient  bar populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.   |
| <b>Exec Time / sec</b> | The number of processes executed per second in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.   |
| <b>Errors / sec</b>    | The number of errors per second in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.   |

**Most Recent Exec Time**

The execution time for the most recently executed process in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.

**Max Exec Time**

The maximum execution time for executed processes in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.

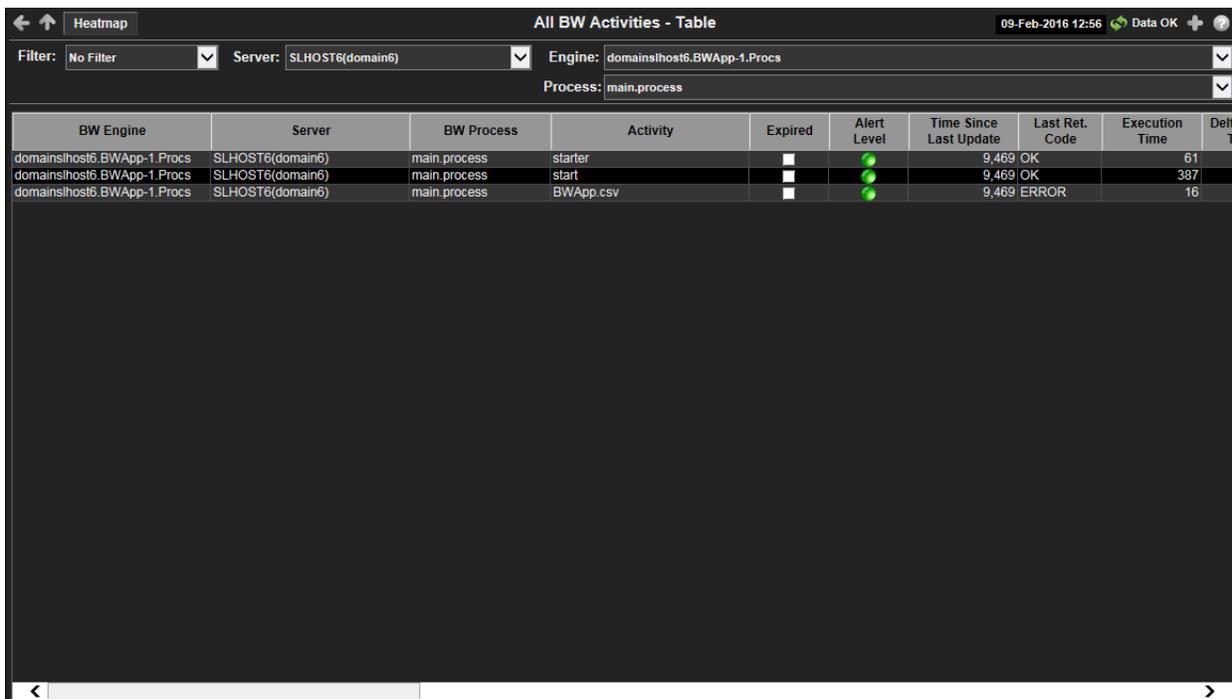
## All Activities Table

Select a server, engine and process from the drop-down menus. Each row in the table displays all metrics available from the Hawk microagent for an activity. (Refer to documentation for TIBCO ActiveMatrix Business Works Administration, see Appendix A: TIBCO Hawk Microagent Methods).

Click on a row in the table to drill down to the “[Single Activity Summary](#)” display to view specific metrics about activity behavior over a specified period of time.

When the background/foreground color of a row changes color, the associated engine for the activity is currently in an EXPIRED state. An engine is EXPIRED when the associated server is unavailable or stopped sending data. A server is EXPIRED when the threshold specified by the **\$bwserverExpirationTime** substitution is exceeded. The default is **600** seconds.

An EXPIRED activity and the associated engine are deleted from displays when the associated server **\$bwserverExpirationTimeForDelete** substitution exceeds its specified threshold. The default is **3600** seconds. Processes associated with the engine are also deleted from displays.



| BW Engine                  | Server           | BW Process   | Activity  | Expired | Alert Level | Time Since Last Update | Last Ret. Code | Execution Time | Def |
|----------------------------|------------------|--------------|-----------|---------|-------------|------------------------|----------------|----------------|-----|
| domainshost6.BWApp-1.Procs | SLHOST6(domain6) | main.process | starter   | OK      | Green       | 9,469                  | OK             | 61             |     |
| domainshost6.BWApp-1.Procs | SLHOST6(domain6) | main.process | start     | OK      | Green       | 9,469                  | OK             | 387            |     |
| domainshost6.BWApp-1.Procs | SLHOST6(domain6) | main.process | BWApp.csv | ERROR   | Red         | 9,469                  | ERROR          | 16             |     |

**Title Bar:** Indicators and functionality might include the following:

  Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

### Filter By:

The display might include these filtering options:

|                 |   |
|-----------------|---|
| <b>Filter:</b>  | Choose a filter to show data for in the display. By default, the <b>Filter:</b> drop-down menu only contains the <b>No Filter</b> option. To create your own filtering options, see <b>Creating Customized Filters</b> in the User's Guide. |
| <b>Server:</b>  | Choose a server to show data for in the display.  |
| <b>Engine:</b>  | Select from the menu to view activities running on a specific engine or all engines. An engine is not running when the engine name is appended with <b>(X)</b> .  |
| <b>Process:</b> | Select from the menu to view activities running on a specific process or all processes.   |

### Table:

|                               |  |
|-------------------------------|--|
| <b>BW Engine</b>              | Name of BW Engine.   |
| <b>Server</b>                 | Name of Server agent.  |
| <b>BW Process</b>             | Name of the BW engine Process on the Server.   |
| <b>Activity</b>               | Name of activity.  |
| <b>Expired</b>                | When checked, data has not been received from this host in the specified amount of time. The host will be removed from the Monitor in the specified amount of time. The default setting is <b>60</b> seconds.  |
| <b>Alert Level</b>            | The most critical alert state for alerts in the row:<br> Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.<br> Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.<br> Green indicates that no metrics have exceeded their alert thresholds. |
| <b>Time Since Last Update</b> | Time since the last update.  |
| <b>Last Ret(urn) Code</b>     | Status code (OK DEAD ERROR) returned by most recent execution of this activity.  |
| <b>Execution Time</b>         | Time (in milliseconds) used by all executions of this activity. NOTE: This does not include wait time for Sleep, Call Process, and Wait For... activities.   |
| <b>Delta Exec(ution) Time</b> | Execution time accumulated this update cycle.  |

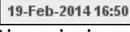
|                                  |  |
|----------------------------------|--|
| <b>Exec(ution) Time / sec</b>    | Execution time accumulated per second.   |
| <b>Min Exec(ution) Time</b>      | Time (in milliseconds) of the activity that has the shortest execution time.   |
| <b>Max Exec(ution) Time</b>      | Time (in milliseconds) of the activity that has the longest execution time.  |
| <b>Elapsed Time</b>              | Elapsed clock time (in milliseconds) used by all executions of this activity. NOTE: This does not include wait time for Sleep, Call Process, and Wait For... activities. |
| <b>Delta Elapsed Time</b>        | Change in ElapsedTime this update.   |
| <b>Elapsed Time/sec</b>          | Change in ElapsedTime per second.  |
| <b>Min Elapsed Time</b>          | Elapsed clock time (in milliseconds) of the activity that has the shortest execution time.   |
| <b>Max Elapsed Time</b>          | Elapsed clock time (in milliseconds) of the activity that has the longest execution time.  |
| <b>Executions</b>                | Number of times the activity has been executed.  |
| <b>Delta Exec(ution)</b>         | Change in ExecutionCount this update.  |
| <b>Executions/sec</b>            | Change in ExecutionCount per second.   |
| <b>Errors</b>                    | Total number of executions of the activity that have returned an error.  |
| <b>Delta Errors</b>              | Change in ErrorCount this update.  |
| <b>Errors/sec</b>                | Change in ErrorCount per second.   |
| <b>Domain</b>                    | Name of TIBCO Domain.  |
| <b>ActivityClass</b>             | Name of the class that implements the activity.  |
| <b>CalledProcessDefs</b>         | A comma-separated list of definitions called by this activity.   |
| <b>Tracing</b>                   | <ul style="list-style-type: none"> <li>• <b>true</b> Tracing is enabled for this activity.</li> <li>• <b>false</b> Tracing is disabled for this activity.</li> </ul>     |
| <b>MicroAgentInstance</b>        | Unique ID of the microagent reporting the metrics.   |
| <b>ExecutionCountSince Reset</b> | Number of times the activity has been executed since the last reset of the statistics.   |
| <b>Source</b>                    | Name of RTView Data Server sending this data (or localhost).   |
| <b>Time Stamp</b>                | Time of this update.   |

## Single Activity Summary

Detailed performance metrics and alert status for a single BW activity. In this display, when an engine associated with the activity is **Stopped** the engine name is appended with **(X)** and the background color is light red.



**Title Bar:** Indicators and functionality might include the following:


 Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

### Filter By:

The display might include these filtering options:

**Filter:** Choose a filter to show data for in the display. By default, the **Filter:** drop-down menu only contains the **No Filter** option. To create your own filtering options, see **Creating Customized Filters** in the User's Guide.

**Server:** Select from the menu to view processes running on a specific server.

**Engine:** Select from the menu to view processes running on a specific engine. An engine is not running when the engine name is appended with **(X)**.

**Process:** Select from the menu to view summary details for a specific process.

**Activity** Select from the menu to view summary details for a specific activity.

**Class** Name of the activity class.

**Last Return Code** Last return code reported from this activity.

**Time Since Update** Time since the last update.

#### **Execution Counts**

Most recent execution counts for this activity.

**Total** Number of times the activity has been executed.

**Since Reset** Number of times the activity has been executed since the last Hawk reset of the statistics.

**Current** Change in ExecutionCount this update.

**Rate** Change in Execution Count per second.

#### **Error Counts**

Most recent error counts for this activity.

**Total** Number of errors accumulated by all activities.

**Average** Average number of errors accumulated by all activities.

**Current** Number of errors accumulated this update cycle.

**Rate** Number of errors accumulated per second.

#### **Execution (ms) Elapsed**

Execution and elapsed times in milliseconds for this activity.

**Min** Shortest time of any activity instance.

**Max** Longest time of any activity instance.

**Average** Average time across all successfully completed activity instance.

**Current** Time accumulated this update cycle.

**Rate** Time accumulated per second.

#### **Trend Graphs**

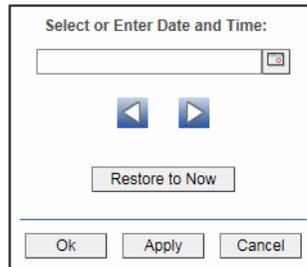
**Log Scale** Select to enable a logarithmic scale. Use **Log Scale** to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. **Log Scale** makes data on both scales visible by applying logarithmic values rather than actual values to the data.

**Base at Zero**

Select to use zero (0) as the Y axis minimum for all graph traces.

**Time Range**

Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

## BW Servers

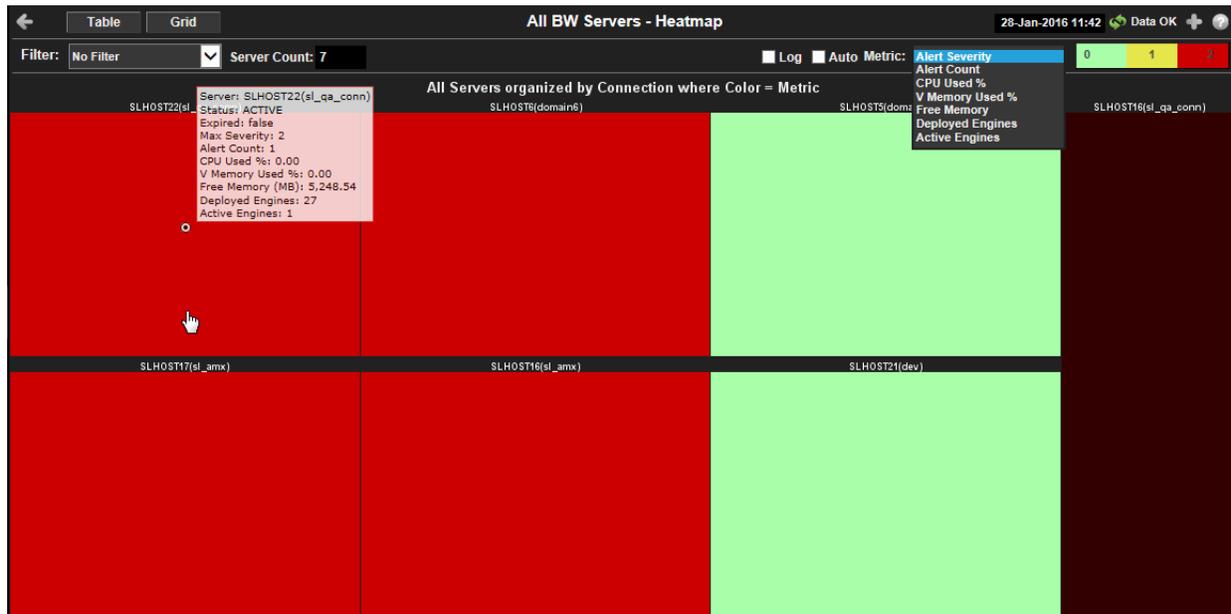
These displays present performance data for your BusinessWorks system. Displays in this View are:

- [“All Servers Heatmap” on page 686](#)
- [“All Servers Table” on page 689](#)
- [“All Servers Grid” on page 690](#)
- [“Single Server Summary” on page 692](#)
- [“Server Processes” on page 694](#)
- [“Single Server Process - Summary” on page 695](#)

### All Servers Heatmap

Quick view of BW Servers status determined by selected Filter, organized by Connection (host) and where color equals the selected Metric. Each rectangle (node) in the heatmap represents a server.

Click on a node to drill down to the “Single Server Summary” display and view metrics for a particular server. Mouse-over any node to display the current values for the metric selected from the Metric drop-down menu.



**Title Bar:** Indicators and functionality might include the following:

← ↑ Open the previous and upper display.  
 Table Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

⚠ Open the **Alert Views - RTView Alerts Table** display.

⊕ Open an instance of this display in a new window.

🔍 Open the online help page for this display.

### Filter By:

The display might include these filtering options:

- Filter:** Choose a filter to limit data shown in the display. By default, the **Filter:** drop-down menu only contains the **No Filter** option. To create your own filtering options, see **Creating Customized Filters** in the User's Guide.
- Server Count:** The total number of servers in the display.
- Log** Select to enable a logarithmic scale. Use **Log Scale** to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. **Log Scale** makes data on both scales visible by applying logarithmic values rather than actual values to the data.
- Auto** Select to enable auto-scaling. When auto-scaling is activated, the color gradient bar's maximum range displays the highest value. NOTE: Some metrics auto-scale automatically, even when **Auto** is not selected.
- Metric** Choose a metric to view in the display.

|                               |  |
|-------------------------------|--|
| <b>Alert Severity</b>         | <p>The maximum level of alerts in the heatmap rectangle. Values range from <b>0</b> - <b>2</b>, as indicated in the color gradient  bar, where <b>2</b> is the highest Alert Severity:</p> <ul style="list-style-type: none"> <li> Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.</li> <li> Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.</li> <li> Green indicates that no metrics have exceeded their alert thresholds.</li> </ul> |
| <b>Alert Count</b>            | <p>The total number of critical and warning alerts in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average alert count.</p>   |
| <b>CPU Used%</b>              | <p>The percent (%) CPU used in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.</p>   |
| <b>V(irtual) Memory Used%</b> | <p>The percent (%) virtual memory used in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.</p>  |
| <b>Free Memory</b>            | <p>The amount of free memory in the heatmap rectangle, in megabytes. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.</p>  |
| <b>Deployed Engines</b>       | <p>The number of deployed engines in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.</p>   |
| <b>Active Engines</b>         | <p>The number of active engines in the heatmap rectangle. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.</p>   |

## All Servers Table

This table provides a list view of utilization metrics for all BW servers (represented in the All Servers Heatmap). Each row in the table contains data for a particular server. Click a column header to sort column data in numerical or alphabetical order. Click on a table row to drill down to the “Single Server Summary” display and view metrics for that particular server.

| Server               | Expired                             | Alert Level | State   | CPU Usage (%) | Free Memory (MB) | V. Memory Usage (%) | BW Version | Deployed Engines | Active Engines | Source    | Time Stamp        |
|----------------------|-------------------------------------|-------------|---------|---------------|------------------|---------------------|------------|------------------|----------------|-----------|-------------------|
| SLHOST16(sl_amx)     | <input type="checkbox"/>            |             | ACTIVE  | 5.95          | 926.28           | 18.97               |            | 9                | 9              | localhost | 01/28/16 11:48:30 |
| SLHOST16(sl_qa_conn) | <input checked="" type="checkbox"/> |             | EXPIRED | 10.74         | 916.28           | 19.91               | v5.10      | 0                | 0              | localhost | 01/28/16 11:30:04 |
| SLHOST17(sl_amx)     | <input type="checkbox"/>            |             | ACTIVE  | 0.69          | 3,323.74         | 2.20                |            | 9                | 9              | localhost | 01/28/16 11:48:21 |
| SLHOST21(dev)        | <input type="checkbox"/>            |             | ACTIVE  | 4.00          | 2,446.26         | 20.80               |            | 0                | 0              | localhost | 01/28/16 11:48:49 |
| SLHOST22(sl_qa_conn) | <input type="checkbox"/>            |             | ACTIVE  | 0.00          | 5,249.51         | 0.00                | v5.10      | 27               | 1              | localhost | 01/28/16 11:48:31 |
| SLHOST5(domain5)     | <input type="checkbox"/>            |             | ACTIVE  | 17.33         | 1,763.04         | 0.71                | v5.7       | 5                | 0              | localhost | 01/28/16 11:48:29 |
| SLHOST6(domain6)     | <input type="checkbox"/>            |             | ACTIVE  | 3.52          | 915.39           | 1.68                | v5.7       | 6                | 5              | localhost | 01/28/16 11:48:21 |

**Title Bar:** Indicators and functionality might include the following:



Open the previous and upper display.



Navigate to displays commonly accessed from this display.

19-Feb-2014 16:50

The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.



The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.



Open the **Alert Views - RTView Alerts Table** display.



Open an instance of this display in a new window.



Open the online help page for this display.

### Filter By:

The display might include these filtering options:

**Filter:** Choose a filter to show data for in the display. By default, the **Filter:** drop-down menu only contains the **No Filter** option. To create your own filtering options, see **Creating Customized Filters** in the User's Guide.

### Table:

**Server** Name of Server Agent.

**Expired** When checked, data has not been received from this host in the specified amount of time. The host will be removed from the Monitor in the specified amount of time. The default setting is **60** seconds.

|                            |  |
|----------------------------|--|
| <b>Alert Level</b>         | The most critical alert state for alerts in the row:<br><span style="color: red;">●</span> Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.<br><span style="color: yellow;">●</span> Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.<br><span style="color: green;">●</span> Green indicates that no metrics have exceeded their alert thresholds. |
| <b>State</b>               | The current status of the application. Valid values are <b>Running</b> and <b>Stopped</b> .  |
| <b>CPU Usage (%)</b>       | Percent of server CPU in use.  |
| <b>Free Memory (MB)</b>    | Available physical memory (MB) remaining.  |
| <b>V. Memory Usage (%)</b> | Percent of virtual memory used.  |
| <b>BW Version</b>          | The TIBCO BusinessWorks version currently in use on the server.  |
| <b>Deployed Engines</b>    | Total number of engines deployed on the server.  |
| <b>Active Engines</b>      | Number of engines currently active.  |
| <b>Source</b>              | Name of RTView Data Server sending this data (or localhost).   |
| <b>Time Stamp</b>          | Time this data was retrieved.  |

## All Servers Grid

This grid provides a list view of utilization metrics for all BW servers (represented in the All Servers Heatmap). Track and view in parallel the general performance of all BW servers. Click on a node to drill down to the “Single Server Summary” display and view detailed metrics for that particular server.



**Title Bar:** Indicators and functionality might include the following:

  Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

### Filter By:

The display might include these filtering options:

**Filter:** Choose a filter to show data for in the display. By default, the **Filter:** drop-down menu only contains the **No Filter** option. To create your own filtering options, see **Creating Customized Filters** in the User's Guide.

**Time Range** Choose a time range to show data for in the display. Options are: **All Data, 2 Mins, 5 Mins, 20 Mins, 1 Hour, 2 Hours, 4 Hours, 8 Hours, 24 Hours, 2 Days and 7 Days.**

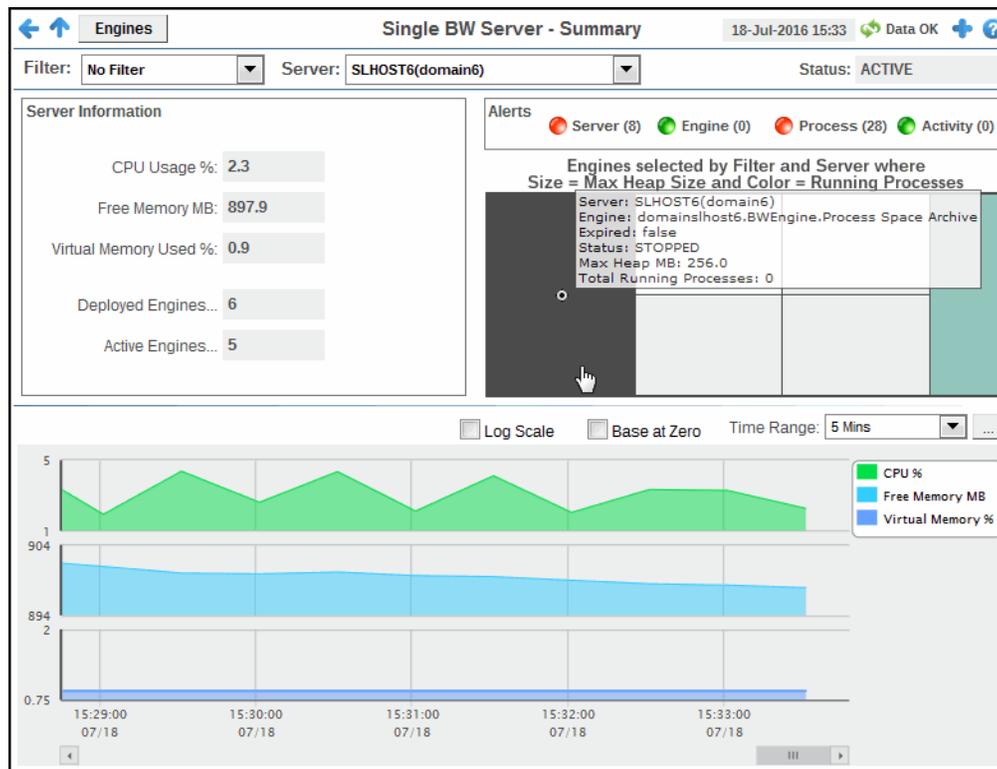
### Fields and Data

**Server Name** Name of the server.  
**CPU Usage%** Percent of server CPU in use.  
**Free Memory** Available physical memory (MB) remaining.  
**Virtual Mem Used%** Percent of virtual memory used.  
**State** Server status: ACTIVE or EXPIRED.  
**Deployed Engines** Total number of engines deployed on the server.  
**Active Engines** Number of engines currently active.  
**Trend Graphs** Shows data for the server.

**CPU** Traces percent of server CPU in use.  
**MEM** Traces available physical memory remaining.  
**VMEM** Traces the percent of virtual memory used.

## Single Server Summary

Detailed performance metrics and alert status for a single BW server. Click on any alert indicator to drill down to the **BW Server - Tables** display to view current alerts for the selected server.



**Title Bar:** Indicators and functionality might include the following:

Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

Open the online help page for this display.

### Filter By:

The display might include these filtering options:

**Filter:** Choose a filter to show data for in the display. By default, the **Filter:** drop-down menu only contains the **No Filter** option. To create your own filtering options, see **Creating Customized Filters** in the User's Guide.

**Server:** Choose a server to see metrics for.

**Status** Server status: ACTIVE or EXPIRED.

### Server Information

**CPU Usage (%)** Percent of server CPU in use. Values are traced in trend graph (below).

|                            |  |
|----------------------------|--|
| <b>Free Memory (MB)</b>    | Available physical memory remaining (in MB). Values are traced in trend graph (below).   |
| <b>V. Memory Usage (%)</b> | Percent of virtual memory used. Values are traced in trend graph (below).  |
| <b>Deployed Engines</b>    | Number of engines currently active. Click to drill-down to details for deployed and active engines in the <a href="#">“All Engines Table” on page 662</a> display. |
| <b>Active Engines</b>      | Shows data for the server. Click to drill-down to details for active engines in the <a href="#">“All Engines Table” on page 662</a> display.                       |

### Alerts

The number of alerts on servers, engines, processes and activities and the most critical alert state for each:

- Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.
- Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.
- Green indicates that no metrics have exceeded their alert thresholds.

Click on any alert indicator to drill down to the **BW Server - Tables** display to view current alerts for the selected server.

### Heatmap

Engines selected by Filter and Server, where the heatmap rectangle size = Max Heap Size and the heatmap rectangle color = Running Processes. Dark green is the highest value for the metric shown). Click on a node to drill down to a specific engine:

- Red indicates that the engine is expired.
- Gray indicates that the engine is stopped.

### Trend Graphs

Traces **CPU %**, **Free Memory MB** and **Virtual Memory %**.

|                     |  |
|---------------------|--|
| <b>Log Scale</b>    | Select to enable a logarithmic scale. Use <b>Log Scale</b> to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. <b>Log Scale</b> makes data on both scales visible by applying logarithmic values rather than actual values to the data. |
| <b>Base at Zero</b> | Select to use zero (0) as the Y axis minimum for all graph traces.   |
| <b>Time Range</b>   | Select a time range from the drop down menu varying from <b>2 Minutes</b> to <b>Last 7 Days</b> , or display <b>All Data</b> . To specify a time range, click Calendar <input type="text"/>  |

By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

## Server Processes

Detailed information about operating system processes of a single BW Server. The heatmap shows server processes selected by Filter and Server, where the rectangle size equals memory usage and the rectangle color equals CPU percent usage.

NOTE: By default, this display is not enabled. For details, see **Enable BW Servers**.



**Title Bar:** Indicators and functionality might include the following:

← ↑ Open the previous and upper display.  
 Table Navigate to displays commonly accessed from this display.

19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

⚠ Open the **Alert Views - RTView Alerts Table** display.

⊕ Open an instance of this display in a new window.

🔍 Open the online help page for this display.

### Filter By:

The display might include these filtering options:

**Filter:** Choose a filter to show data for in the display. By default, the **Filter:** drop-down menu only contains the **No Filter** option. To create your own filtering options, see **Creating Customized Filters** in the User's Guide.

**Server:** Choose a server to see metrics for.

## Single Server Process - Summary

Detailed information about a single operating system process running on a single BW Server.

NOTE: By default, this display is not enabled. For details, see **Enable BW Servers**.



**Title Bar:** Indicators and functionality might include the following:

← ↑ Open the previous and upper display.

Table Navigate to displays commonly accessed from this display.

19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

🚨 Open the **Alert Views - RTView Alerts Table** display.

⊕ Open an instance of this display in a new window.

🔗 Open the online help page for this display.

### Filter By:

The display might include these filtering options:

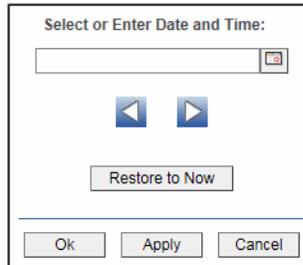
**Filter:** Choose a filter to show data for in the display. By default, the **Filter:** drop-down menu only contains the **No Filter** option. To create your own filtering options, see **Creating Customized Filters** in the User's Guide.

**Server:** Choose a server to see metrics for.

**Process:** Choose a server process.

**PID:** Choose a server PID.

**Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

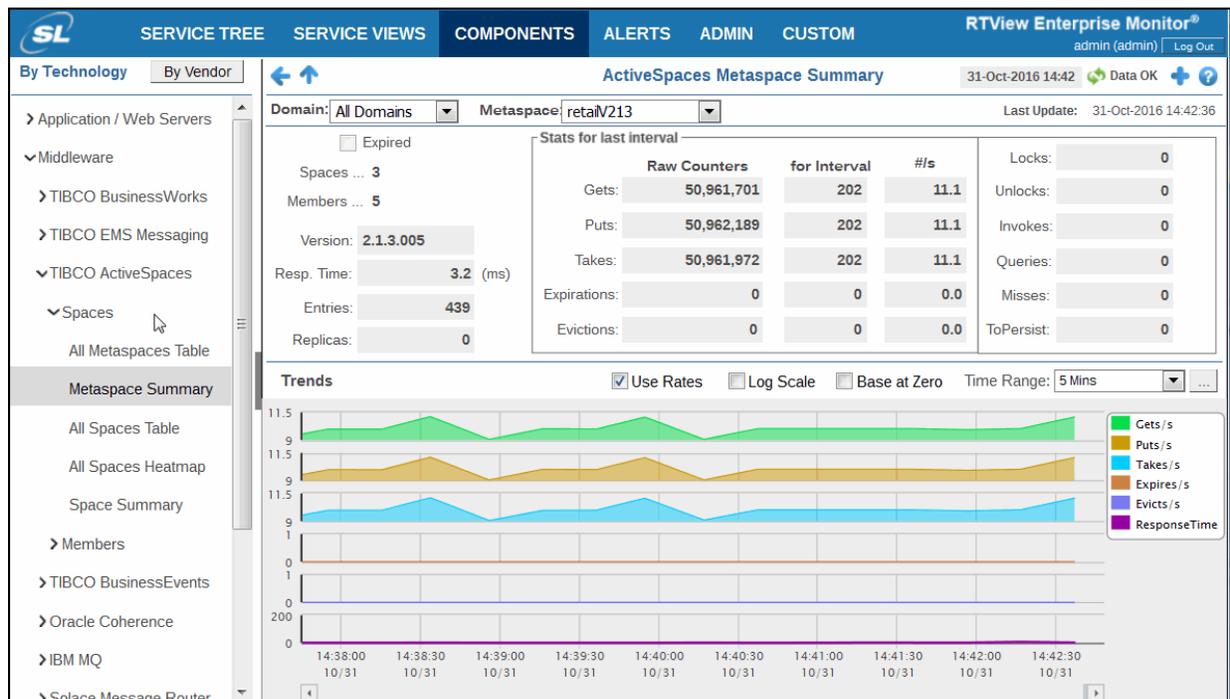
Click **Restore to Now** to reset the time range end point to the current time.

## CHAPTER 22 Solution Package for TIBCO ActiveSpaces

The Solution Package for TIBCO ActiveSpaces™ is a plug-in application to RTView Enterprise Monitor® that allows you to monitor the health and performance of TIBCO ActiveSpaces instances and services in real-time.

TIBCO ActiveSpaces is a distributed in-memory data grid for building highly scalable, fault-tolerant applications. The distributed, highly-scalable nature of TIBCO ActiveSpaces often include 10s if not 100s of individual nodes which can be clustered locally or geographically across multiple datacenters which makes monitoring a distributed cluster quite a challenge. Often, performance issues on one node are negligible and are handled via fault tolerance but cluster wide problems can be catastrophic.

RTView Enterprise Monitor provides the visibility necessary to monitor such a highly distributed environment in the context of managing TIBCO Infrastructure components on up to the application layers that rely on TIBCO ActiveSpaces as a crucial caching mechanism.



- View Global Displays Showing Each Space within One or More Metaspaces

A global, consolidated view is especially important when it comes to in-memory data grids. Typically, data and activity (gets / puts) are not evenly distributed across a grid that contains multiple, independently typed spaces. Data spaces of disparate sizes can be instantiated on different subsets of members, some overlapping, some not. It is essential to be able to quickly determine and remedy those situations where individual spaces may be hogging resources and causing a performance bottleneck affecting users.

- View Performance and Utilization across All Members of a Cluster Hosting Each Space

When content size and activity metrics are not evenly distributed across all members within a single space, an individual member may become overloaded and cause a performance bottleneck affecting end users. TIBCO ActiveSpaces Monitor can visually identify where these “hotspots” are in each cluster. By knowing how space members interact with the space via their role and metrics, like data volume and gets/puts/takes per second, system administrators are enabled to dynamically manage the system resources in order to maintain high performance of a cluster.

- Monitor TIBCO ActiveSpaces at the Application Level

No matter whether you are responsible for just ActiveSpaces, or all the TIBCO middleware components within a given application or even the entire application platform including JVMs, virtual machines, physical machines and databases, TIBCO ActiveSpaces Monitor provides the visual context that allows you to view the overall health and stability of an application as an aggregate of the health of its individual infrastructure components. RTView allows the user to drill-down on alerts at the application level to see the status of all the infrastructure components, and down to the individual alerts within any given component to quickly identify the source of the problem without having to resort to multiple different native monitoring tools.

- Alerting in a Dynamic Data Grid

Though it is possible to use the TIBCO Hawk Console to define alerts on each member in the grid, one at a time, it becomes impractical when the grid gets larger (e.g. > 20 members), or when new members are being added dynamically. In this common scenario, an alert configuration mechanism that dynamically assigns alerts to each member and space as they come and go makes managing the system much easier as it undergoes change.

- TIBCO ActiveSpaces Monitor adds Historical Alerts to Aid in Problem Resolutions

Naturally, you need real-time metrics to ensure that you spot alerts that might help you to head off problems before they affect the end user but often we need to diagnose the root cause of failure AFTER we get our systems back up and running. RTView collects and displays those time-stamped snapshots of metrics to help you understand what went wrong as well as provide the context on whether a given spike is normal or whether it is an outlier that needs immediate attention.

- Perform Scalability and Capacity Analysis to Ensure Optimal Response Times

RTView Enterprise Monitor gives you visual confirmation of cluster-wide workloads so that you can ensure you have the optimum number of nodes required to support current and peak activity levels. Capacity analysis is also useful in determining whether you have enough compute capacity to add new applications to the ActiveSpaces cluster or whether you need to add nodes to support the additional workload. Historical data analysis also allows you to view capacity from day-to-day or minute-to-minute and is particularly useful in determining the impact of application changes and updates to system resources.

- Identify Potentially Abusive Usage Patterns that affect System Performance

What users are using my resources? Who is consuming the most capacity? Am I using my system resources efficiently? Am I dedicating enough capacity to my most valuable applications or am I wasting it on lower value services? These are all common questions when we run into unexpected capacity issues. RTView Enterprise Monitor helps you to answer these questions to ensure that your resources are used efficiently for the most mission critical applications.

- Cross-Correlation of ActiveSpaces Metrics with Hardware, Database and Network Metrics

So you see a backup within your ActiveSpaces environment. Is the problem in the ActiveSpaces cluster? Or is it in fact caused by excess latency within the network layer. You could take hours to track down the answer to these types of questions. Fortunately, RTView Enterprise Monitor is able to correlate events and metrics from different systems and aggregate them in a visually intuitive way so that you can instantly see the impact across multiple layers all at the same time.

See the **README.txt** file, located in the root directory of each Solution Package, for instructions about configuring and working with the Solution Package.

See **README\_sysreq.txt** for the full system requirements for RTView®.



## CHAPTER 23 Solution Package for TIBCO BusinessEvents

The Monitor provides information about how TIBCO BusinessEvents clusters are configured and performing, presents historical data detailing rule execution times per inference node, heap and table sizes for storage nodes, and event, concept and channels statistics. Pre-configured alert conditions provide early warning when any of these gathered performance metrics indicate a situation which is nearing a critical state.

The Monitor can help to diagnose several critical conditions relevant to the health of TIBCO BusinessEvents, including:

- events flooding into the system at much higher-than-expected rates.
- rules firing at a much higher rate than expected causing CPU usage to spike.
- the backing store running inefficiently.
- BusinessEvents concepts being created at a much higher rate than expected causing evaluation or re-evaluation of rules.

This section describes how to install, configure, deploy, start the TIBCO BE Solution Package, and read and use the TIBCO BE Solution Package displays. See **README\_sysreq.txt** for the full system requirements for RTView®.

This section includes:

- [“Getting Started”](#)
- [“TIBCO BusinessEvents Monitor Views/Displays”](#)

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**Note:** See [“Configuration and Deployment”](#) for additional information on configuring RTView Enterprise Monitor and its Solution Packages.

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## Getting Started

Perform these instructions if you downloaded, installed and configured the *standard* RTView Enterprise Monitor (**rtvapm\_std\_<version>.zip**), rather than the *full* RTView Enterprise Monitor, and now wish to install the Solution Package for Solace.

**Note:** If you downloaded and installed the *full* RTView Enterprise Monitor (**rtvapm\_full\_<version>.zip**), refer to [Chapter 2, “Configuration and Deployment”](#) .

This section includes:

- ["Installation"](#)
- ["Setup"](#)
- ["Configure the Dataservers"](#)
- ["Configure High Availability"](#)
- ["Limitations for TIBCO BusinessEvents 4.0 Installation"](#)
- ["Start the Monitor"](#)
- ["Stop the Monitor"](#)
- ["Troubleshooting"](#)

## Installation

Prerequisite: RTView Enterprise Monitor 3.3 must be installed on your system.

1. Download the **rtvapm\_tbemon\_<version>.zip** archive to your local Windows/UNIX/Linux server.

2. Extract the files:

**Windows:**

Type **unzip rtvapm\_tbemon \_<version>.zip** and save the files to the **C:\RTView** directory.

**UNIX/Linux:**

Type **unzip -a rtvapm\_tbemon \_<version>.zip** and save the files to the **/opt/RTView** directory.

3. Verify that the **tbemon** directory was created under **rtvapm** and extracted correctly.
4. Verify you do not have an extra **rtvapm** directory containing **tbemon**. If you do, move these directories under the first **rtvapm** directory and delete the nested **rtvapm**.
5. Set **JAVA\_HOME** to the location of your Java installation and include the **bin** directory under **JAVA\_HOME** in the path.

**Important:** This environment variable must be defined in UNIX/Linux systems for Tomcat to start successfully.

## Setup

- The memory setting for BusinessEvents projects must be set to **Cache**. The "in memory" memory management setting does not expose the MBeans queried by the Monitor. This means that your project must use a cluster of both inference and cache agents. Inference-only configurations are not supported, since the JMX MBean data is not available.
- Your BusinessEvents (inference and cache) engines must be JMX-enabled. For example, to start a simple BusinessEvents cluster on the command line, type:

```
start be-engine --propFile be-engine.tra -n TestCache --propVar
jmx_port=58700 -c yourBeProjectCDD.cdd -u cache yourBeProjectEAR.ear
be-engine --propFile be-engine.tra -n TestInf --propVar jmx_port=58701 -c
yourBeProjectCDD.cdd -u default yourBeProjectEAR.ear
```

## Configure the Dataservers

This section describes how to configure the Monitor Data Servers. This section includes:

- [“BE Nodes on Java v1.6.0\\_30 or Earlier”](#)

You configure the Data Servers by defining data source connections for each TIBCO BusinessEvents engine that you want to monitor. There are two agent types that you configure, Inference Agents and Cache Agents.

**NOTE:** Your BusinessEvents project must include a cache agent as well as inference agents. TIBCO does not expose the management MBeans for inference agent only configurations.

You define the agents by making a copy of the **sample.properties** file and editing or adding properties. This part of the Monitor configuration is required.

For most installations, the default Monitor property settings are sufficient. Consult Technical Support before modifying other property files to avoid upgrade issues.

**NOTE:** LINUX users might see inconsistently aligned labels in displays. To resolve, set the client browser to download the fonts used by the server. Open the **rtvapm/common/conf/rtvapm.properties** file on the Display Server host machine and uncomment the following two lines:

```
#sl.rtvview.cp=%RTV_HOME%/lib/rtvfonts.jar
#sl.rtvview.global=rtv_fonts.rtv
```

### Before You Begin:

- Verify that your BusinessEvents engines are JMX-enabled.
- For each engine to be monitored, obtain the JMX port assigned to that engine.

### To configure the Data Servers

#### 1. “Create a Project Directory”:

- After creating your project directory, make sure to rename the **sample.properties** file to **<customer-name>.properties** where **customer-name** is your company name.

2. Open the **<customer-name>.properties** file, located in your **mysample** project directory, in a text editor.

**NOTE:** If you already configured your connection properties for a previous installation of the Monitor, copy the **<customer-name>.properties** file from that project to your new **mysample** project, then proceed to [“BE Nodes on Java v1.6.0\\_30 or Earlier”](#).

3. Uncomment the following two lines in the file:

```
#collector.sl.rtvview.cache.config=<cache_source_file>
$tbe_conn:<engineName>
```

```
#collector.sl.rtvview.jmx.jmxconn=<engineName> <hostname> <port> URL:- -  
- 'false'
```

where

- **<engineName>** is an arbitrary name to uniquely identify each Business Event engine, with relevant meaning to the Monitor users. The name must be identical on both lines.

4. Edit the first line to specify data collection over a JMX connection as follows:

```
collector.sl.rtvview.cache.config=<cache_source_file> $tbe_conn: <engineName>
```

where

- **<engineName>** is the name for the Data Source connection (it is not related to any TIBCO BusinessEvents configuration). Choose a descriptive name as the name appears in the Monitor displays for end-users.
- **<cache\_source\_file>** is a Monitor configuration file which matches the version and agent types for the given BusinessEvents engine. Select the cache source file from the following table.

| BusinessEvents Engine Type | Business Events Version | RTView Cache Source File                         |
|----------------------------|-------------------------|--|
| Inference                  | 4.0(.x)                 | <b>tbe_cache_source_be4_inferenceagent.rtv</b>   |
|                            | 5.0(.x)                 | <b>tbe_cache_source_be5_inferenceagent.rtv</b>   |
|                            | 5.1(.x)                 | <b>tbe_cache_source_be5.1_inferenceagent.rtv</b> |
| Cache                      | 4.0(.x)                 | <b>tbe_cache_source_be4_cacheagent.rtv</b>       |
|                            | 5.0(.x)                 | <b>tbe_cache_source_be5_cacheagent.rtv</b>       |
|                            | 5.1(.x)                 | <b>tbe_cache_source_be5.1_cacheagent.rtv</b>     |

For example, a BusinessEvents 5.0 engine with inference agents (with previous JMX connection) might be:

```
collector.sl.rtvview.cache.config=tbe_cache_source_be5_inferenceagent.rtv  
$tbe_conn:app1_inf
```

5. Edit the second line you pasted to specify the JMX connection as follows:

```
collector.sl.rtvview.jmx.jmxconn=<engineName> <hostname> <port> URL:- - - 'false'
```

where

- **<engineName>** is the data source connection name used by the Monitor (it is not related to any TIBCO BusinessEvents configuration). Choose a descriptive name as the name appears in the Monitor displays for end-users. It should match the name specified in the first property.
- **<hostname>** resolves to the address of the system where the TIBCO BusinessEvents engine is running. Specify a unique hostname/port combination for each JMX connection. The hostname can be an IP address or a name that is resolvable via DNS or other network name resolution method used on the host.
- **<port>** is the TCP port number assigned to the agent for monitoring via JMX. This port number is usually set in the engine's **.tra** file (**java.property.be.engine.jmx.connector.port=%jmx\_port%**) and on the command line (**--propVar jmx\_port=58700**). For example:

```
collector.sl.rtvview.jmx.jmxconn=app1_inf 10.0.0.1 38700 URL:- - - 'false'
```

For details about the **jmxconn** property, see the *RTView Core® User's Guide*.

6. Repeat the previous steps for each inference and cache engine you want to monitor in your environment.

7. Save the **<customer-name>.properties** file.

8. If you have BusinessEvents nodes running on Java version 1.6.0\_30 or earlier, proceed to [“BE Nodes on Java v1.6.0\\_30 or Earlier”](#).

If you do not have BusinessEvents nodes running on Java version 1.6.0\_30 or earlier, you have finished configuring the Data Servers.

## BE Nodes on Java v1.6.0\_30 or Earlier

If you have BusinessEvents nodes running on Java version 1.6.0\_30 or earlier, perform the following steps.

**NOTE:** The BusinessEvents Solution Package requires Java version 1.6.0\_31 or later, as it depends on JMX support for wild-carded queries to auto-discover BE cluster names.

1. Open the **<customer-name>.properties** file, located in your project directory, in a text editor.

2. For each BusinessEvents node running on an older Java version:

- add the **\$tbe\_cluster:<clusterName>** substitution to the corresponding connection property

- replace **<clusterName>** with the name of the BusinessEvents cluster. For example:

```
#collector.sl.rtvview.cache.config=<cache_source> $tbe_conn:<engineName>
$tbe_cluster:<clusterName>
```

3. Save the **<customer-name>.properties** file.

You have finished configuring the Data Servers.

## Configure High Availability

### TIBCO BusinessEvents Monitor HA Solution Package Version

A High Availability (HA) Data Server configuration that is within the RTView Enterprise Monitor platform is available for the TIBCO BusinessEvents Monitor Solution Package version.

The **emsample/servers** directory provides an example of HA for RTView Enterprise Monitor and the TIBCO BusinessEvents Solution Package version. The example assumes the availability of two machines, **PRIMARYHOST** and **BACKUPHOST**, which are defined by environment variables of the same name. RTView Enterprise Monitor is configured by the **rtvservers-ha.dat** file in place of the **“rtvservers.dat”** file in the **emsample/servers** directory. By default, HA configuration is not enabled. To enable HA, you need to rename **rtvservers-ha.dat** to **rtvservers.dat**.

Assuming the environment variables **PRIMARYHOST** and **BACKUPHOST** are set correctly, EM components on the primary machine are started as normal using the **“central”** configuration with the **start\_rtv** command. EM components on the backup machine are started using the **“central-backup”** configuration with the **start\_rtv** command.

To start the HA configuration, first start the primary TIBCO BusinessEvents Monitor Data Server on the primary machine as normal using the **bemon** configuration with the **start\_rtv** command. For example:

#### Windows

```
start_rtv bemon dataserver
```

#### UNIX

```
start_rtv.sh bemon dataserver
```

Then start the backup TIBCO BusinessEvents Monitor Data Server on the backup machine using the **bemon-backup** configuration with the **start\_rtv** command. For example:

#### Windows

```
start_rtv bemon-backup dataserver
```

#### UNIX

```
start_rtv.sh bemon-backup dataserver
```

The appropriate property files and **propfilters** for the TIBCO BusinessEvents Monitor Data Server are defined in the **rtvservers-ha.dat** file in the **servers** directory. The property values controlling HA used by the TIBCO BusinessEvents Monitor Data Servers are defined in the **ha.properties** file in the **servers/bemon** directory.

## Limitations for TIBCO BusinessEvents 4.0 Installation

Applications using JMX to monitor applications on a server with the server's firewall enabled might experience connection problems. The JMX protocol allows initial contact on a known port, but subsequent communications might occur over a second randomly chosen port. Version 5 of TIBCO BusinessEvents has a fix that allows the follow-on communications to occur over the same port. However, BusinessEvents version 4.0 does not have this fix. BusinessEvents 4.0 installations should use a local agent to push the necessary MBean data to the central RTView Data Server, or use a "premain agent" as described here:

[https://blogs.oracle.com/jmxetc/entry/connecting\\_through\\_firewall\\_using\\_jmx](https://blogs.oracle.com/jmxetc/entry/connecting_through_firewall_using_jmx)

## Start the Monitor

Use the configuration defined in the **rtvservers.dat** file, which is located in the **RTView/rtvapm\_projects/emsample/servers** directory.

1. Initialize a command line window by executing the **rtvapm\_init** script. For example:

#### Windows

Go to your RTView Enterprise Monitor installation directory and type:

```
rtvapm_init
```

#### UNIX

Go to your Enterprise Monitor installation directory and type:

```
./rtvapm_init.sh
```

2. Initialize the user project directory by executing the `rtvapm_user_init` script. For example:

**Windows**

Change directory (**cd**) to **RTView\rtvapm\_projects\emsample** and type:

**rtvapm\_user\_init**

**UNIX**

Change directory (**cd**) to **RTView/rtvapm\_projects/emsample** and type:

**./rtvapm\_user\_init.sh**

3. Change directory (**cd**) to **rtvapm\_projects/emsample/servers**.
4. Execute **start\_rtv.sh central** (**start\_rtv central** for Windows) to start the RTView Enterprise Monitor main processes.
5. Execute **start\_rtv.sh rtvmgr** (**start\_rtv rtvmgr** for Windows) to start the RTView Manager.
6. Execute **start\_rtv.sh tbemon -properties:sample** (or **start\_rtv tbemon -properties:sample** for Windows) to start all components of the TIBCO® RTView® for TIBCO BusinessEvents®.  
**Note:** Make sure that you have deployed the **emsample.war** file to your application server prior to attempting the next step. See the "Configure Central Servers" section for more information.
7. Open a browser and go to your RTView Enterprise Monitor deployment.
8. Verify that the Data Server is collecting data by navigating to the **Admin** tab and clicking **Architecture->System Overview** in the navigation tree. The **RTView - Central Monitoring Components** display should open and the Data Server, named **TBEMON-LOCAL** (by default), should be green and the **CI Metrics** value should be greater than zero (**0**). For example:

## Stop the Monitor

To stop the RTView EM® - Solution Package for TIBCO BusinessEvents® (in RTView Enterprise Monitor):

1. Change directory (**cd**) to **RTView/rtvapm\_projects/emsample/servers**.
2. Execute **stop\_rtv.sh tbemon** (or **stop\_rtv tbemon** for Windows) to stop all components of the RTView EM® - Solution Package for TIBCO BusinessEvents®.

## Troubleshooting

This section includes:

- “Log Files,” next
- “JAVA\_HOME” on page 708
- “Permissions” on page 708
- “Network/DNS” on page 708
- “Verify Data Received from Data Server” on page 708
- “Verify Port Assignments” on page 709

### Log Files

When a Monitor component encounters an error, it outputs an error message to the console and/or to the corresponding log file. If you encounter issues, look for errors in the following log files:

- **dataserver.log**
- **displayserver.log**
- **historian.log**

which are located in the **rtvapm\_projects/emsample/servers/tbemon/logs** directory.

Logging is enabled by default. If you encounter issues with log files, verify the **logs** directory exists in the **rtvapm\_projects/emsample/servers/tbemon** directory.

### JAVA\_HOME

If the terminal window closes after executing the **start\_rtv** command, verify that JAVA\_HOME is set correctly.

### Permissions

If there are permissions-related errors in the response from the **start\_rtv** command, check ownership of the directory structure.

### Network/DNS

If any log file shows reference to an invalid URL, check your system’s hosts file and confirm with your Network Administrator whether your access to the remote system is being blocked.

### Verify Data Received from Data Server

If you encounter problems collecting data, restart the Data Server, start the Monitor, and go to the **Admin** tab and select **Architecture> RTView Cache Tables** in the navigation tree. Select **TBEMON-LOCAL** from the **Data Server** drop down list, and search for all caches that start with “TBEMON.” Make sure these caches are populated (the number of **Rows** and **Columns** in the table should be greater than 0). If not, there might be a problem with the connection to the Data Server.

## Verify Port Assignments

If the Viewer, display server, or Historian fail to connect to the Data Server or they receive no data, verify the ports are assigned correctly in your properties files and restart the Data Server.

---

## TIBCO BusinessEvents Monitor Views/Displays

The following TIBCO Business Events Monitor Views (and their associated displays) can be found under **Components** tab > **Middleware** > **TIBCO BusinessEvents** once TIBCO BusinessEvents Monitor is installed.

This section includes:

- ["Clusters / Nodes View"](#)
- ["Events / Concepts View"](#)

### Clusters / Nodes View

These displays present performance data for your BusinessEvents system. Displays in this View are:

- ["Clusters"](#)
- ["Cluster Summary"](#)
- ["Cluster Nodes Table"](#)
- ["Cluster Nodes Heatmap"](#)
- ["Inference Node Summary"](#)
- ["Storage Node Summary"](#)

### Clusters

Use this display to check event, concept, and backing store metrics for all of your clusters. Consider keeping this display open to monitor your TIBCO BusinessEvents clusters in general. Each row in the table is a different cluster. Click on a cluster row to view additional cluster details (current and historical) in the ["Cluster Summary"](#) display. The summary display includes trend charts so that you can view key metrics over time.

Sort  the table columns when all the rows cannot fit on the screen. For example, sort the **Alert Status** column so that all nodes with red alerts (●) are listed at the top, or sort the **Expired** column so that all expired nodes are listed at the top.



| BE Clusters - Table |   |             |              |                     |                 |                         |                                   |                                |
|---------------------|---|-------------|--------------|---------------------|-----------------|-------------------------|-----------------------------------|--------------------------------|
| Count: 2            |   | Clusters    |              |                     |                 |                         |                                   |                                |
| Cluster Name        | Alert Severity  | Alert Count | Member Count | Num Events Received | Num Events Sent | Events Received Per Sec | Num Asserted From Channel Per Sec | Num Retracted From Channel Per |
| ckfdcache           |  | 0           | 2            | 182,406             | 0               | 4.52                    | 4.51                              |                                |
| fdcache             |  | 0           | 2            | 0                   | 0               | 0.00                    | 0.00                              |                                |

**Title Bar:** Indicators and functionality might include the following:

-   Open the previous and upper display.
-  Navigate to displays commonly accessed from this display.
-  19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

-  **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
-  Open the **Alert Views - RTView Alerts Table** display.
-  Open an instance of this display in a new window.
-  Open the online help page for this display.

### Clusters Table

Each row in the table is a different cluster, and data in the row columns describe the cluster.

**Note:** Row columns in this table with an asterisk (\*) at the end of the column definition contain data that is provided by the TIBCO MBean interface. Refer to TIBCO documentation for more information regarding these columns.

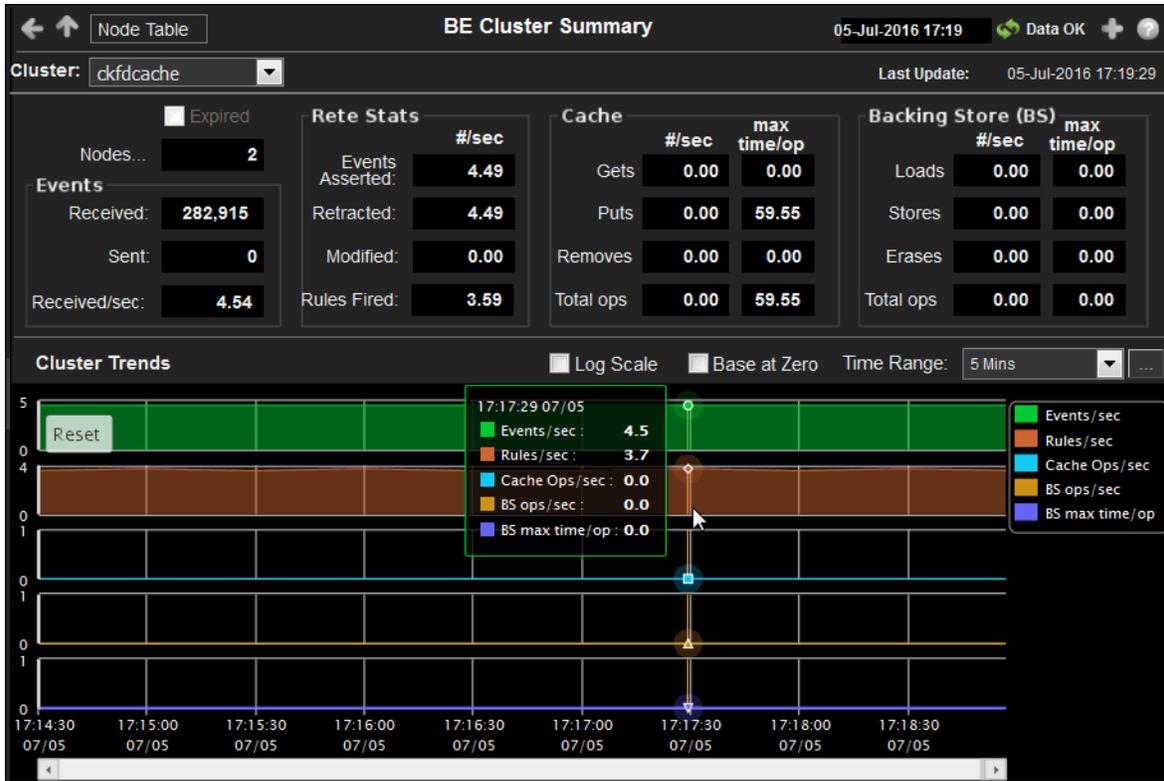
- Count:** The total number of clusters in the table.
- Cluster Name** The name of the TIBCO BusinessEvents cluster.
- Alert Severity** The severity level of open alerts. Values range from **0** to **2**, where **2** is the greatest Severity:
  -  One or more alerts exceeded their ALARM LEVEL threshold.
  -  One or more alerts exceeded their WARNING LEVEL threshold.
  -  No alert thresholds have been exceeded.
- Alert Count** The total number of critical and warning alerts.

|   |  |
|---|--|
| <b>Member Count</b>                       | The count of the number of nodes (both cache and inference) that have been collected. For example, for a cluster that has 3 inference nodes and two cache nodes, the Member Count for all 5 rows in the Cluster Table should be 5. If one of the rows shows a member count of one and the others show four, that is a clear indication that a node failed to join the cluster, and the corresponding node should be restarted.<br><b>Note:</b> The actual number of nodes in the cluster will not match the count in this column if one or more of the nodes do not have connection properties configured in the property file that is read by the data server at startup. |
| <b>Num Events Received</b>                | The total number of events received.*  |
| <b>Num Events Sent</b>                    | The total number of events sent.*  |
| <b>Events Received Per Sec</b>            | The rate of events received in the cluster.  |
| <b>Num Asserted From Channel Per Sec</b>  | The rate of events asserted into the Rete network via the channel.   |
| <b>Num Retracted From Channel Per Sec</b> | The rate of events retracted/deleted from the Rete network via the channel.  |
| <b>Num Modified From Channel Per Sec</b>  | The rate of events modified in the Rete network via the channel.   |
| <b>Num Rules Fired Rate</b>               | The rate of rules fired in the cluster.  |
| <b>Concept Max Get Time</b>               | The longest time taken for a "get" operation for any node in the cluster since the cluster was started.*   |
| <b>Concept Max Put Time</b>               | The longest time taken for a "put" operation for any node in the cluster since the cluster was started.*   |
| <b>Concept Max Remove Time</b>            | The longest time taken for a "remove" operation for any node in the cluster since the cluster was started.*  |
| <b>Concept Max Operation Time</b>         | The longest time taken for a concept operation (get/put/remove) for any node in the cluster since the cluster was started.*  |
| <b>Concept Gets/sec</b>                   | The rate of "get" operations in the cluster.   |
| <b>Concept Puts/sec</b>                   | The rate of "put" operations in the cluster.   |
| <b>Concept Removes/sec</b>                | The rate of "remove" operations in the cluster.  |
| <b>Concept Operations/sec</b>             | The rate of operations (gets/puts/removes) in the cluster.   |
| <b>Backing Store Max Erase Time</b>       | The longest time taken for an "erase" operation in the Backing Store for any node in the cluster.*   |
| <b>Backing Store Max Load Time</b>        | The longest time taken for a "load" operation in the Backing Store for any node in the cluster.*   |
| <b>Backing Store Max Store Time</b>       | The longest time taken for a "store" operation in the Backing Store for any node in the cluster.*  |
| <b>Backing Store Max Operation Time</b>   | The longest time taken to perform an operation (erase/load/store) in the Backing Store for any node in the cluster.*   |
| <b>Backing Store Erases/sec</b>           | The rate of "erases" in the Backing Store.   |

|                                     |  |
|-------------------------------------|--|
| <b>Backing Store Loads/sec</b>      | The rate of "loads" into the Backing Store.  |
| <b>Backing Store Stores/sec</b>     | The rate of "stores" into the Backing Store.   |
| <b>Backing Store Operations/sec</b> | The rate of operations (erases/loads/stores) in the Backing Store.   |
| <b>Source</b>                       | The name of the data server from which the data was collected.   |
| <b>Expired</b>                      | When checked ( <b>true</b> ), the Monitor has not received a response from the cluster for the amount of time specified by the <b>\$tbeRowExpirationTime</b> property (the default is <b>120</b> seconds). When the amount of time specified by the <b>\$tbeRowExpirationTimeForDelete</b> property elapses (the default is one day), the node data is deleted from the cache and display. |
| <b>Timestamp</b>                    | The date and time, relative to the Data Server, that data was last collected for the engine.   |

## Cluster Summary

Use this display to view configuration and utilization data for a single cluster. Select a cluster to view Rete statistics, cache metrics, Backing Store data, and trend data for the cluster.



**Title Bar:** Indicators and functionality might include the following:

Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.  
 Open an instance of this display in a new window.  
 Open the online help page for this display.

### Filter By:

The display might include these filtering options:

**Cluster** Choose a cluster for which you want to see metrics.  
**Last Update** The date and time the data was last updated in the display.

### Fields and Data

This display includes:

**Note:** Fields with an asterisk (\*) at the end of the field definition contain data that is provided by the TIBCO MBean interface. Refer to TIBCO documentation for more information regarding these fields.

|                           |  |  |
|---------------------------|--|--|
| <b>Expired</b>            | When checked ( <b>true</b> ), the Monitor has not received a response from the cluster for the amount of time specified by the <b>\$tbeRowExpirationTime</b> property (the default is <b>120</b> seconds). When the amount of time specified by the <b>\$tbeRowExpirationTimeForDelete</b> property elapses (the default is one day), the node data is deleted from the cache and display. |  |
| <b>Nodes</b>              | Lists the number of nodes on the cluster.  |  |
| <b>Events</b>             | <b>Received</b>  | The number of events received since the last data update.*   |
|                           | <b>Sent</b>  | The number of events sent since the last data update.*   |
|                           | <b>Received/sec</b>  | The rate of events received in the cluster.  |
| <b>Rete Stats</b>         | <b>Events Asserted (#/sec)</b>   | The rate of events asserted into the Rete network.   |
|                           | <b>Retracted (#/sec)</b>   | The rate of events retracted/deleted from the Rete network.  |
|                           | <b>Modified (#/sec)</b>  | The rate of events modified in the Rete network.   |
|                           | <b>Rules Fired (#/sec)</b>   | The rate of rules fired in the Rete network.   |
| <b>Cache</b>              | <b>Gets (#/sec)</b>  | The rate of "get" operations in the L1 cache.  |
|                           | <b>Gets (max time/op)</b>  | The longest time taken for a "get" operation for any node in the cluster since the cluster was started.*             |
|                           | <b>Puts (#/sec)</b>  | The rate of "put" operations in the cache.   |
|                           | <b>Puts (max time/op)</b>  | The longest time taken for a "put" operation for any node in the cluster since the cluster was started.*             |
|                           | <b>Removes (#/sec)</b>   | The rate of "removes" in the cache.  |
|                           | <b>Removes (max time/op)</b>   | The longest time taken for a "remove" operation for any node in the cluster since the cluster was started.*          |
|                           | <b>Total ops (#/sec)</b>   | The rate of operations (gets/puts/removes) in the cache.   |
|                           | <b>Total ops (max time/op)</b>   | The longest time taken for an operation (get/put/remove) for any node in the cluster since the cluster was started.* |
| <b>Backing Store (BS)</b> | <b>Loads (#/sec)</b>   | The rate of "load" operations into the backing store.  |
|                           | <b>Loads (max time/op)</b>   | The longest time taken for a "load" operation in the backing store for any node in the cluster.*                     |
|                           | <b>Stores (#/sec)</b>  | The rate of "store" operations in the backing store.   |
|                           | <b>Stores (max time/op)</b>  | The longest time taken for a "store" operation in the backing store for any node in the cluster.*                    |
|                           | <b>Erases (#/sec)</b>  | The rate of "erase" operations in the backing store.   |
|                           | <b>Erases (max time/op)</b>  | The longest time taken for an "erase" operation in the backing store for any node in the cluster.*                   |

**Total ops (#/sec)** The rate of operations (loads/stores/erases) in the backing store.

**Total ops (max time/op)** The longest time taken to perform an operation (erase/load/store) in the backing store for any node in the cluster.\*

### Cluster Trends

Shows the following metrics for the selected cluster.

**Events/sec** -- Traces the rate of events received in the cluster.

**Rules/ sec** -- Traces the rate of rules in the cluster.

**Cache Ops/ sec** -- Traces the rate of cache operations in the cluster.

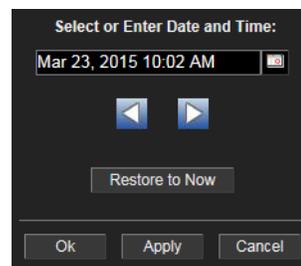
**BS ops/sec**-- Traces the rate of backstore operations in the cluster.

**BS max time/op**-- Traces the average maximum time per backstore operation.

**Log Scale** This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option.

**Base at Zero** When this option is checked, zero is set as the Y axis minimum for all graph traces.

**Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click the  button.



By default, the time range end point is the current time. To change the time range end point, click the  button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. **Note:** The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

## Cluster Nodes Table

Use this display to view configuration and utilization data for nodes in a cluster.

| Cluster Name | Node       | Alert Severity | Alert Count | Member Count | Auto Startup                        | Backing Store Enabled               | Cache Aside                         | Serialization Optimized  | Storage Enabled                     | Cache Ty   |
|--------------|------------|----------------|-------------|--------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|------------|
| ckfdcache    | new51Cache |                | 0           | 2            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | DISTRIBUTE |
| ckfdcache    | new51Inf   |                | 0           | 2            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | DISTRIBUTE |

**Title Bar:** Indicators and functionality might include the following:



Open the previous and upper display. Navigate to displays commonly accessed from this display.



The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.



The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.



Open the **Alert Views - RTView Alerts Table** display.



Open an instance of this display in a new window.



Open the online help page for this display.

### Filter By:

The display might include these filtering options:

**Cluster**

Choose a cluster for which you want to see metrics.

### Cluster Nodes Table

Each row in the table is a different node. Data in the row columns describe the node.

**Note:** Row columns in this table with an asterisk (\*) at the end of the column definition contain data that is provided by the TIBCO MBean interface. Refer to TIBCO documentation for more information regarding these columns.

**Node Count:**

The total number of clusters in the table.

**Cluster Name**

The name of the TIBCO BusinessEvents cluster.

**Node**

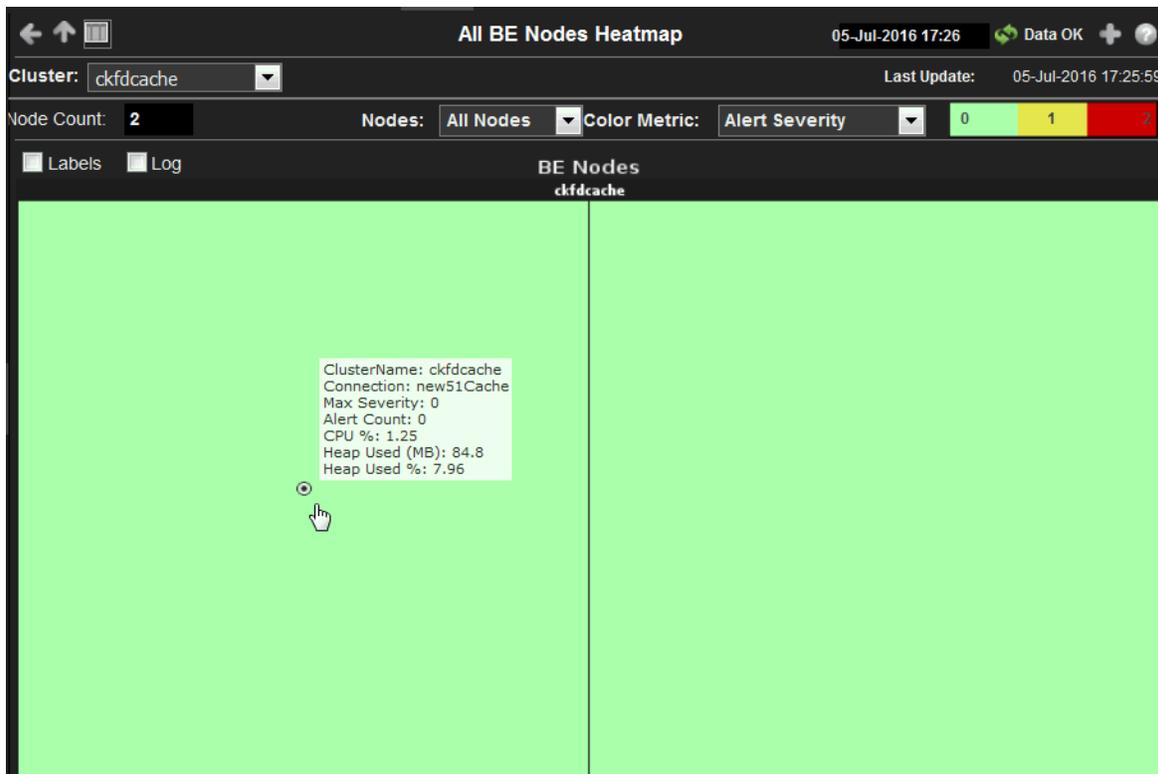
The name of the node.

|                                |  |
|--------------------------------|--|
| <b>Alert Severity</b>          | <p>The severity level of open alerts. Values range from <b>0</b> to <b>2</b>, where <b>2</b> is the greatest Severity:</p> <ul style="list-style-type: none"> <li><span style="color: red;">●</span> One or more alerts exceeded their ALARM LEVEL threshold.</li> <li><span style="color: yellow;">●</span> One or more alerts exceeded their WARNING LEVEL threshold.</li> <li><span style="color: green;">●</span> No alert thresholds have been exceeded.</li> </ul> |
| <b>Alert Count</b>             | The total number of critical and warning alerts.   |
| <b>Member Count</b>            | The number of neighbors seen by a given node. This value is obtained directly from each node in the cluster. This value should always match the total "Member Count" in the corresponding row of the <b>Clusters</b> table. If they do not match, the node did not join the cluster properly and, hence, the cluster should be restarted.  |
| <b>Auto Startup</b>            | When checked ( <b>true</b> ), this feature is enabled.   |
| <b>Backing Store Enabled</b>   | When checked ( <b>true</b> ), this feature is enabled.*  |
| <b>Cache Aside</b>             | When checked ( <b>true</b> ), this feature is enabled.*  |
| <b>Serialization Optimized</b> | When checked ( <b>true</b> ), this feature is enabled.*  |
| <b>Storage Enabled</b>         | When checked ( <b>true</b> ), this feature is enabled.*  |
| <b>Cache Type</b>              | The type of TIBCO BusinessEvents cache.*   |
| <b>BE Version</b>              | The approximate TIBCO BusinessEvents version, as configured by the <b>connection</b> property. The exact version information is not available via JMX.   |
| <b>Cache Node?</b>             | When checked ( <b>true</b> ), the node is a storage node. Otherwise, it is an inference node. This column is added by the Monitor rather than read from the JMX interface.   |
| <b>Node ID</b>                 | A unique string that identifies the node.  |
| <b>Host</b>                    | The IP address of the host to which the node is connected.   |
| <b>Port</b>                    | The port number of the host to which the node is connected.  |
| <b>URL</b>                     | Uniform Resource Locator, used as an alternative way to specify a JMX connection. When set, the <b>Host</b> and <b>Port</b> columns are blank (and vice versa).  |
| <b>% CPU Used</b>              | The amount of CPU, in percent, used by the node. This value is derived from the java.lang.OperatingSystem MBean.   |
| <b>Heap-Max</b>                | The maximum amount of memory, in megabytes, that can be used by the JVM for heap space. This value is provided by standard Java MBeans.  |
| <b>Heap-Used</b>               | The current amount of memory, in megabytes, in use by the JVM for heap space. This value is provided by standard Java MBeans.  |
| <b>NonHeap Max</b>             | The maximum amount of memory, in megabytes, that can be used by the process (not counting heap usage). This value is provided by standard Java MBeans.   |
| <b>NonHeap Used</b>            | The current amount of memory, in megabytes, in use by the process (not counting heap usage). This value is provided by standard Java MBeans.   |
| <b>Host OS</b>                 | The operating system on the host where the node is running.  |
| <b>Connection String</b>       | The connection string for the node, which can be the IP address and port of the host that the node is connected to, or the Uniform Resource Locator (which is used as an alternative way to specify a JMX connection).   |
| <b>Connected</b>               | When checked ( <b>true</b> ), the node is currently connected to the Data Server via JMX.  |

|                  |   |
|------------------|---|
| <b>Expired</b>   | When checked ( <b>true</b> ), the Monitor has not received a response from the node for the amount of time specified by the <b>\$tbeRowExpirationTime</b> property (the default is <b>120</b> seconds). When the amount of time specified by the <b>\$tbeRowExpirationTimeForDelete</b> property elapses (the default is one day), the node data is deleted from the cache and display. |
| <b>Timestamp</b> | The date and time, relative to the Data Server, that data was last collected for the node.  |

## Cluster Nodes Heatmap

This display allows you to view utilization data for all nodes in a cluster in a heatmap format. You can view heatmap data for **All Nodes**, **Inference** nodes, or **Cache** nodes by selecting the desired option from the **Nodes** drop down list. When you click on the heatmap for one of the nodes, the detailed data for that particular node displays in the “[Inference Node Summary](#)” display if you selected an inference node, or in the “[Storage Node Summary](#)” display if you selected a cache node.



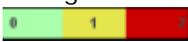
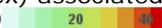
**Title Bar:** Indicators and functionality might include the following:

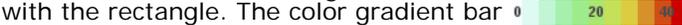
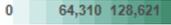

 Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

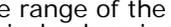
 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.  
 Open the **Alert Views - RTView Alerts Table** display.  
 Open an instance of this display in a new window.  
 Open the online help page for this display.

**Filter By:**

The display might include these filtering options:

|                     |   |
|---------------------|---|
| <b>Cluster</b>      | Choose a cluster for which you want to see metrics.   |
| <b>Last Update</b>  | The date and time that the display was last updated.  |
| <b>Node Count</b>   | The total number of nodes in the display.   |
| <b>Nodes</b>        | Select the type of nodes for which you want to view metrics. You can select from <b>All Nodes</b> , <b>Inference</b> , and <b>Cache</b> . Your selection in this drop down determines the available options in the <b>Color Metric</b> drop down.   |
| <b>Labels</b>       | Select this option to display labels in the heatmap for each of the nodes.  |
| <b>Log</b>          | Select to enable a logarithmic scale. Use Log Scale to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. Log Scale makes data on both scales visible by applying logarithmic values rather than actual values to the data.  |
| <b>Color Metric</b> | <p>Select the metric driving the heatmap display. The default is Alert Severity. Each <b>Metric</b> has a color gradient bar that maps values to colors. The heatmap organizes the nodes by cluster, where each rectangle represents a node. Mouse-over any rectangle to display the current values of the metrics for the cluster. Click on a rectangle to drill-down to the associated <a href="#">"Storage Node Summary"</a> display for a detailed view of metrics for that particular server. The available options in this drop down change depending on your selection in the <b>Nodes</b> drop down.</p> <p><b>Nodes: All Nodes</b> The following options are available when <b>All Nodes</b> is selected from the <b>Nodes</b> drop down.</p> <p><b>Alert Severity</b> The maximum alert level in the item (index) associated with the rectangle. Values range from <b>0</b> to <b>2</b>, as indicated in the color gradient bar , where <b>2</b> is the greatest <b>Alert Severity</b>.</p> <p><b>2</b> -- Metrics that have exceeded their specified <b>ALARMLEVEL</b> threshold and have an Alert Severity value of <b>2</b> are shown in red. For a given rectangle, this indicates that one or more metrics have exceeded their alarm threshold.</p> <p><b>1</b> -- Metrics that have exceeded their specified <b>WARNINGLEVEL</b> threshold and have an Alert Severity value of <b>1</b> are shown in yellow. For a given rectangle, this indicates that one or more metrics have exceeded their warning threshold.</p> <p><b>0</b> -- Metrics that have not exceeded either specified threshold have an Alert Severity value of <b>0</b> and are shown in green. For a given rectangle, this indicates that no metrics have exceeded a specified alert threshold.</p> <p><b>Alert Count</b> The total number of alarm and warning alerts in a given item (index) associated with the rectangle.</p> <p>The color gradient bar  shows the range of the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the middle value of the range.</p> <p><b>JVM % CPU Used</b> The total percentage of JVM CPU used in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from <b>0</b> to the alert threshold of <b>JvmCpuPercentHigh</b>, which is <b>75</b>. The middle value in the gradient bar indicates the middle value of the range (the default is <b>38</b>).</p> |

|                                  |   |
|----------------------------------|---|
| <b>JVM % Memory Used</b>         | The total percentage of JVM Memory Used in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from <b>0</b> to the alert threshold of <b>JvmMemoryUsedHigh</b> , which is <b>75</b> . The middle value in the gradient bar indicates the middle value of the range (the default is <b>38</b> ).                     |
| <b>Nodes: Inference</b>          | In addition to <b>Alert Severity</b> , <b>Alert Count</b> , <b>JVM % CPU Used</b> , and <b>JVM % Memory Used</b> , the following options are also available when <b>Inference</b> is selected from the <b>Nodes</b> drop down.  |
| <b>Received Events Rate</b>      | The rate of events received in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from <b>0</b> to the alert threshold of <b>TbeNodeChanRecvdRateHigh</b> , which is <b>95</b> . The middle value in the gradient bar indicates the middle value of the range (the default is <b>48</b> ).                           |
| <b>Rules Fired Rate</b>          | The rate of rules fired in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from <b>0</b> to the alert threshold of <b>TbeNodeRuleFiringRateHigh</b> , which is <b>95</b> . The middle value in the gradient bar indicates the middle value of the range (the default is <b>48</b> ).                             |
| <b>Total Rules Fired</b>         | The total number of rules fired in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from <b>0</b> to the maximum count of rules fired in the heatmap. The middle value in the gradient bar indicates the middle value of the range.  |
| <b>Nodes: Cache</b>              | In addition to <b>Alert Severity</b> , <b>Alert Count</b> , <b>JVM % CPU Used</b> , and <b>JVM % Memory Used</b> , the following options are also available when <b>Cache</b> is selected from the <b>Nodes</b> drop down.  |
| <b>Backing Store Reads/sec</b>   | The rate of reads from the backing store in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from <b>0</b> to the alert threshold of <b>TbeNodeBackingStoreLoadRateHi</b> , which is <b>95</b> . The middle value in the gradient bar indicates the middle value of the range (the default is <b>48</b> ).      |
| <b>Backing Store Writes/sec</b>  | The rate of writes to the backing store in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from <b>0</b> to the alert threshold of <b>TbeNodeBackingStoreStoreRateHi</b> , which is <b>95</b> . The middle value in the gradient bar indicates the middle value of the range (the default is <b>48</b> ).      |
| <b>Backing Store Deletes/sec</b> | The rate of deletes from the backing store in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from <b>0</b> to the alert threshold of <b>TbeNodeBackingStoreEraseRateHigh</b> , which is <b>95</b> . The middle value in the gradient bar indicates the middle value of the range (the default is <b>48</b> ). |

|                                |  |
|--------------------------------|--|
| <b>Concept Gets/<br/>sec</b>   | The rate of “gets” in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from <b>0</b> to the alert threshold of <b>TbeNodeConceptsGetRateHigh</b> , which is <b>95</b> . The middle value in the gradient bar indicates the middle value of the range (the default is <b>48</b> ).                               |
| <b>Concept Puts/<br/>sec</b>   | The rate of “puts” in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from <b>0</b> to the alert threshold of <b>TbeNodeConceptsPutRateHigh</b> , which is <b>95</b> . The middle value in the gradient bar indicates the middle value of the range (the default is <b>48</b> ).                               |
| <b>Concept<br/>Removes/sec</b> | The rater of “removes” in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from <b>0</b> to the alert threshold of <b>TbeNodeConceptsRemoveRateHigh</b> , which is <b>95</b> . The middle value in the gradient bar indicates the middle value of the range (the default is <b>48</b> ).                        |
| <b>Object Table<br/>Size</b>   | The number of objects maintained in the cache in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from <b>0</b> to the alert threshold of <b>TbeNodeObjectTableSize</b> , which is <b>10,000</b> . The middle value in the gradient bar indicates the middle value of the range (the default is <b>5,000</b> ). |

## Inference Node Summary

Use this display to view configuration and utilization data for a single inference node. View a list of all agents on the node, a Run-To-Completion Transaction Manager Report, and trend graphs tracing the rule execution rate for agents on the node. The rule execution rate is relative to the overall CPU and heap utilization for the engine's JVM.

**NOTE:** An inference node (also known as an engine or processing unit) is the container where one or more inference agents run. Generally, the agents in a given node implement different rule sets, and distributing nodes on different hosts provides fault tolerance and load balancing for the cluster. For details, refer to TIBCO documentation.

Choose a single cluster or **All Clusters** and a node from the drop-down menus.

Change the trend graph **Time Range** to “zoom in” on the graph and see more detail or “zoom out” from the graph to see larger trends over time. To change the time range, click Open Time Range , choose the date and time, and then click **OK**.



**Title Bar:** Indicators and functionality might include the following:

- Open the previous and upper display.
- Table** Navigate to displays commonly accessed from this display.
- 19-Feb-2014 16:50** The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

- Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

**Filter By:**

The display might include these filtering options:

- Cluster** Choose a cluster for which you want to view metrics.
- Node** Choose a node for which you want to view metrics.

**Fields and Data:**

- Last Update** The date and time the data in the display was last updated.
- Cluster Name:** The name of the TIBCO BusinessEvents cluster with which the node is a member.
- BE Version:** The approximate TIBCO BusinessEvents version, as configured by the **connection** property. The exact version information is not available via JMX.
- Node ID:** A unique string that identifies the node.

|                                |  |
|--------------------------------|--|
| <b>Connection:</b>             | The JMX connection method specified in the <b>connection</b> property for a given engine. It is displayed as either a combination of the host and port fields ( <b>&lt;host&gt;:&lt;port&gt;</b> ), or the URL. This convention saves space on the display by avoiding empty fields. This information is provided as a convenience for those rare occasions where a user might wish to view the data directly in jconsole. |
| <b>% CPU:</b>                  | The percent of CPU used by the engine process. This value is provided by standard Java MBeans.   |
| <b>Heap used:</b>              | The current amount of memory, in megabytes, in use by the JVM for heap space. This value is provided by standard Java MBeans.  |
| <b>Heap max</b>                | The maximum amount of memory, in megabytes, that can be used by the JVM for heap space. This value is provided by standard Java MBeans.  |
| <b>Expired</b>                 | When checked ( <b>true</b> ), the Monitor has not received a response from the node for the amount of time specified by the <b>\$tbeRowExpirationTime</b> property (the default is <b>120</b> seconds). When the amount of time specified by the <b>\$tbeRowExpirationTimeForDelete</b> property elapses (the default is one day), the node data is deleted from the cache and display.                                    |
| <b>Auto Startup</b>            | When checked ( <b>true</b> ), this feature is enabled.   |
| <b>Cache Aside</b>             | When checked ( <b>true</b> ), this feature is enabled.   |
| <b>Backing Store Enabled</b>   | When checked ( <b>true</b> ), this feature is enabled.   |
| <b>Storage Enabled</b>         | When checked ( <b>true</b> ), this feature is enabled.   |
| <b>Serialization Optimized</b> | When checked ( <b>true</b> ), this feature is enabled.   |

### RTC TXN Manager Report

**Note:** Fields in this display with an asterisk (\*) at the end of the field definition contain data that is provided by the TIBCO MBean interface. Refer to TIBCO documentation for more information regarding these fields.

|   |   |
|---|---|
| <b>Expired</b>                            | When checked ( <b>true</b> ), the Monitor has not received a response from the node for the amount of time specified by the <b>\$tbeRowExpirationTime</b> property (the default is <b>120</b> seconds). When the amount of time specified by the <b>\$tbeRowExpirationTimeForDelete</b> property elapses (the default is one day), the node data is deleted from the cache and display. |
| <b>Avg Action Txn Millisec</b>            | The average amount of time taken for an action transaction, in milliseconds.*   |
| <b>Avg Cache Queue Wait Time Millisec</b> | The average cache queue wait time, in milliseconds.*  |
| <b>Avg Cache Txn Millisec</b>             | The average amount of time taken for a cache transaction, in milliseconds.*   |
| <b>Avg DB Ops Batch Size</b>              | The average database operation batch size.*   |
| <b>Avg DB Queue Wait Time Millisec</b>    | The average database queue wait time, in milliseconds.*   |
| <b>Avg DB Txn Millisec</b>                | The average amount of time taken for a database transaction, in milliseconds.*  |
| <b>Avg Successful Txn Time Millisec</b>   | The average amount of time taken for a successful transaction, in milliseconds.*  |
| <b>Last DB Batch Size</b>                 | The size of the last database batch.*   |

|                                 |  |
|---------------------------------|--|
| <b>Pending Actions</b>          | The total number of pending actions.*                                |
| <b>Pending Cache Writes</b>     | The total number of pending cache writes.*                           |
| <b>Pending DB Writes</b>        | The total number of pending database writes.*                        |
| <b>Pending Events to Ack</b>    | The total number of pending events that need to be acknowledged.*    |
| <b>Pending Locks to Release</b> | The total number of pending locks that need to be released.*         |
| <b>Total DB Txns Completed</b>  | The total number of database transactions that have been completed.* |
| <b>Total Errors</b>             | The total number of errors.*   |
| <b>Total Successful Txns</b>    | The total number of successful transactions.*                        |

### Agents for this Node Table

Each row in the table is an agent associated with the node, with data in the row columns describing the agent.

**Note:** Row columns in this table with an asterisk (\*) at the end of the column definition contain data that is provided by the TIBCO MBean interface. Refer to TIBCO documentation for more information regarding these columns.

|                              |  |
|------------------------------|--|
| <b>Agent Count:</b>          | The number of agents currently in the table.                     |
| <b>Agent ID</b>              | The agent's ID.  |
| <b>Agent Class</b>           | The agent's class. See TIBCO documentation for more information. |
| <b>Type</b>                  | The type of agent (Inference, Cache, Query, or Dashboard).*      |
| <b>Current State</b>         | The current state of the agent.*                                 |
| <b>Started</b>               | When checked, denotes that the agent is started.*                |
| <b>Suspended</b>             | When checked, denotes that the agent is suspended.*              |
| <b>Concurrent</b>            | When checked, denotes that it is a concurrent agent.*            |
| <b>Queue Capacity</b>        | The queue capacity for the agent.*                               |
| <b>Queue Size</b>            | The queue size for the agent.*                                   |
| <b>Thread Count</b>          | The total number of threads for the agent.*                      |
| <b>Total # Rules Fired</b>   | The total number of rules fired for the agent.*                  |
| <b>Rules Fired</b>           | The number of rules fired.*                                      |
| <b>Rules/sec</b>             | The rate of rules fired for the agent.                           |
| <b>Avg Receive Time</b>      | See TIBCO documentation for more information.*                   |
| <b>Avg Txn Commit Time</b>   | The average amount of time taken to commit a transaction.*       |
| <b>Cache Queue Remaining</b> | The total amount of remaining space on the cache queue.*         |

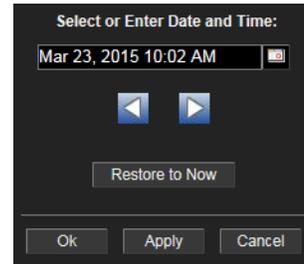
|                               |   |
|-------------------------------|---|
| <b>DB Ops Queue Remaining</b> | The total amount of remaining space on the DB Operations queue.*  |
| <b>Hit Ratio</b>              | See TIBCO documentation for more information.*  |
| <b>Job Rate</b>               | See TIBCO documentation for more information.*  |
| <b>L1 Cache Max Size</b>      | The maximum size of the L1 cache.*  |
| <b>L1 Cache Size</b>          | The current size of the L1 cache.*  |
| <b>Max Active</b>             | See TIBCO documentation for more information.*  |
| <b># Event Threads</b>        | The total number of currently active event threads.*  |
| <b># Jobs</b>                 | The total number of currently active jobs.*   |
| <b>Priority</b>               | See TIBCO documentation for more information.*  |
| <b>Read Only</b>              | See TIBCO documentation for more information.*  |
| <b>Txn Commit Count</b>       | The number of transactions committed by the agent.*   |
| <b>Txn Receive Count</b>      | The number of transactions received by the agent.*  |
| <b>Expired</b>                | When checked ( <b>true</b> ), the Monitor has not received a response from the node for the amount of time specified by the <b>\$tbeRowExpirationTime</b> property (the default is <b>120</b> seconds). When the amount of time specified by the <b>\$tbeRowExpirationTimeForDelete</b> property elapses (the default is one day), the node data is deleted from the cache and display.   |
| <b>Timestamp</b>              | The date and time, relative to the Data Server, that data was last collected for the agent.   |
| <b>Trend Graph</b>            | Shows metrics for the selected node. <ul style="list-style-type: none"> <li><b>% CPU</b> -- Traces the amount of CPU used, in percent, by the node.</li> <li><b>Rules/sec</b> -- Traces the number of rules processed, per second, by the agent.</li> <li><b>Heap-max</b> -- Traces the maximum amount of heap space, in bytes, used by the node since the agent was started.</li> <li><b>Heap-used</b> -- Traces the current amount of heap space, in bytes, used by the agent.</li> <li><b>Rules/sec for Agent</b> Choose an agent from the drop-down menu.</li> <li><b>Log Scale</b> This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option.</li> </ul> |

**Base at Zero**

When this option is checked, zero is set as the Y axis minimum for all graph traces.

**Time Range**

Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click the  button.



By default, the time range end point is the current time. To change the time range end point, click the  button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows  to move forward or backward one time period. **Note:** The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

## Storage Node Summary

Use this display to view configuration details for a single cache node, the database connection pool status, as well as a list of all caches that are backed by the backing store (database). Also view trend graphs that trace utilization metrics such as CPU and heap memory usage.

**NOTE:** A storage node (also known as a cache node) provides fast access to events and concepts required during each RTC by the inference engines. Storage nodes also serve as buffers for reads and writes between the cluster and the backing store. For details, refer to TIBCO documentation.

Choose a single cluster or **All Clusters** and a node from the drop-down menus.

Change the trend graph **Time Range** to “zoom in” on the graph and see more detail or “zoom out” from the graph to see larger trends over time. To change the time range click Open Time Range , choose the date and time, then click **OK**.



**Title Bar:** Indicators and functionality might include the following:

  Open the previous and upper display.

 Navigate to displays commonly accessed from this display.

 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

### Filter By:

The display might include these filtering options:

**Cluster:** Choose a cluster to see metrics for.

**Node:** Choose a node to see metrics for.

### Fields and Data

**Last Update** The date and time the data was last updated in the display.

**Cluster Name:** The name of the TIBCO BusinessEvents cluster with which the node is a member.

**BE Version:** The approximate TIBCO BusinessEvents version, as configured by the **connection** property. The exact version information is not available via JMX.

**Node ID:** A unique string that identifies the node.

|                                |  |
|--------------------------------|--|
| <b>Connection:</b>             | The JMX connection method specified in the <b>connection</b> property for a given engine. It is displayed as either a combination of the host and port fields ( <b>&lt;host&gt;:&lt;port&gt;</b> ), or the URL. This convention saves space on the display by avoiding empty fields. This information is provided as a convenience for those rare occasions where a user might wish to view the data directly in jconsole. |
| <b>% CPU:</b>                  | The amount of CPU, in percent, used by the node. This value is provided by standard Java MBeans.   |
| <b>Heap used:</b>              | The current amount of memory, in megabytes, in use by the JVM for heap space. This value is provided by standard Java MBeans.  |
| <b>Heap Max:</b>               | The maximum amount of memory, in megabytes, that can be used by the JVM for heap space. This value is provided by standard Java MBeans.  |
| <b>Expired</b>                 | When checked ( <b>true</b> ), the Monitor has not received a response from the node for the amount of time specified by the <b>\$tbeRowExpirationTime</b> property (the default is <b>120</b> seconds). When the amount of time specified by the <b>\$tbeRowExpirationTimeForDelete</b> property elapses (the default is one day), the node data is deleted from the cache and display.                                    |
| <b>Auto Startup</b>            | When checked ( <b>true</b> ), this feature is enabled.   |
| <b>Cache Aside</b>             | When checked ( <b>true</b> ), this feature is enabled.   |
| <b>Backing Store Enabled</b>   | When checked ( <b>true</b> ), this feature is enabled.   |
| <b>Storage Enabled</b>         | When checked ( <b>true</b> ), this feature is enabled.   |
| <b>Serialization Optimized</b> | When checked ( <b>true</b> ), this feature is enabled.   |

### DB Connection Pool

Values describe status of the pool of database connections used by the cache agent to move data between the local caches and the database.

**Note:** Fields in this region with an asterisk (\*) at the end of the field definition contain data that is provided by the TIBCO MBean interface. Refer to TIBCO documentation for more information regarding these fields.

|                                |  |
|--------------------------------|--|
| <b>Pool State</b>              | The state of the database connection pool.*              |
| <b>Auto Failover</b>           | The number of times auto failover has occurred.*         |
| <b>Failover Interval</b>       | The number of seconds taken for failover to take place.* |
| <b>Cache Size</b>              | The cache size.*   |
| <b># Connections Available</b> | The total number of connections available.*              |
| <b># Connections in Use</b>    | The total number of connections currently in use.*       |

### Backing StoreTable

A cache node manages access to current events and concepts, buffering as necessary between local memory and a database. The Backing Store table provides a list of caches and the database select/insert/delete statistics for each cache.

**Note:** Row columns in this table with an asterisk (\*) at the end of the column definition contain data that is provided by the TIBCO MBean interface. Refer to TIBCO documentation for more information regarding these columns.

|                        |  |
|------------------------|--|
| <b>Cache Name</b>      | The name of the cache.*  |
| <b>Active</b>          | When checked, denotes that the cache is active.*   |
| <b>Delete Avg Time</b> | The average amount of time taken for a "delete" ("erase") operation in the Backing Store for the cache.* |

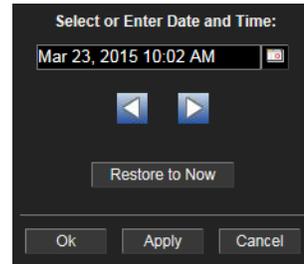
|                            |  |
|----------------------------|--|
| <b>Load Avg Time</b>       | The average amount of time taken for a “load” operation in the Backing Store for the cache.*   |
| <b>Store Avg Time</b>      | The average amount of time taken for a “store” operation in the Backing Store for the cache.*  |
| <b>Delete Total</b>        | The total number of “delete” operations in the Backing Store for the cache.*   |
| <b>Load Total</b>          | The total number of “load” operations in the Backing Store for the cache.*   |
| <b>Store Total</b>         | The total number of “store” operations in the Backing Store for the cache.*  |
| <b>Deletes</b>             | The number of “delete” operations during the last polling interval.*   |
| <b>Loads</b>               | The number of “load” operations during the last polling interval.*   |
| <b>Stores</b>              | The number of “store” operations during the last polling interval.*  |
| <b>Deletes/sec</b>         | The rate of “delete” operations in the node.   |
| <b>Loads/sec</b>           | The rate of “load” operations in the node.   |
| <b>Stores/sec</b>          | The rate of “store” operations in the node.  |
| <b>Object Table Trends</b> | Shows metrics for the selected cluster/node combination: <ul style="list-style-type: none"> <li><b>% CPU</b> -- Traces the amount of CPU used, in percent, by the engine.</li> <li><b>Table Size</b> -- Traces the number of unique objects cached in the local index table.</li> <li><b>Ext ID Tbl Size</b> -- Traces the number of entries in the table of external IDs used as indexes by the backing store.</li> <li><b>Max Heap (MB)</b>-- Traces the maximum amount of memory, in megabytes, that can be used by the JVM for heap space.</li> <li><b>Heap (MB)</b> -- Traces the current heap space, in megabytes, in use by the JVM.</li> </ul> |
| <b>Log Scale</b>           | This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option.   |

**Base at Zero**

When this option is checked, zero is set as the Y axis minimum for all graph traces.

**Time Range**

Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click the  button.



By default, the time range end point is the current time. To change the time range end point, click the  button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows  to move forward or backward one time period. **Note:** The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

## Events / Concepts View

These displays present performance data for your BusinessEvents system. Displays in this View are:

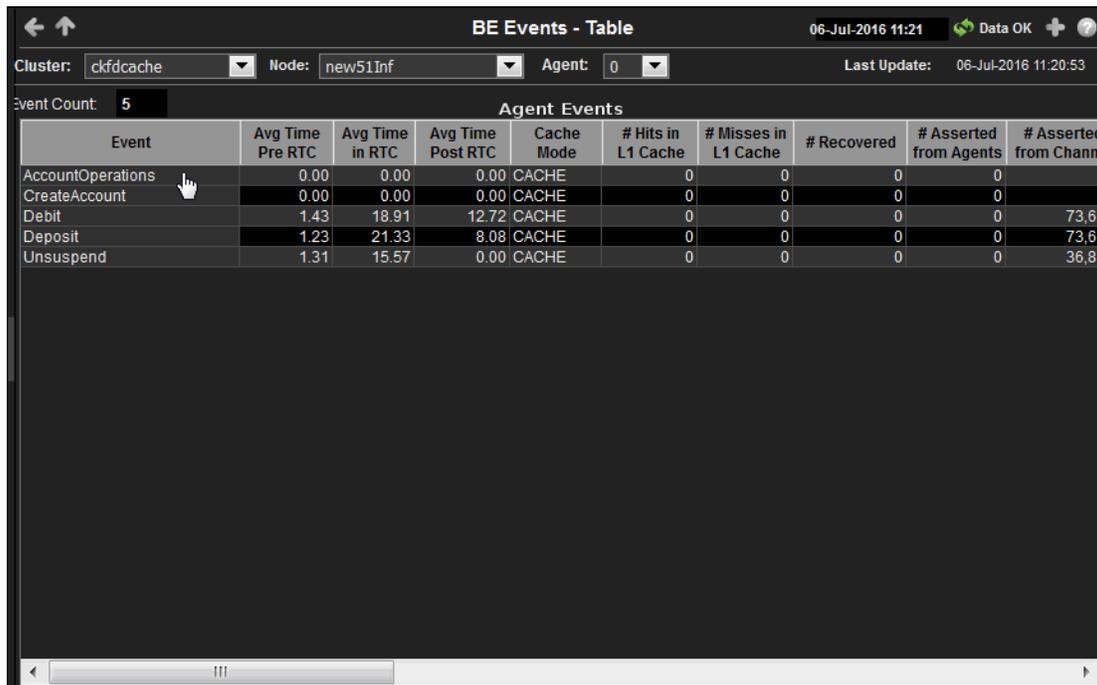
- "Agent Events"
- "Agent Event Summary"
- "Event Cache Hits"
- "Event Hit Summary"
- "Concept Cache Hits"
- "Concept Hit Summary"
- "Channels"
- "All Inference Agents"
- "All RTC Reports"

### Agent Events

View run-time statistics for a selected group of agents. With TIBCO BusinessEvents, events are cached when they are out of scope, and deleted or persisted to the backing store when they are no longer useful. Clicking on a row in the table displays access patterns over time for the event in the "Agent Event Summary" display.

**NOTE:** Events cause rules to execute in the BusinessEvents Rete network. Events can be created by external phenomena, such as the arrival of a JMS message, or internally when rules are processed. When an event enters the Rete network, it causes a run-to-completion cycle which continues until no further rules can be processed. Each named event that can be handled by a BusinessEvents application is specified at build time in BusinessEvents studio. For details, refer to TIBCO documentation.

Sort  the table columns when all the rows cannot fit on the screen. For example, sort  the **Expired** column so that all expired nodes are listed at the top.



| Event             | Avg Time Pre RTC | Avg Time in RTC | Avg Time Post RTC | Cache Mode | # Hits in L1 Cache | # Misses in L1 Cache | # Recovered | # Asserted from Agents | # Asserted from Chann |
|-------------------|------------------|-----------------|-------------------|------------|--------------------|----------------------|-------------|------------------------|-----------------------|
| AccountOperations | 0.00             | 0.00            | 0.00              | CACHE      | 0                  | 0                    | 0           | 0                      |                       |
| CreateAccount     | 0.00             | 0.00            | 0.00              | CACHE      | 0                  | 0                    | 0           | 0                      |                       |
| Debit             | 1.43             | 18.91           | 12.72             | CACHE      | 0                  | 0                    | 0           | 0                      | 73.6                  |
| Deposit           | 1.23             | 21.33           | 8.08              | CACHE      | 0                  | 0                    | 0           | 0                      | 73.6                  |
| Unsuspend         | 1.31             | 15.57           | 0.00              | CACHE      | 0                  | 0                    | 0           | 0                      | 36.8                  |

**Title Bar:** Indicators and functionality might include the following:

  Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

### Filter By:

The display might include these filtering options:

**Cluster:** Select the cluster containing the node and agent for which you want to view metrics.

**Node:** Select a node containing the agent for which you want to view metrics.

**Agent** Select the agent for which you want to view metrics.

### Fields and Data:

**Last Update:** The date and time the data on the display was last updated.

### Agent Events Table:

Each row in the table is a different event. Data in the row columns describe the event. The following fields are added by Monitor collection. The assertions/sec, modified/sec, and retracted/sec metrics are calculated from the corresponding counters as the delta between two successive samples divided by the polling interval.

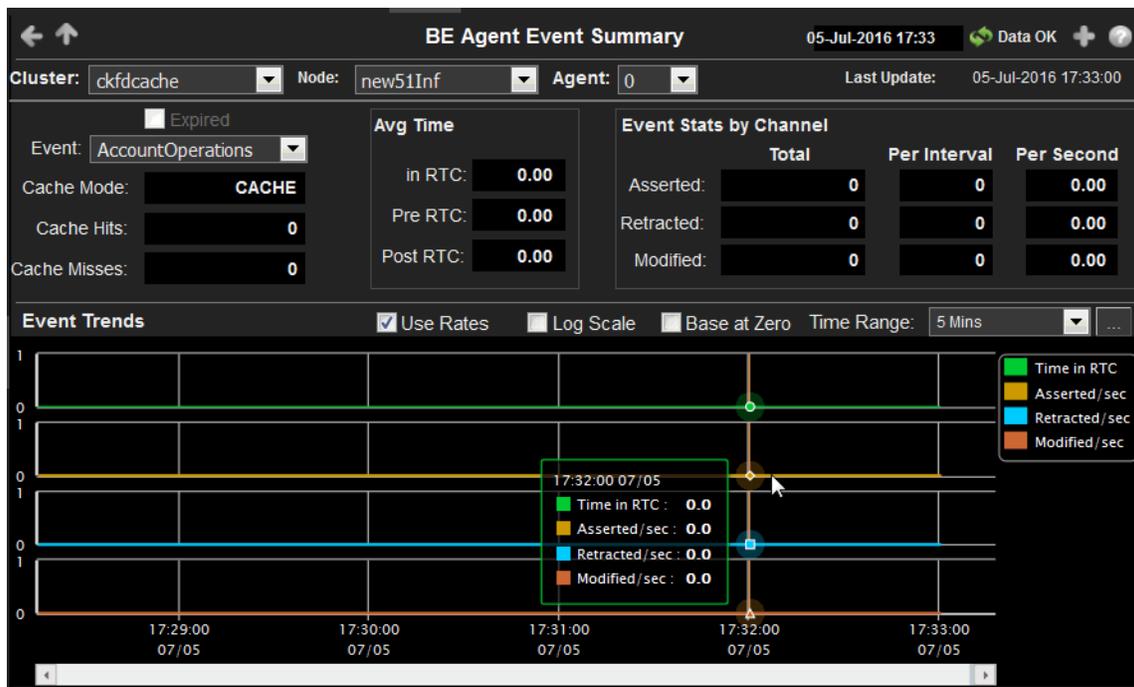
**Note:** Row columns in this table with an asterisk (\*) at the end of the column definition contain data that is provided by the TIBCO MBean interface. Refer to TIBCO documentation for more information regarding these columns.

|                                 |  |
|---------------------------------|--|
| <b>Event Count:</b>             | The total number of events in the table.   |
| <b>Event</b>                    | The name of the event.   |
| <b>Avg Time Pre RTC</b>         | The average amount of time taken for the event to begin its run to completion cycle.*                                  |
| <b>Avg Time in RTC</b>          | The average amount of time taken for the event to complete (once it has started) its run to completion cycle.*         |
| <b>Avg Time Post RTC</b>        | The average amount of time taken by the event after its run to completion cycle has ended.*                            |
| <b>Cache Mode</b>               | Lists the mode used by the event, which can be either <b>CACHE</b> (only) or <b>MEMORY</b> (only).*                    |
| <b># Hits in L1 Cache</b>       | The number of times data has been searched for in the L1 cache since the last data update.*                            |
| <b># Misses n L1 Cache</b>      | The number of times data has been searched for in the L1 cache, but was not found, since the last data update.*        |
| <b># Recovered</b>              | The number of times data is not found in the L1 cache, but is found in a different cache, since the last data update.* |
| <b># Asserted from Agents</b>   | The number of times the event was asserted by an agent into the Rete network.*   |
| <b># Asserted from Channel</b>  | The number of times the event was asserted into the Rete network via the channel.*                                     |
| <b># Modified from Agents</b>   | The number of times the event was modified by an agent in the Rete network.*   |
| <b># Modified from Channel</b>  | The number of times the event was modified in the Rete network via the channel.*                                       |
| <b># Retracted from Agents</b>  | The number of times the event was retracted/deleted by an agent from the Rete network.*                                |
| <b># Retracted from Channel</b> | The number of times the event was retracted/deleted from the Rete network via the channel.*                            |
| <b>L1 Cache Hits/sec</b>        | The rate of L1 cache hits.   |
| <b>L1 Cache Misses/sec</b>      | The rate of L1 cache misses.   |
| <b># Recovered /sec</b>         | The rate of recovered data.  |
| <b>Assertions/sec (Agent)</b>   | The rate of event assertions into the Rete network by the agent.   |
| <b>Assertions/sec (Channel)</b> | The rate of event assertions into the Rete network via the channel.  |

- Modifies/ sec (Agent)**      The rate of event modifications in the Rete network by the agent.
- Modifies/ sec (Channel)**      The rate of event modifications in the Rete network via the channel.
- Retractions/ sec (Agent)**      The rate of event retractions/deletions from the Rete network by the agent.
- Retractions/ sec (Channel)**      The rate of event retractions/deletions from the Rete network via the channel.
- Expired**      When checked (**true**), the Monitor has not received a response from the node for the amount of time specified by the **\$tbeRowExpirationTime** property (the default is **120** seconds). When the amount of time specified by the **\$tbeRowExpirationTimeForDelete** property elapses (the default is one day), the node data is deleted from the cache and display.
- Timestamp**      The date and time, relative to the Data Server, that data was last collected for the engine.

### Agent Event Summary

View detailed performance metrics for an agent’s event. You can view cache, RTC, event statistics by channel, and event trend data over a specified period of time.



**Title Bar:** Indicators and functionality might include the following:

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 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

### Filter By:

The display might include these filtering options:

**Note:** Fields in this display with an asterisk (\*) at the end of the column definition contain data that is provided by the TIBCO MBean interface. Refer to TIBCO documentation for more information regarding these fields.

|                               |   |
|-------------------------------|---|
| <b>Cluster:</b>               | Select the cluster for which you want to see metrics.   |
| <b>Node:</b>                  | Select the node for which you want to see metrics.  |
| <b>Agent</b>                  | Select the agent for which you want to see metrics.   |
| <b>Last Update</b>            | The date and time in which the data was last updated.   |
| <b>Expired</b>                | When checked ( <b>true</b> ), the Monitor has not received a response from the event for the amount of time specified by the <b>\$tbeRowExpirationTime</b> property (the default is <b>120</b> seconds). When the amount of time specified by the <b>\$tbeRowExpirationTimeForDelete</b> property elapses (the default is one day), the event data is deleted from the cache and display.   |
| <b>Event</b>                  | The name of the event.  |
| <b>Cache Mode</b>             | Lists the mode used by the event, which can be either <b>CACHE</b> (only) or <b>MEMORY</b> (only).*   |
| <b>Cache Hits</b>             | The number of times data has been searched for in the L1 cache since the last data update.*   |
| <b>Cache Misses</b>           | The number of times data has been searched for in the L1 cache, but was not found, since the last data update.*   |
| <b>Avg Time</b>               | <p><b>in RTC</b> The average amount of time taken for the event to complete (once it has started) its run to completion cycle.*</p> <p><b>Pre RTC</b> The average amount of time taken for the event to begin its run to completion cycle.*</p> <p><b>Post RTC</b> The average amount of time taken by the event after its run to completion cycle has ended.*</p>  |
| <b>Event Stats by Channel</b> | <p><b>Asserted Total</b> The total number of times the event was asserted into the Rete network via the channel.*</p> <p><b>Asserted Per Interval</b> The number of times the event was asserted into the Rete network via the channel since the last data update.*</p> <p><b>Asserted Per Second</b> The rate of event assertions into the Rete network via the channel.</p> <p><b>Retracted Total</b> The total number of times the event was retracted/deleted from the Rete network via the channel.*</p> |

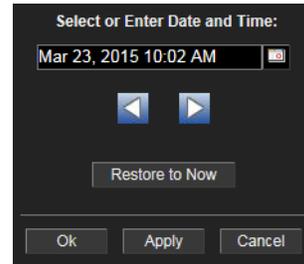
|                     |                               |   |
|---------------------|-------------------------------|---|
|                     | <b>Retracted Per Interval</b> | The number of event retractions/deletions from the Rete network.  |
|                     | <b>Retracted Per Second</b>   | The rate of event retractions/deletions from the Rete network via the channel.  |
|                     | <b>Modified Total</b>         | The total number of times the event was modified in the Rete network via the channel.*  |
|                     | <b>Modified Per Interval</b>  | The number of event modifications in the Rete network via the channel.  |
|                     | <b>Modified Per Second</b>    | The rate of event modifications in the Rete network via the channel.  |
| <b>Expired</b>      |                               | When checked ( <b>true</b> ), the Monitor has not received a response from the node for the amount of time specified by the <b>\$tbeRowExpirationTime</b> property (the default is <b>120</b> seconds). When the amount of time specified by the <b>\$tbeRowExpirationTimeForDelete</b> property elapses (the default is one day), the node data is deleted from the cache and display.   |
| <b>Event Trends</b> |                               | Shows metrics for the selected event: <ul style="list-style-type: none"> <li><b>Time in RTC</b>-- Traces the event spends in the run to completion cycle.</li> <li><b>Asserted(/sec)</b>-- Traces the number of events asserted into the Rete network (or the rate of event assertions per second depending on <b>Use Rates</b> setting).</li> <li><b>Retracted(/sec)</b>-- Traces the number events retracted from the Rete network (or rate of event retractions per second depending on <b>Use Rates</b> setting).</li> <li><b>Modified(/sec)</b>-- Traces the number of events modified in the Rete network (or rate of events modified per second depending on <b>Use Rates</b> setting).</li> <li><b>Use Rates</b> When selected, this toggle allows you to view data in the trend graph in counts per second (asserted count per second, retracted count per second, and modified count per second) instead of the default counts per selected interval (asserted count, retracted count, modified count).</li> <li><b>Log Scale</b> This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option.</li> </ul> |

**Base at Zero**

When this option is checked, zero is set as the Y axis minimum for all graph traces.

**Time Range**

Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click the  button.



By default, the time range end point is the current time. To change the time range end point, click the  button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows  to move forward or backward one time period. **Note:** The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

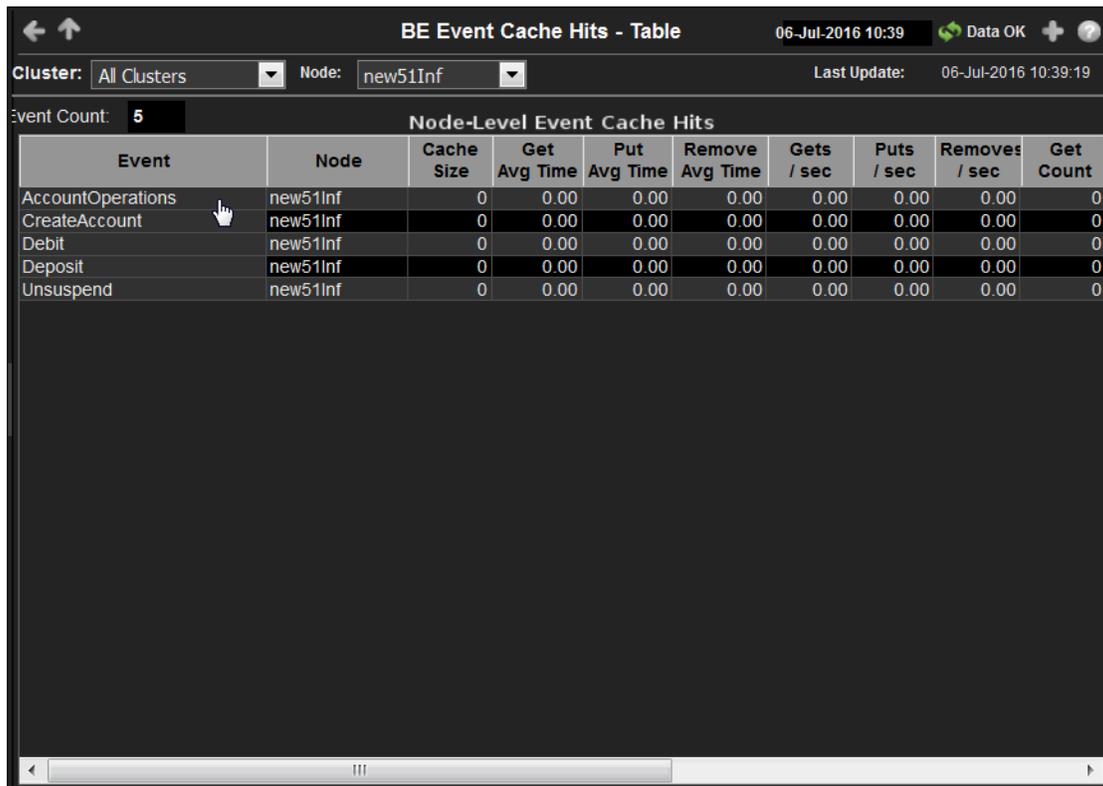
## Event Cache Hits

View cache performance metrics per event for a single cluster or **All Clusters**.

**NOTE:** Events cause rules to execute in the BusinessEvents Rete network. Events can be created by external phenomena, such as the arrival of a JMS message, or internally when rules are processed. When an event enters the Rete network, it causes a run-to-completion cycle which continues until no further rules can be processed. Each named event that can be handled by a BusinessEvents application is specified at build time in BusinessEvents studio. For details, refer to TIBCO documentation.

Choose a single cluster or **All Clusters** and a node from the drop-down menus.

Sort  the table columns when all the rows cannot fit on the screen. For example, sort  the **Expired** column so that all expired nodes are listed at the top.



| Event             | Node     | Cache Size | Get Avg Time | Put Avg Time | Remove Avg Time | Gets / sec | Puts / sec | Removes / sec | Get Count |
|-------------------|----------|------------|--------------|--------------|-----------------|------------|------------|---------------|-----------|
| AccountOperations | new51Inf | 0          | 0.00         | 0.00         | 0.00            | 0.00       | 0.00       | 0.00          | 0         |
| CreateAccount     | new51Inf | 0          | 0.00         | 0.00         | 0.00            | 0.00       | 0.00       | 0.00          | 0         |
| Debit             | new51Inf | 0          | 0.00         | 0.00         | 0.00            | 0.00       | 0.00       | 0.00          | 0         |
| Deposit           | new51Inf | 0          | 0.00         | 0.00         | 0.00            | 0.00       | 0.00       | 0.00          | 0         |
| Unsuspend         | new51Inf | 0          | 0.00         | 0.00         | 0.00            | 0.00       | 0.00       | 0.00          | 0         |

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 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

### Filter By:

The display might include these filtering options:

**Cluster:** Select a cluster for which you want to see metrics.

**Node:** Select a node for which you want to see metrics.

**Last Update** The date and time the data was last updated.

### Node-Level Event Statistics Table:

Each row in the table is a different event, with data in the row columns describing the event.

**Note:** Row columns in this table with an asterisk (\*) at the end of the column definition contain data that is provided by the TIBCO MBean interface. Refer to TIBCO documentation for more information regarding these columns.

|                             |   |
|-----------------------------|---|
| <b>Event Count:</b>         | The total number of events in the table.  |
| <b>Event</b>                | The name of the event.  |
| <b>Node</b>                 | The name of the node.   |
| <b>Cache Size</b>           | The size of the event's cache.*   |
| <b>Get Avg Time</b>         | The average time taken for a "get" event for the node.*   |
| <b>Put Avg Time</b>         | The average time taken for a "put" event for the node.*   |
| <b>Remove Avg Time</b>      | The average time taken for a "remove" event for the node.*  |
| <b>Gets/sec</b>             | The rate of "get" operations for the event.   |
| <b>Puts/sec</b>             | The rate of "put" operations for the event.   |
| <b>Removes/sec</b>          | The rate of "remove" operations for the event.  |
| <b>Get Count</b>            | The total number of "get" operations for the event.*  |
| <b>Put Count</b>            | The total number of "put" operations for the event.*  |
| <b>Remove Count</b>         | The total number of "remove" operations for the event.*   |
| <b>Num Handles In Store</b> | The number of handles in the Backing Store for the event.*  |
| <b>Expired</b>              | When checked ( <b>true</b> ), the Monitor has not received a response from the node for the amount of time specified by the <b>\$tbeRowExpirationTime</b> property (the default is <b>120</b> seconds). When the amount of time specified by the <b>\$tbeRowExpirationTimeForDelete</b> property elapses (the default is one day), the node data is deleted from the cache and display. |
| <b>Timestamp</b>            | The date and time, relative to the Data Server, that data was last collected for the engine.  |

## Event Hit Summary

View detailed event performance metrics for a single cluster or **All Clusters**, a node, and an event.

**NOTE:** Events cause rules to execute in the BusinessEvents Rete network. Events can be created by external phenomena, such as the arrival of a JMS message, or internally when rules are processed. When an event enters the Rete network, it causes a run-to-completion cycle which continues until no further rules can be processed. Each named event that can be handled by a BusinessEvents application is specified at build time in BusinessEvents studio. For details, refer to TIBCO documentation.

Choose a single cluster or **All Clusters**, a node and an event from the drop-down menus.



**Title Bar:** Indicators and functionality might include the following:

- Open the previous and upper display.
- Navigate to displays commonly accessed from this display.
- The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

- The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

### Filter By:

The display might include these filtering options:

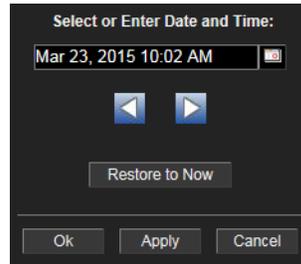
**Note:** Fields in this display with an asterisk (\*) at the end of the field definition contain data that is provided by the TIBCO MBean interface. Refer to TIBCO documentation for more information regarding these fields.

- Cluster:** Select a cluster containing the node and event for which you want to see metrics.
- Node:** Select a node containing the event for which you want to see metrics.
- Event** Select the event for which you want to see metrics.
- Last Update** The date and time in which the data was last updated.

|                              |  |
|------------------------------|--|
| <b>Expired</b>               | When checked ( <b>true</b> ), the Monitor has not received a response from the node for the amount of time specified by the <b>\$tbeRowExpirationTime</b> property (the default is <b>120</b> seconds). When the amount of time specified by the <b>\$tbeRowExpirationTimeForDelete</b> property elapses (the default is one day), the node data is deleted from the cache and display.  |
| <b>Cache Size</b>            | The size of the cache.*  |
| <b>Handles in Store</b>      | The number of handles in the Backing Store for the event.*   |
| <b>Avg Cache Access Time</b> | <p><b>Get</b> The average time taken for a "get" operation.*</p> <p><b>Put</b> The average time taken for a "put" operation.*</p> <p><b>Remove</b> The average time taken for a "remove" operation.*</p>   |
| <b>Cache Access Stats</b>    | <p><b>Get -- Total Hits</b> The total number of "get" operations for the event.*</p> <p><b>Get-- Hits</b> The number of "get" operations for the event since the last data update.*</p> <p><b>Get-- Hits/sec</b> The rate of "get" operations for the event.</p> <p><b>Put-- Total Hits</b> The total number of "put" operations for the event.*</p> <p><b>Put-- Hits</b> The number of "put" operations for the event since the last data update.*</p> <p><b>Put-- Hits/sec</b> The rate of "put" operations for the event.</p> <p><b>Remove --Total Hits</b> The total number of "remove" operations for the event.*</p> <p><b>Remove-- Hits</b> The number of "remove" operations for the event since the last data update.*</p> <p><b>Remove --Hits/sec</b> The rate of "remove" operations for the event.</p>   |
| <b>Cache Access Trends</b>   | <p>Shows metrics for the selected cluster/node/event combination:</p> <p><b>Gets(/sec)</b> -- Traces the number of "gets" (or rate of "gets" per second depending on <b>Use Rates</b> setting) for the event.</p> <p><b>Puts(/sec)</b>-- Traces the number of "puts" (or rate of "puts" per second depending on <b>Use Rates</b> setting) for the event.</p> <p><b>Removes(/sec)</b>-- Traces the number of "removes" (or rate of "removes" per second depending on <b>Use Rates</b> setting) for the event.</p> <p><b>Use Rates</b> When selected, this toggle allows you to view data in the trend graph in counts per second ("get" operations count per second, "put" operations count per second, and "remove" operations count per second) instead of the default counts per selected interval ("get" operations count, "put" operations count, "remove" operations count).</p> <p><b>Log Scale</b> This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option.</p> |

**Base at Zero** When this option is checked, zero is set as the Y axis minimum for all graph traces.

**Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click the  button.



By default, the time range end point is the current time. To change the time range end point, click the  button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

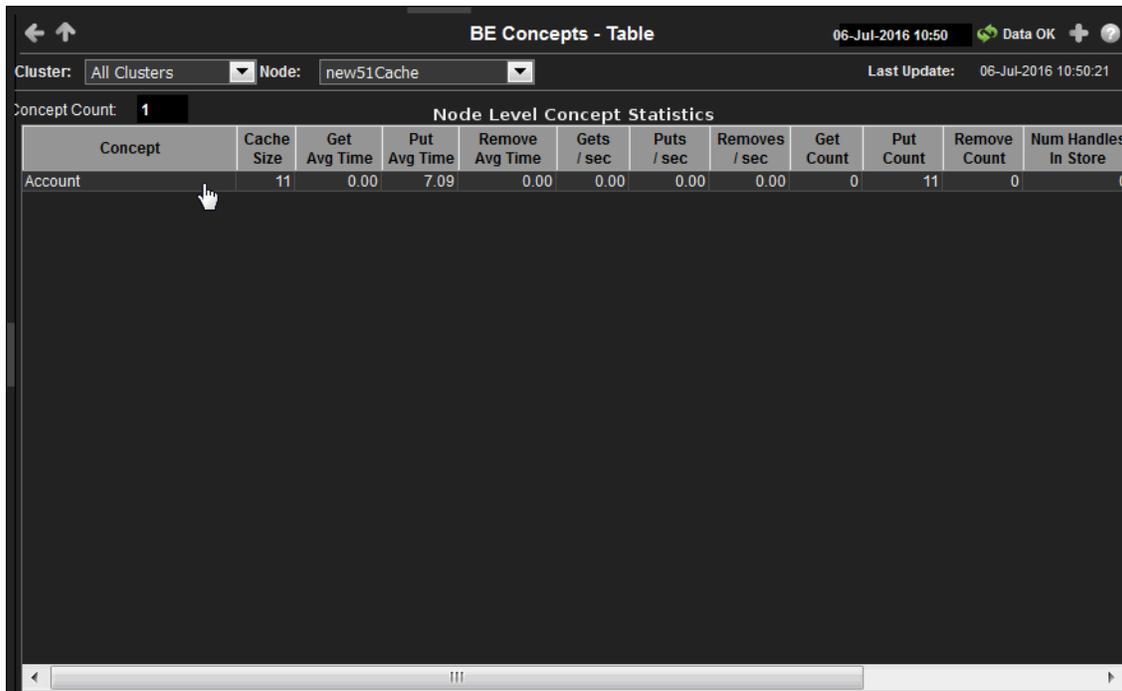
Use the navigation arrows  to move forward or backward one time period. **Note:** The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

## Concept Cache Hits

View a list of concepts and their run-time statistics. Choose a single cluster or **All Clusters** and a node from the drop-down menus.

Sort  the table columns when all the rows cannot fit on the screen. For example, sort  the **Expired** column so that all expired nodes are listed at the top.



| Concept | Cache Size | Get Avg Time | Put Avg Time | Remove Avg Time | Gets / sec | Puts / sec | Removes / sec | Get Count | Put Count | Remove Count | Num Handles In Store |
|---------|------------|--------------|--------------|-----------------|------------|------------|---------------|-----------|-----------|--------------|----------------------|
| Account | 11         | 0.00         | 7.09         | 0.00            | 0.00       | 0.00       | 0.00          | 0         | 11        | 0            | 0                    |

**Title Bar:** Indicators and functionality might include the following:

  Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

### Filter By:

The display might include these filtering options:

**Cluster:** Choose a cluster to see metrics for.

**Node:** Choose a node to see metrics for.

**Last Update** The date and time the data was last updated.

### Node-Level Concept Statistics Table:

Each row in the table provides statistics regarding data access for a given BusinessEvents concept.

**Note:** Row columns in this table with an asterisk (\*) at the end of the column definition contain data that is provided by the TIBCO MBean interface. Refer to TIBCO documentation for more information regarding these columns.

|                             |   |
|-----------------------------|---|
| <b>Concept Count:</b>       | The total number of concepts in the table.  |
| <b>Concept</b>              | The name of the concept.  |
| <b>Cache Size</b>           | The size of the concept's cache.*   |
| <b>Get Avg Time</b>         | The average time taken for a "get" operation.*  |
| <b>Put Avg Time</b>         | The average time taken for a "put" operation.*  |
| <b>Remove Avg Time</b>      | The average time taken for a "remove" operation.*   |
| <b>Gets/sec</b>             | The rate of "gets" for the concept.   |
| <b>Puts/sec</b>             | The rates of "puts" for the concept.  |
| <b>Removes/sec</b>          | The rate of "removes" for the concept.  |
| <b>Get Count</b>            | The total number of "gets" for the concept.*  |
| <b>Put Count</b>            | The total number of "puts" for the concept.*  |
| <b>Remove Count</b>         | The total number of "removes" for the concept.*   |
| <b>Num Handles In Store</b> | The number of handles in the Backing Store for the concept.*  |
| <b>Expired</b>              | When checked ( <b>true</b> ), the Monitor has not received a response from the node for the amount of time specified by the <b>\$tbeRowExpirationTime</b> property (the default is <b>120</b> seconds). When the amount of time specified by the <b>\$tbeRowExpirationTimeForDelete</b> property elapses (the default is one day), the node data is deleted from the cache and display. |
| <b>Timestamp</b>            | The date and time, relative to the Data Server, that data was last collected for the concept.   |

## Concept Hit Summary

Use this display to view current and historic data for a single concept. Data in this display can be useful if your BusinessEvents system uses Cache object management. When Cache object management is used, concepts with a sufficiently long time to live (TTL) setting are cached.

Cache reference patterns for certain concepts may be related to incoming events (for example, customer purchase orders with associated inventory queries). The trend charts show the cache activity of such concepts, and might be useful in diagnosing the behavior of your application over time.

Choose a single cluster or **All Clusters**, a node and a concept from the drop-down menus. Change the trend graph **Time Range** to “zoom in” on the graph and see more detail or “zoom out” from the graph to see larger trends over time.



**Title Bar:** Indicators and functionality might include the following:

- Open the previous and upper display.
- Navigate to displays commonly accessed from this display.
- 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

- Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

**Filter By:**

fFields in this table with an asterisk (\*) at the end of the field definition contain data that is provided by the TIBCO MBean interface. Refer to TIBCO documentation for more information regarding these fields. The display might include these filtering options:

- Cluster:** Select a cluster containing the node and concept for which you want to see metrics.
- Node:** Select a node containing the concept for which you want to see metrics.
- Concept** Select the concept for which you want to see metrics.

**Fields and Data:**

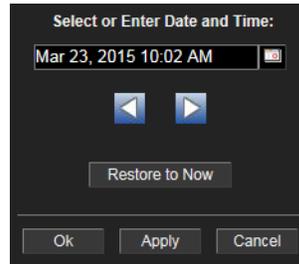
**Note:** Fields in this table with an asterisk (\*) at the end of the field definition contain data that is provided by the TIBCO MBean interface. Refer to TIBCO documentation for more information regarding these fields.

- Last Update** The date and time in which the data was last updated in the display.

|                              |   |
|------------------------------|---|
| <b>Expired</b>               | When checked ( <b>true</b> ), the Monitor has not received a response from the node for the amount of time specified by the <b>\$tbeRowExpirationTime</b> property (the default is <b>120</b> seconds). When the amount of time specified by the <b>\$tbeRowExpirationTimeForDelete</b> property elapses (the default is one day), the node data is deleted from the cache and display.   |
| <b>Cache Size</b>            | The size of the cache.*   |
| <b>Handles in Store</b>      | The number of handles in the Backing Store.*  |
| <b>Avg Cache Access Time</b> | <p><b>Get</b> The average time taken for a “get” operation.*</p> <p><b>Put</b> The average time taken for a “put” operation.*</p> <p><b>Remove</b> The average time taken for a “remove” operation.*</p>  |
| <b>Cache Access Stats</b>    | <p><b>Get -- Total Hits</b> The total number of “get” operations for the concept.*</p> <p><b>Get-- Hits</b> The number of “get” operations for the concept since the last data update.*</p> <p><b>Get-- Hits/sec</b> The rate of “get” operations for the concept.</p> <p><b>Put-- Total Hits</b> The total number of “put” operations for the concept.*</p> <p><b>Put--Hits</b> The number of “put” operations for the concept since the last data update.*</p> <p><b>Put-- Hits/sec</b> The rate of “put” operations for the concept.</p> <p><b>Remove --Total Hits</b> The total number of “remove” operations for the concept.*</p> <p><b>Remove-- Hits</b> The number of “remove” operations for the concept since the last data update.*</p> <p><b>Remove --Hits/sec</b> The rate of “remove” operations for the concept.</p>   |
| <b>Cache Access Trends</b>   | <p>Shows metrics for the selected cluster/node/concept combination:</p> <p><b>Gets(/sec)</b> -- Traces the number of “get” operations (or rate of “get” operations depending on <b>Use Rates</b> setting) for the concept.</p> <p><b>Puts(/sec)</b>-- Traces the number of “put” operations (or rate of “put” operations depending on <b>Use Rates</b> setting) for the concept.</p> <p><b>Removes(/sec)</b>-- Traces the number of “remove” operations (or rate of “remove” operations depending on <b>Use Rates</b> setting) for the concept.</p> <p><b>Use Rates</b> When selected, this toggle allows you to view data in the trend graph in counts per second (“get” operations count per second, “put” operations count per second, and “remove” operations count per second) instead of the default counts per selected interval (“get” operations count, “put” operations count, “remove” operations count).</p> <p><b>Log Scale</b> This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option.</p> |

**Base at Zero** When this option is checked, zero is set as the Y axis minimum for all graph traces.

**Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click the  button.



By default, the time range end point is the current time. To change the time range end point, click the  button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows  to move forward or backward one time period. **Note:** The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

## Channels

Use this display to view a list of destinations, which are sources and sinks of events. Destinations are potentially bi-directional, and the table indicates whether events are sent or received.

**NOTE:** Channels provide a class wrapper for destinations, and make it possible to enable or disable a group of destinations with one operation.

Choose a single cluster or **All Clusters** and a node from the drop-down menus. Each row in the table is a different destination URI. Click a row to view channel details in the **Channels** table.

**Title Bar:** Indicators and functionality might include the following:



Open the previous and upper display.



Navigate to displays commonly accessed from this display.

19-Feb-2014 16:50

The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.



**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.



Open the **Alert Views - RTView Alerts Table** display.



Open an instance of this display in a new window.



Open the online help page for this display.

### Filter By:

The display might include these filtering options:

**Cluster:** Choose a cluster to see metrics for.

**Node:** Choose a node to see metrics for.

### Destinations Table

Each row in the table provides data for a particular destination.

**Note:** Row columns in this table with an asterisk (\*) at the end of the column definition contain data that is provided by the TIBCO MBean interface. Refer to TIBCO documentation for more information regarding these columns.

**Destination Count:** The total number of destinations in the table.

**Destination URI** The Uniform Resource Identifier (URI) for the destination.\*

|                                    |   |
|------------------------------------|---|
| <b>Suspended</b>                   | Denotes whether the destination is suspended.*  |
| <b>Num Events Received</b>         | The number of events received by the destination.*  |
| <b>Number of Events Sent</b>       | The number of events sent by the destination.*  |
| <b>Received Events Rate</b>        | The rate of events received by the destination.   |
| <b>Received Rate Last Interval</b> | The rate of events received.  |
| <b>Expired</b>                     | When checked ( <b>true</b> ), the Monitor has not received a response from the node for the amount of time specified by the <b>\$tbeRowExpirationTime</b> property (the default is <b>120</b> seconds). When the amount of time specified by the <b>\$tbeRowExpirationTimeForDelete</b> property elapses (the default is one day), the node data is deleted from the cache and display. |
| <b>Timestamp</b>                   | The date and time, relative to the Data Server, that data was last collected for the destination.   |

### Channels Table

Each row in the table provides data for a particular channel.

**Note:** Row columns in this table with an asterisk (\*) at the end of the column definition contain data that is provided by the TIBCO MBean interface. Refer to TIBCO documentation for more information regarding these columns.

|                       |   |
|-----------------------|---|
| <b>Channel Count:</b> | The total number of channels in the table.  |
| <b>Channel URI</b>    | The Uniform Resource Identifier (URI) for the channel.*   |
| <b>State</b>          | The current state of the channel.*  |
| <b>Expired</b>        | When checked ( <b>true</b> ), the Monitor has not received a response from the node for the amount of time specified by the <b>\$tbeRowExpirationTime</b> property (the default is <b>120</b> seconds). When the amount of time specified by the <b>\$tbeRowExpirationTimeForDelete</b> property elapses (the default is one day), the node data is deleted from the cache and display. |

### All Inference Agents

Use this display to compare agent metrics across deployed engines and verify that the cluster is properly load-balanced. View a list of all the inference agents deployed in each cluster. You can view agent data for a single cluster or all clusters.

The data in this display is identical to the data provided for a single engine in the [“Cluster Summary”](#) display, except that it is aggregated across all inference nodes.

Choose a single cluster or **All Clusters** from the drop-down menus. Each row in the table is a different agent.

| Cluster   | Node            | Agent | Agent Name      | Type      | Current   | Started                             | Suspended                | Concurrent               | Queue |
|-----------|-----------------|-------|-----------------|-----------|-----------|-------------------------------------|--------------------------|--------------------------|-------|
| ckddcache | new51inf        | 0     | inference-class | INFERENCE | ACTIVATED | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1,0   |
| fdcache   | newbe4inference | 1     | inference-class | Inference | Activated | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1,0   |

**Title Bar:** Indicators and functionality might include the following:

Open the previous and upper display.

Navigate to displays commonly accessed from this display.

19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

Open the online help page for this display.

### Filter By:

The display might include these filtering options:

**Cluster:** Select the cluster for which you want to see metrics, or select **All Clusters** to see metrics for all clusters.

### Table

Each row in the table provides details for an agent.

**Note:** Row columns in this table with an asterisk (\*) at the end of the column definition contain data that is provided by the TIBCO MBean interface. Refer to TIBCO documentation for more information regarding these columns.

**Agent Count:** The number of agents currently in the table.

**Cluster** The name of the TIBCO BusinessEvents cluster.

**Node** The name of the node.

|                               |  |
|-------------------------------|--|
| <b>Agent ID</b>               | A unique string that identifies the agent.                       |
| <b>Agent Name</b>             | The name of the agent.   |
| <b>Type</b>                   | The type of agent (Inference, Cache, Query, or Dashboard).*      |
| <b>Current State</b>          | The current state of the agent.*                                 |
| <b>Started</b>                | When checked, denotes that the agent is started.*                |
| <b>Suspended</b>              | When checked, denotes that the agent is suspended.*              |
| <b>Concurrent</b>             | When checked, denotes that it is a concurrent agent.*            |
| <b>Queue Capacity</b>         | The queue capacity for the agent.*                               |
| <b>Queue Size</b>             | The queue size for the agent.*                                   |
| <b>Thread Count</b>           | The total number of threads for the agent.*                      |
| <b>Total # Rules Fired</b>    | The total number of rules fired for the agent.*                  |
| <b>Rules/sec</b>              | The rate of rules fired for the agent.                           |
| <b>Avg Receive Time</b>       | See TIBCO documentation for more information.*                   |
| <b>Avg Txn Commit Time</b>    | The average amount of time taken to commit a transaction.*       |
| <b>Cache Queue Remaining</b>  | The total amount of remaining space on the cache queue.*         |
| <b>DB Ops Queue Remaining</b> | The total amount of remaining space on the DB Operations queue.* |
| <b>Hit Ratio</b>              | See TIBCO documentation for more information.*                   |
| <b>Job Rate</b>               | See TIBCO documentation for more information.*                   |
| <b>L1 Cache Max Size</b>      | The maximum size of the L1 cache.*                               |
| <b>L1 Cache Size</b>          | The current size of the L1 cache.*                               |
| <b>Max Active</b>             | See TIBCO documentation for more information.*                   |
| <b># Event Threads</b>        | The total number of currently active event threads.*             |
| <b># Jobs</b>                 | The total number of currently active jobs.*                      |
| <b>Priority</b>               | See TIBCO documentation for more information.*                   |
| <b>Read Only</b>              | See TIBCO documentation for more information.*                   |
| <b>Txn Commit Count</b>       | The number of transactions committed by the agent.*              |
| <b>Txn Receive Count</b>      | The number of transactions received by the agent.*               |

- Expired** When checked (**true**), the Monitor has not received a response from the node for the amount of time specified by the **\$tbeRowExpirationTime** property (the default is **120** seconds). When the amount of time specified by the **\$tbeRowExpirationTimeForDelete** property elapses (the default is one day), the node data is deleted from the cache and display.
- Timestamp** The date and time, relative to the Data Server, that data was last collected for the destination.

## All RTC Reports

Use this display to compare RTC metrics across deployed engines. View a list of all the inference engine RTC reports. You can view reports for a single cluster or all clusters.

The data in this display is identical to the data provided for a single engine in the “[Cluster Summary](#)” display, except that it is aggregated across all inference nodes.

Choose a single cluster or **All Clusters** from the drop-down menus. Each row in the table is a different node.

| Cluster   | Node         | Avg Action | Avg Cache Queue | Avg Cache | Avg DB Ops | Avg DB Qi | Avg DB | Avg Successful |
|-----------|--------------|------------|-----------------|-----------|------------|-----------|--------|----------------|
| ckfdcache | new511nf     | 0.00       | 0.00            | 0.00      | 1.00       | 0.00      | 8.45   | 8.33           |
| fdcache   | newbe4infern | 0.00       | 0.00            | 0.00      | 0.00       | 0.00      | 0.00   | 0.00           |

**Title Bar:** Indicators and functionality might include the following:

← ↑ Open the previous and upper display.

Table Navigate to displays commonly accessed from this display.

19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

🚨 Open the **Alert Views - RTView Alerts Table** display.

⊕ Open an instance of this display in a new window.

🔗 Open the online help page for this display.

**Filter By:**

The display might include these filtering options:

**Cluster:** Select the cluster for which you want to see metrics, or select **All Clusters** to see metrics for all clusters.

**RTC Txn Manager Reports Table**

Each row in the table is a different report. Data in the row columns describe the report.

**Note:** Row columns in this table with an asterisk (\*) at the end of the column definition contain data that is provided by the TIBCO MBean interface. Refer to TIBCO documentation for more information regarding these columns.

|   |  |
|---|--|
| <b>Report Count:</b>                      | The number of reports currently in the table.                                    |
| <b>Cluster</b>                            | The name of the TIBCO BusinessEvents cluster.                                    |
| <b>Node</b>                               | The name of the node.  |
| <b>Avg Action Txn Millisec</b>            | The average amount of time taken for an action transaction, in milliseconds.*    |
| <b>Avg Cache Queue Wait Time Millisec</b> | The average cache queue wait time, in milliseconds.*                             |
| <b>Avg Cache Txn Millisec</b>             | The average amount of time taken for a cache transaction, in milliseconds.*      |
| <b>Avg DB Ops Batch Size</b>              | The average database operation batch size.*                                      |
| <b>Avg DB Queue Wait Time Millisec</b>    | The average database queue wait time, in milliseconds.*                          |
| <b>Avg DB Txn Millisec</b>                | The average amount of time taken for a database transaction, in milliseconds.*   |
| <b>Avg Successful Txn Time Millisec</b>   | The average amount of time taken for a successful transaction, in milliseconds.* |
| <b>Last DB Batch Size</b>                 | The size of the last database batch.*  |
| <b>Pending Actions</b>                    | The total number of pending actions.*  |
| <b>Pending Cache Writes</b>               | The total number of pending cache writes.*                                       |
| <b>Pending DB Writes</b>                  | The total number of pending database writes.*                                    |
| <b>Pending Events to Ack</b>              | The total number of pending events that need to be acknowledged.*                |
| <b>Pending Locks to Release</b>           | The total number of pending locks that need to be released.*                     |
| <b>Total DB Txns Completed</b>            | The total number of database transactions that have been completed.*             |

|                              |   |
|------------------------------|---|
| <b>Total Successful Txns</b> | The total number of successful transactions.*   |
| <b>Total Errors</b>          | The total number of errors.*  |
| <b>Expired</b>               | When checked ( <b>true</b> ), the Monitor has not received a response from the node for the amount of time specified by the <b>\$tbeRowExpirationTime</b> property (the default is <b>120</b> seconds). When the amount of time specified by the <b>\$tbeRowExpirationTimeForDelete</b> property elapses (the default is one day), the node data is deleted from the cache and display. |
| <b>Timestamp</b>             | The date and time, relative to the Data Server, that data was last collected for the destination.   |



## CHAPTER 24 Solution Package for TIBCO EMS Monitor

The Monitor takes the time and guesswork out of monitoring and troubleshooting TIBCO® Enterprise Messaging System™ deployments, providing a centralized view of both real-time and historical performance metrics across numerous EMS Servers.

The Monitor enables TIBCO users to continually assess and analyze the health and performance of their EMS infrastructure, gain early warning of issues with historical context, and effectively plan for capacity of their EMS Servers. It does so by aggregating and analyzing key performance metrics across all servers, topics, queues, consumers and producers, and presents the results, in real time, through meaningful dashboards as data is collected.

Users also benefit from pre-defined rules and alerts that pin-point critical areas to monitor in most EMS environments and allow for customization of thresholds to let users fine-tune when alert events should be activated.

The Monitor also contains alert management features so that the life cycle of an alert event can be managed to proper resolution. All of these features allow you to know exactly what is going on at any given point, analyze the historical trends of the key metrics, and respond to issues before they can degrade service levels in high-volume, high-transaction environments.

This chapter describes how to install, configure, deploy, and read and use the EMS Monitor displays, and also describes other optional features specific to EMS Monitor. This chapter includes the following:

This section includes:

- “Getting Started”
- “Upgrading the Monitor”
- “Additional Configurations”
- “EMS Monitor Views/Displays”
- “TIBCO Spotfire Reports”

---

## Getting Started

Perform these instructions if you downloaded, installed and configured the *standard* RTView Enterprise Monitor (**rtvapm\_std\_<version>.zip**), rather than the *full* RTView Enterprise Monitor, and now wish to install the Solution Package for Solace.

**Note:** If you downloaded and installed the *full* RTView Enterprise Monitor (**rtvapm\_full\_<version>.zip**), refer to [Chapter 2, “Configuration and Deployment”](#) .

This section includes:

- [“Install & Setup”](#)
- [“Configure Data Collection”](#)
- [“Start the Monitor”](#)
- [“Stop the Monitor”](#)
- [“Troubleshooting”](#)

## Install & Setup

Prerequisite: RTView Enterprise Monitor 3.4 must be installed on your system.

1. Download the **rtvapm\_emsmon\_<version>.zip** archive to your local Windows/UNIX/Linux server.

2. Extract the files:

**Windows:**

Type **unzip rtvapm\_emsmon\_<version>.zip** and save the files to the **C:\RTView** directory.

**UNIX/Linux:**

Type **unzip -a rtvapm\_emsmon\_<version>.zip** and save the files to the **/opt/RTView** directory.

3. Verify that the **emsmon** directory was created under **rtvapm** and extracted correctly.
4. Verify you do not have an extra **rtvapm** directory containing **emsmon**. If you do, move these directories under the first **rtvapm** directory and delete the nested **rtvapm**.
5. Set **JAVA\_HOME** to the location of your Java installation and include the **bin** directory under **JAVA\_HOME** in the path.  
**Important:** This environment variable must be defined in UNIX/Linux systems for Tomcat to start successfully.

Proceed to [“Configure Data Collection,”](#) next.

## Configure Data Collection

This section describes how to collect data from the EMS Servers you want to monitor. This part of the EMS Monitor configuration is required.

You define the EMS Servers you want to monitor by editing the **servers.xml** file. By default, the EMS Servers that are routed to by the EMS Servers defined in this XML file are auto-discovered and subsequently monitored. These instructions give you the option to turn off auto-discovery, which is off by default.

Also by default, all EMS Topics and Queues are monitored for all defined and auto-discovered EMS Servers. In some cases it is desirable to limit the number of queues and topics to those that are of interest. Doing so can reduce the data load on the Monitor. These instructions give you the option to select the EMS Queues and Topics to monitor.

**NOTE:** LINUX users might see inconsistently aligned labels in displays. To resolve, set the client browser to download the fonts used by the server. Open the **rtvapm/common/conf/rtvapm.properties** file on the Display Server host machine and uncomment the following two lines:

```
#sl.rtvview.cp=%RTV_HOME%/lib/rtvfonts.jar
#sl.rtvview.global=rtv_fonts.rtv
```

At this point you have:

- Verified your system requirements.
- Installed EMS Monitor.
- Set up EMS Monitor.

### To configure data collection:

1. Change directory to your project directory.
2. Specify the EMS Servers you want to monitor in the **servers.xml** file, which is located in your project directory. The following is the default **servers.xml** file, which defines the local EMS Server on the default port:

```
<?xml version="1.0" ?>
<dataset xmlns="www.sl.com" version="1.0">
<table key="Servers">
  <tc name="Name" type="string" index="false" />
  <tc name="URL" type="string" index="false" />
  <tc name="Agent" type="string" index="false" />
  <tc name="User" type="string" index="false" />
  <tc name="Password" type="string" index="false" />
  <tr name="">
    <td>Local</td>
    <td>tcp://localhost:7222</td>
    <td />
    <td />
    <td />
  </tr>
</table>
</dataset>
```

3. Enter each EMS Server to be monitored, where:

**URL** -- is the complete URL for the EMS Server. A comma-separated list of URLs is used to designate fault tolerant server pairs.

**Name** -- is the name of your EMS Server. This field is optional. If no entry is made, the URL is used to designate the server in the Monitor.

**Agent** -- (This field is currently not used.)

**User** -- is the user name to use when creating this connection. This field is optional.

**Password** -- is the password to use when creating this connection. This field is optional.

**Note:** By default, servers which are routed to by the servers defined in this file are automatically discovered (you have the option to turn off auto-discover in subsequent steps).

The following is an example of an edited **servers.xml** file in which two servers are defined, **SLHOST10** and **Branch12**:

- **SLHOST10** provides the main and fault tolerant URLs with no user information.
- **Branch12** includes two URLs, the user name and the password associated with that user name.

```
<?xml version="1.0" ?>
<dataset xmlns="www.sl.com" version="1.0">
<table key="Servers">
<tc name="Name" type="string" index="false" />
<tc name="URL" type="string" index="false" />
<tc name="Agent" type="string" index="false" />
<tc name="User" type="string" index="false" />
<tc name="Password" type="string" index="false" />
<tr name="">
<td>SLHOST10</td>
<td>tcp://SLHOST10:7010,tcp://SLHOST10:7011</td>
<td />
<td />
<td />
</tr>
<tr name="">
<<td>Branch12</td>
<td>tcp://192.168.200.171:6010,tcp://192.168.200.171:6011</td>
<td />
<<td>admin</td>
<<td>XQIf08</td>
</tr>
</table>
</dataset>
```

4. If you need to provide encrypted passwords (rather than expose server password names in a clear text file), do the following. If not, skip this step.

To provide encrypted passwords, use the "encode\_string" utility:

In an initialized command window, execute the following script where *mypassword* is your plain text password (this password will be encrypted).

**encode\_string jmsadm mypassword**

You then receive an encrypted password for copying and pasting into the XML password field. For example:

**encrypted value: 013430135501346013310134901353013450134801334**

5. If you want to turn off the auto-discovery of servers found via route definitions, do the following. If not, skip this step.

To turn off auto-discovery of servers via routes, open the **sample.properties** file, located in your project directory.

Add the following line to the file:

```
collector.sl.rtvview.jmsadm.discoverServersByRoute=false
```

6. By default, collecting connections, producers, and consumers data is disabled. To enable collecting connections, producers, and consumers data, edit your **sample.properties** and uncomment the following lines:

```
#collector.sl.rtvview.cache.config=ems_connections_cache_source.rtv
#collector.sl.rtvview.cache.config=ems_producers_cache_source.rtv
#collector.sl.rtvview.cache.config=ems_consumers_cache_source.rtv
```

7. By default, collection of all available EMS Queues and EMS Topics is enabled. To avoid performance issues due to large amounts of destinations, the collection of each type of data has been limited per Data Server to **2000** rows by default. To modify this limit, edit the following line in your **sample.properties**:

```
collector.sl.rtvview.jmsadm.maxMetricsRowCount=2000
```

8. If you want to limit the topics and queues monitored (rather than monitoring all topics and queues for all defined and auto-discovered servers), do the following.

- Open the **sample.properties** file located in your project directory.
- Define filter patterns to specify the subsets of EMS topics or queues you want monitored. When a pattern is defined, only topics or queues that match that pattern are monitored. Multiple patterns may be defined. The following contains examples of filter patterns (in comments):

```
#
# Default Patterns used to monitor ALL EMS topics or queues
#
sl.rtvview.cache.config=ems_topics_cache_source.rtv $topicPattern:''
sl.rtvview.cache.config=ems_queues_cache_source.rtv $queuePattern:''
#
# Sample patterns used to monitor specific subsets of EMS topics or queues
#
#sl.rtvview.cache.config=ems_topics_cache_source.rtv $topicPattern:sl.topic.*
#sl.rtvview.cache.config=ems_topics_cache_source.rtv $topicPattern:*.tibems.>
#sl.rtvview.cache.config=ems_queues_cache_source.rtv
$queuePattern:*.messageserver.>
#sl.rtvview.cache.config=ems_queues_cache_source.rtv
$queuePattern:tibco.stress.test.qa.iteration.test93
```

9. If you want to modify the default values for the update rates for various server-related caches, you can add the following substitutions to your **sample.properties** file.

### Server-Related Caches

Add the following substitution to your **sample.properties** file to modify the default value (15000 milliseconds) for the **EmsServerInfo**, **EmsAdmStats**, **EmsBridges**, **EmsDurables**, **EmsRoutes**, **EmsFTServerTable**, **EmsListenPorts**, **EmsServerRouteTable**, **EmsServerTable**, **EmsUsers**, and **EmsDestinations** caches:

```
collector.sl.rtvview.sub=$emsServerUpdatePeriod:15000
```

### Queues and Topics Caches

Add the following substitution to your **sample.properties** file to modify the default value (30000 milliseconds) for EmsQueues and EmsTopics caches:

```
collector.sl.rtvview.sub=$emsQueueUpdatePeriod:30000
collector.sl.rtvview.sub=$emsTopicUpdatePeriod:30000
```

### Producers, Consumers, and Connections Caches

Add the following substitution to your **sample.properties** file to modify the default value (60000 milliseconds) for EmsProducers, EmsConsumers, and EmsConnections caches:

```
collector.sl.rtvview.sub=$emsProducerUpdatePeriod:60000
collector.sl.rtvview.sub=$emsConsumerUpdatePeriod:60000
collector.sl.rtvview.sub=$emsConnectionUpdatePeriod:60000
```

**Note:** When modifying your update rates, you should take your system architecture and number of elements per cache into account and ensure that you are not changing your update rates to values that might negatively impact system performance.

---

**Note:** After you complete all required configuration steps and you start the RTView Data Server, you can verify this configuration by viewing the **dataserver.log** file, located in the logs directory.

---

Proceed to “[Start the Monitor](#),” next.

## Start the Monitor

Use the configuration defined in the **rtvservers.dat** file, which is located in the **RTView/rtvapm\_projects/emsample/servers** directory.

1. Initialize a command line window by executing the **rtvapm\_init** script. For example:

#### Windows

Go to your RTView Enterprise Monitor installation directory and type:

```
rtvapm_init
```

#### UNIX

Go to your Enterprise Monitor installation directory and type:

```
./rtvapm_init.sh
```

2. Initialize the user project directory by executing the **rtvapm\_user\_init** script. For example:

#### Windows

Change directory (**cd**) to **RTView\rtvapm\_projects\emsample** and type:

```
rtvapm_user_init
```

#### UNIX

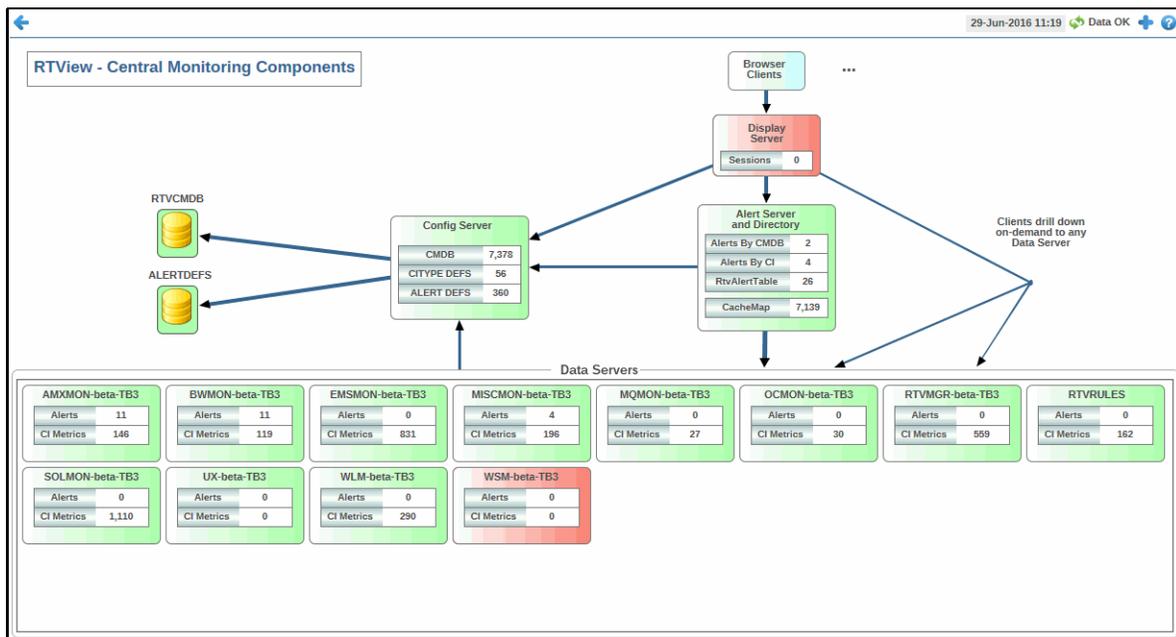
Change directory (**cd**) to **RTView/rtvapm\_projects/emsample** and type:

```
./rtvapm_user_init.sh
```

3. Change directory (**cd**) to **rtvapm\_projects/emsample/servers**.
4. Execute **start\_rtv.sh central** (**start\_rtv central** for Windows) to start the RTView Enterprise Monitor main processes.

5. Execute **start\_rtv.sh rtmgr** (**start\_rtv rtmgr** for Windows) to start the RTView Manager.
6. Execute **start\_rtv.sh emsmon –properties:sample** (or **start\_rtv emsmon –properties:sample** for Windows) to start all components of the Solution Package for TIBCO Enterprise Message Service™.
 

**Note:** Make sure that you have deployed the **emsample.war** file to your application server prior to attempting the next step. See the “Configure Central Servers” section for more information.
7. Open a browser and go to your RTView Enterprise Monitor deployment.
8. Verify that the Data Server is collecting data by navigating to the **Admin** tab and clicking **Architecture->System Overview** in the navigation tree. The **RTView - Central Monitoring Components** display should open and the Data Server, named **EMSMON-LOCAL** (by default), should be green and the **CI Metrics** value should be greater than zero (**0**). For example:



You have completed the Quick Start.

## Stop the Monitor

To stop the Solution Package for TIBCO Enterprise Message Service™ (in RTView Enterprise Monitor):

1. Change directory (**cd**) to **RTView/rtvapm\_projects/emsample/servers**.
2. Execute **stop\_rtv.sh emsmon** (or **stop\_rtv emsmon** for Windows) to stop all components of the Solution Package for TIBCO Enterprise Message Service™.

## Troubleshooting

This section includes:

- “Log Files,” next
- “JAVA\_HOME” on page 762
- “Permissions” on page 762
- “Network/DNS” on page 762
- “Verify Data Received from Data Server” on page 762
- “Verify Port Assignments” on page 763

### Log Files

When a Monitor component encounters an error, it outputs an error message to the console and/or to the corresponding log file. If you encounter issues, look for errors in the following log files:

- **dataserver.log**
- **displayserver.log**
- **historian.log**

which are located in the **rtvapm\_projects/emsample/servers/emsmon/logs** directory.

Logging is enabled by default. If you encounter issues with log files, verify the **logs** directory exists in the **rtvapm\_projects/emsample/servers/emsmon** directory.

### JAVA\_HOME

If the terminal window closes after executing the **start\_rtv** command, verify that JAVA\_HOME is set correctly.

### Permissions

If there are permissions-related errors in the response from the **start\_rtv** command, check ownership of the directory structure.

### Network/DNS

If any log file shows reference to an invalid URL, check your system’s hosts file and confirm with your Network Administrator whether your access to the remote system is being blocked.

### Verify Data Received from Data Server

If you encounter problems collecting data, restart the Data Server, start the Monitor, and go to the **Admin** tab and select **Architecture> RTView Cache Tables** in the navigation tree. Select **EMSMON-LOCAL** from the **Data Server** drop down list, and search for all caches that start with “EMSMON.” Make sure these caches are populated (the number of **Rows** and **Columns** in the table should be greater than 0). If not, there might be a problem with the connection to the Data Server.

## Verify Port Assignments

If the Viewer, display server, or Historian fail to connect to the Data Server or they receive no data, verify the ports are assigned correctly in your properties files and restart the Data Server.

---

# Upgrading the Monitor

This section describes the steps necessary to upgrade existing RTView EMS Monitor applications. It is organized by version. To upgrade your application, follow the steps for each version between the version you are upgrading from and the version to which you are upgrading.

["Version 3.3"](#)

["Version 3.2"](#)

["Version 3.1"](#)

["Version 3.0"](#)

## Version 3.3

A missing index that prevented the correct storage of pending message count and pending message size in the **EmsDurables** cache and history has been fixed.

To upgrade, drop the **EMS\_DURABLES\_TABLE** from your RTVHISTORY database and recreate the table with the appropriate table creation SQL statement for your platform. These SQL statements are available in the **rtvapm\emsmon\dbconfig** directory.

## Version 3.2

No upgrade steps required.

## Version 3.1

No upgrade steps required.

## Version 3.0

The types of several rate metrics were converted to real numbers to account for the loss of resolution when compaction (by averaging the metrics) occurred.

Follow the appropriate alter table SQL syntax to apply the change to your supported DB platforms (Oracle not needed).

### DB2

```
ALTER TABLE "EMS_CONSUMERS"  
ALTER COLUMN "consumerByteRate" SET DATA TYPE DOUBLE;  
ALTER TABLE "EMS_CONSUMERS"
```

```
ALTER COLUMN "consumerMessageRate" SET DATA TYPE DOUBLE;
```

```
ALTER TABLE "EMS_DURABLES"
```

```
ALTER COLUMN "pendingMessageCount" SET DATA TYPE DOUBLE;
```

```
ALTER TABLE "EMS_DURABLES"
```

```
ALTER COLUMN "pendingMessageSize" SET DATA TYPE DOUBLE;
```

```
ALTER TABLE "EMS_PRODUCERS"
```

```
ALTER COLUMN "producerByteRate" SET DATA TYPE DOUBLE;
```

```
ALTER TABLE "EMS_PRODUCERS"
```

```
ALTER COLUMN "producerMessageRate" SET DATA TYPE DOUBLE;
```

```
ALTER TABLE "EMS_QUEUETOTALS"
```

```
ALTER COLUMN "inboundByteRate" SET DATA TYPE DOUBLE;
```

```
ALTER TABLE "EMS_QUEUETOTALS"
```

```
ALTER COLUMN "inboundMessageRate" SET DATA TYPE DOUBLE;
```

```
ALTER TABLE "EMS_QUEUETOTALS"
```

```
ALTER COLUMN "outboundByteRate" SET DATA TYPE DOUBLE;
```

```
ALTER TABLE "EMS_QUEUETOTALS"
```

```
ALTER COLUMN "outboundMessageRate" SET DATA TYPE DOUBLE;
```

```
ALTER TABLE "EMS_QUEUETOTALS"
```

```
ALTER COLUMN "pendingMessageCount" SET DATA TYPE DOUBLE;
```

```
ALTER TABLE "EMS_QUEUETOTALS"
```

```
ALTER COLUMN "pendingMessageSize" SET DATA TYPE DOUBLE;
```

```
ALTER TABLE "EMS_QUEUES"
```

```
ALTER COLUMN "inboundByteRate" SET DATA TYPE DOUBLE;
```

```
ALTER TABLE "EMS_QUEUES"
```

```
ALTER COLUMN "inboundMessageRate" SET DATA TYPE DOUBLE;
```

```
ALTER TABLE "EMS_QUEUES"
```

```
ALTER COLUMN "outboundByteRate" SET DATA TYPE DOUBLE;
```

```
ALTER TABLE "EMS_QUEUES"
```

```
ALTER COLUMN "outboundMessageRate" SET DATA TYPE DOUBLE;
```

```
ALTER TABLE "EMS_QUEUES"
```

```
ALTER COLUMN "pendingMessageCount" SET DATA TYPE DOUBLE;
```

```
ALTER TABLE "EMS_QUEUES"
```

```
ALTER COLUMN "pendingMessageSize" SET DATA TYPE DOUBLE;
```

```
ALTER TABLE "EMS_ROUTES"  
ALTER COLUMN "outboundByteRate" SET DATA TYPE DOUBLE;  
ALTER TABLE "EMS_ROUTES"  
ALTER COLUMN "outboundMessageRate" SET DATA TYPE DOUBLE;  
ALTER TABLE "EMS_ROUTES"  
ALTER COLUMN "inboundByteRate" SET DATA TYPE DOUBLE;  
ALTER TABLE "EMS_ROUTES"  
ALTER COLUMN "inboundMessageRate" SET DATA TYPE DOUBLE;
```

```
ALTER TABLE "EMS_SERVERINFO"  
ALTER COLUMN "inboundBytesRate" SET DATA TYPE DOUBLE;  
ALTER TABLE "EMS_SERVERINFO"  
ALTER COLUMN "inboundMessageRate" SET DATA TYPE DOUBLE;  
ALTER TABLE "EMS_SERVERINFO"  
ALTER COLUMN "outboundBytesRate" SET DATA TYPE DOUBLE;  
ALTER TABLE "EMS_SERVERINFO"  
ALTER COLUMN "outboundMessageRate" SET DATA TYPE DOUBLE;  
ALTER TABLE "EMS_SERVERINFO"  
ALTER COLUMN "pendingMessageCount" SET DATA TYPE DOUBLE;  
ALTER TABLE "EMS_SERVERINFO"  
ALTER COLUMN "pendingMessageSize" SET DATA TYPE DOUBLE;
```

```
ALTER TABLE "EMS_TOPICTOTALS"  
ALTER COLUMN "inboundByteRate" SET DATA TYPE DOUBLE;  
ALTER TABLE "EMS_TOPICTOTALS"  
ALTER COLUMN "inboundMessageRate" SET DATA TYPE DOUBLE;  
ALTER TABLE "EMS_TOPICTOTALS"  
ALTER COLUMN "outboundByteRate" SET DATA TYPE DOUBLE;  
ALTER TABLE "EMS_TOPICTOTALS"  
ALTER COLUMN "outboundMessageRate" SET DATA TYPE DOUBLE;  
ALTER TABLE "EMS_TOPICTOTALS"  
ALTER COLUMN "pendingMessageCount" SET DATA TYPE DOUBLE;  
ALTER TABLE "EMS_TOPICTOTALS"  
ALTER COLUMN "pendingMessageSize" SET DATA TYPE DOUBLE;
```

```
ALTER TABLE "EMS_TOPICS"  
ALTER COLUMN "inboundByteRate" SET DATA TYPE DOUBLE;  
ALTER TABLE "EMS_TOPICS"
```

```
ALTER COLUMN "inboundMessageRate" SET DATA TYPE DOUBLE;
ALTER TABLE "EMS_TOPICS"
ALTER COLUMN "outboundByteRate" SET DATA TYPE DOUBLE;
ALTER TABLE "EMS_TOPICS"
ALTER COLUMN "outboundMessageRate" SET DATA TYPE DOUBLE;
ALTER TABLE "EMS_TOPICS"
ALTER COLUMN "pendingMessageCount" SET DATA TYPE DOUBLE;
ALTER TABLE "EMS_TOPICS"
ALTER COLUMN "pendingMessageSize" SET DATA TYPE DOUBLE;
```

## SQL Server

```
ALTER TABLE [EMS_CONSUMERS]
ALTER COLUMN [consumerByteRate] FLOAT
ALTER TABLE [EMS_CONSUMERS]
ALTER COLUMN [consumerMessageRate] FLOAT

ALTER TABLE [EMS_DURABLES]
ALTER COLUMN [pendingMessageCount] FLOAT
ALTER TABLE [EMS_DURABLES]
ALTER COLUMN [pendingMessageSize] FLOAT

ALTER TABLE [EMS_PRODUCERS]
ALTER COLUMN [producerByteRate] FLOAT
ALTER TABLE [EMS_PRODUCERS]
ALTER COLUMN [producerMessageRate] FLOAT

ALTER TABLE [EMS_QUEUETOTALS]
ALTER COLUMN [inboundByteRate] FLOAT
ALTER TABLE [EMS_QUEUETOTALS]
ALTER COLUMN [inboundMessageRate] FLOAT
ALTER TABLE [EMS_QUEUETOTALS]
ALTER COLUMN [outboundByteRate] FLOAT
ALTER TABLE [EMS_QUEUETOTALS]
ALTER COLUMN [outboundMessageRate] FLOAT
ALTER TABLE [EMS_QUEUETOTALS]
ALTER COLUMN [pendingMessageCount] FLOAT
ALTER TABLE [EMS_QUEUETOTALS]
ALTER COLUMN [pendingMessageSize] FLOAT
```

```
ALTER TABLE [EMS_QUEUES]
ALTER COLUMN [inboundByteRate] FLOAT
ALTER TABLE [EMS_QUEUES]
ALTER COLUMN [inboundMessageRate] FLOAT
ALTER TABLE [EMS_QUEUES]
ALTER COLUMN [outboundByteRate] FLOAT
ALTER TABLE [EMS_QUEUES]
ALTER COLUMN [outboundMessageRate] FLOAT
ALTER TABLE [EMS_QUEUES]
ALTER COLUMN [pendingMessageCount] FLOAT
ALTER TABLE [EMS_QUEUES]
ALTER COLUMN [pendingMessageSize] FLOAT
```

```
ALTER TABLE [EMS_ROUTES]
ALTER COLUMN [outboundByteRate] FLOAT
ALTER TABLE [EMS_ROUTES]
ALTER COLUMN [outboundMessageRate] FLOAT
ALTER TABLE [EMS_ROUTES]
ALTER COLUMN [inboundByteRate] FLOAT
ALTER TABLE [EMS_ROUTES]
ALTER COLUMN [inboundMessageRate] FLOAT
```

```
ALTER TABLE [EMS_SERVERINFO]
ALTER COLUMN [inboundBytesRate] FLOAT
ALTER TABLE [EMS_SERVERINFO]
ALTER COLUMN [inboundMessageRate] FLOAT
ALTER TABLE [EMS_SERVERINFO]
ALTER COLUMN [outboundBytesRate] FLOAT
ALTER TABLE [EMS_SERVERINFO]
ALTER COLUMN [outboundMessageRate] FLOAT
ALTER TABLE [EMS_SERVERINFO]
ALTER COLUMN [pendingMessageCount] FLOAT
ALTER TABLE [EMS_SERVERINFO]
ALTER COLUMN [pendingMessageSize] FLOAT
```

```
ALTER TABLE [EMS_TOPICTOTALS]
ALTER COLUMN [inboundByteRate] FLOAT
```

```
ALTER TABLE [EMS_TOPICTOTALS]
ALTER COLUMN [inboundMessageRate] FLOAT
ALTER TABLE [EMS_TOPICTOTALS]
ALTER COLUMN [outboundByteRate] FLOAT
ALTER TABLE [EMS_TOPICTOTALS]
ALTER COLUMN [outboundMessageRate] FLOAT
ALTER TABLE [EMS_TOPICTOTALS]
ALTER COLUMN [pendingMessageCount] FLOAT
ALTER TABLE [EMS_TOPICTOTALS]
ALTER COLUMN [pendingMessageSize] FLOAT
```

```
ALTER TABLE [EMS_TOPICS]
ALTER COLUMN [inboundByteRate] FLOAT
ALTER TABLE [EMS_TOPICS]
ALTER COLUMN [inboundMessageRate] FLOAT
ALTER TABLE [EMS_TOPICS]
ALTER COLUMN [outboundByteRate] FLOAT
ALTER TABLE [EMS_TOPICS]
ALTER COLUMN [outboundMessageRate] FLOAT
ALTER TABLE [EMS_TOPICS]
ALTER COLUMN [pendingMessageCount] FLOAT
ALTER TABLE [EMS_TOPICS]
ALTER COLUMN [pendingMessageSize] FLOAT
```

## MySQL

```
ALTER TABLE "EMS_CONSUMERS"
MODIFY "consumerByteRate" DOUBLE ,
MODIFY "consumerMessageRate" DOUBLE ;
```

```
ALTER TABLE "EMS_DURABLES"
MODIFY "pendingMessageCount" DOUBLE ,
MODIFY "pendingMessageSize" DOUBLE ;
```

```
ALTER TABLE "EMS_PRODUCERS"
MODIFY "producerByteRate" DOUBLE ,
MODIFY "producerMessageRate" DOUBLE ;
```

```
ALTER TABLE "EMS_QUEUEUTOTALS"
```

```
MODIFY "inboundByteRate" DOUBLE ,  
MODIFY "inboundMessageRate" DOUBLE ,  
MODIFY "outboundByteRate" DOUBLE ,  
MODIFY "outboundMessageRate" DOUBLE ,  
MODIFY "pendingMessageCount" DOUBLE ,  
MODIFY "pendingMessageSize" DOUBLE ;
```

```
ALTER TABLE "EMS_QUEUES"  
MODIFY "inboundByteRate" DOUBLE ,  
MODIFY "inboundMessageRate" DOUBLE ,  
MODIFY "outboundByteRate" DOUBLE ,  
MODIFY "outboundMessageRate" DOUBLE ,  
MODIFY "pendingMessageCount" DOUBLE ,  
MODIFY "pendingMessageSize" DOUBLE ;
```

```
ALTER TABLE "EMS_ROUTES"  
MODIFY "outboundByteRate" DOUBLE ,  
MODIFY "outboundMessageRate" DOUBLE ,  
MODIFY "inboundByteRate" DOUBLE ,  
MODIFY "inboundMessageRate" DOUBLE ;
```

```
ALTER TABLE "EMS_SERVERINFO"  
MODIFY "inboundBytesRate" DOUBLE ,  
MODIFY "inboundMessageRate" DOUBLE ,  
MODIFY "outboundBytesRate" DOUBLE ,  
MODIFY "outboundMessageRate" DOUBLE ,  
MODIFY "pendingMessageCount" DOUBLE ,  
MODIFY "pendingMessageSize" DOUBLE;
```

```
ALTER TABLE "EMS_TOPICTOTALS"  
MODIFY "inboundByteRate" DOUBLE ,  
MODIFY "inboundMessageRate" DOUBLE ,  
MODIFY "outboundByteRate" DOUBLE ,  
MODIFY "outboundMessageRate" DOUBLE ,  
MODIFY "pendingMessageCount" DOUBLE ,  
MODIFY "pendingMessageSize" DOUBLE ;
```

```
ALTER TABLE "EMS_TOPICS"
```

```

MODIFY "inboundByteRate" DOUBLE ,
MODIFY "inboundMessageRate" DOUBLE ,
MODIFY "outboundByteRate" DOUBLE ,
MODIFY "outboundMessageRate" DOUBLE ,
MODIFY "pendingMessageCount" DOUBLE ,
MODIFY "pendingMessageSize" DOUBLE ;

```

## SyBase

Altering the data type of columns in a Sybase table requires enabling the "select into" option for your database. Consult with your DB Admin on the correct procedure for your installation.

```

ALTER TABLE "EMS_CONSUMERS" MODIFY "consumerByteRate" FLOAT
ALTER TABLE "EMS_CONSUMERS" MODIFY "consumerMessageRate" FLOAT

```

```

ALTER TABLE "EMS_DURABLES" MODIFY "pendingMessageCount" FLOAT
ALTER TABLE "EMS_DURABLES" MODIFY "pendingMessageSize" FLOAT

```

```

ALTER TABLE "EMS_PRODUCERS" MODIFY "producerByteRate" FLOAT
ALTER TABLE "EMS_PRODUCERS" MODIFY "producerMessageRate" FLOAT

```

```

ALTER TABLE "EMS_QUEUETOTALS" MODIFY "inboundByteRate" FLOAT
ALTER TABLE "EMS_QUEUETOTALS" MODIFY "inboundMessageRate" FLOAT
ALTER TABLE "EMS_QUEUETOTALS" MODIFY "outboundByteRate" FLOAT
ALTER TABLE "EMS_QUEUETOTALS" MODIFY "outboundMessageRate" FLOAT
ALTER TABLE "EMS_QUEUETOTALS" MODIFY "pendingMessageCount" FLOAT
ALTER TABLE "EMS_QUEUETOTALS" MODIFY "pendingMessageSize" FLOAT

```

```

ALTER TABLE "EMS_QUEUES" MODIFY "inboundByteRate" FLOAT
ALTER TABLE "EMS_QUEUES" MODIFY "inboundMessageRate" FLOAT
ALTER TABLE "EMS_QUEUES" MODIFY "outboundByteRate" FLOAT
ALTER TABLE "EMS_QUEUES" MODIFY "outboundMessageRate" FLOAT
ALTER TABLE "EMS_QUEUES" MODIFY "pendingMessageCount" FLOAT
ALTER TABLE "EMS_QUEUES" MODIFY "pendingMessageSize" FLOAT

```

```

ALTER TABLE "EMS_ROUTES" MODIFY "outboundByteRate" FLOAT
ALTER TABLE "EMS_ROUTES" MODIFY "outboundMessageRate" FLOAT
ALTER TABLE "EMS_ROUTES" MODIFY "inboundByteRate" FLOAT
ALTER TABLE "EMS_ROUTES" MODIFY "inboundMessageRate" FLOAT

```

```
ALTER TABLE "EMS_SERVERINFO" MODIFY "inboundBytesRate" FLOAT
ALTER TABLE "EMS_SERVERINFO" MODIFY "inboundMessageRate" FLOAT
ALTER TABLE "EMS_SERVERINFO" MODIFY "outboundBytesRate" FLOAT
ALTER TABLE "EMS_SERVERINFO" MODIFY "outboundMessageRate" FLOAT
ALTER TABLE "EMS_SERVERINFO" MODIFY "pendingMessageCount" FLOAT
ALTER TABLE "EMS_SERVERINFO" MODIFY "pendingMessageSize" FLOAT
```

```
ALTER TABLE "EMS_TOPICTOTALS" MODIFY "inboundByteRate" FLOAT
ALTER TABLE "EMS_TOPICTOTALS" MODIFY "inboundMessageRate" FLOAT
ALTER TABLE "EMS_TOPICTOTALS" MODIFY "outboundByteRate" FLOAT
ALTER TABLE "EMS_TOPICTOTALS" MODIFY "outboundMessageRate" FLOAT
ALTER TABLE "EMS_TOPICTOTALS" MODIFY "pendingMessageCount" FLOAT
ALTER TABLE "EMS_TOPICTOTALS" MODIFY "pendingMessageSize" FLOAT
```

```
ALTER TABLE "EMS_TOPICS" MODIFY "inboundByteRate" FLOAT
ALTER TABLE "EMS_TOPICS" MODIFY "inboundMessageRate" FLOAT
ALTER TABLE "EMS_TOPICS" MODIFY "outboundByteRate" FLOAT
ALTER TABLE "EMS_TOPICS" MODIFY "outboundMessageRate" FLOAT
ALTER TABLE "EMS_TOPICS" MODIFY "pendingMessageCount" FLOAT
ALTER TABLE "EMS_TOPICS" MODIFY "pendingMessageSize" FLOAT
```

---

## Additional Configurations

This section describes the additional optional EMS Monitor configurations:

- ["Enable Collection of Historical Data"](#)
- ["Configure High Availability for EMS Monitor"](#)
- ["Sender/Receiver: Distributing the Load of Data Collection"](#)

### Enable Collection of Historical Data

By default, EMS Monitor does not save some types of historical data to the database by default. You can enable collection of the following types of historical data:

- ["Enabling Collection of EMS Connections, Producers, and Consumers Historical Data"](#)
- ["Enabling Optional Historical Caches"](#)
- ["Enabling Collection of Tomcat Historical Data"](#)

## Enabling Collection of EMS Connections, Producers, and Consumers Historical Data

By default, historical EMS Connections, Producers, and Consumers data is not saved to the database. To enable the collection of this historical data, perform the following steps:

1. Navigate to **rtvapm/emsmon/conf/** and open the **rtvapm.emsmon.properties** file.
2. Find the **HISTORIAN PROPERTIES** section in the file.
3. Copy the following three lines:

```
#sl.rtvview.sub=$EMS_CONNECTIONS_TABLE:EMS_CONNECTIONS
#sl.rtvview.sub=$EMS_PRODUCERS_TABLE:EMS_PRODUCERS
#sl.rtvview.sub=$EMS_CONSUMERS_TABLE:EMS_CONSUMERS
```

4. Paste the lines into your **sample.properties** file and uncomment the lines (delete the # in front of each line) so that it looks like this:

```
sl.rtvview.sub=$EMS_CONNECTIONS_TABLE:EMS_CONNECTIONS
sl.rtvview.sub=$EMS_PRODUCERS_TABLE:EMS_PRODUCERS
sl.rtvview.sub=$EMS_CONSUMERS_TABLE:EMS_CONSUMERS
```

5. Save your **sample.properties** file.

## Enabling Optional Historical Caches

There are three optional caches that collect and store inbound/outbound message counts and bytes into the RTV\_HISTORY database: **EmsServerInfoExt**, **EmsQueuesExt**, and **EmsTopicsExt**. By default, these caches are not enabled and do not store data in the RTV\_HISTORY database. To enable them, add the following lines to your **sample.properties** file:

```
collector.sl.rtvview.sub=$EMS_SERVERINFOEXT_TABLE:EMS_SERVERINFOEXT
collector.sl.rtvview.sub=$EMS_QUEUESEXT_TABLE:EMS_QUEUESEXT
collector.sl.rtvview.sub=$EMS_TOPICSEXT_TABLE:EMS_TOPICSEXT
```

## Enabling Collection of Tomcat Historical Data

By default, Tomcat historical data is not collected and saved to the database. To enable collection of Tomcat historical data, add the following properties to your **sample.properties** file and save:

```
collector.sl.rtvview.sub=$TOMCAT_GLOBALREQUESTSTATS_TABLE:TOMCAT_GLOBALREQUESTSTATS
collector.sl.rtvview.sub=$TOMCAT_WEBMODULESTATS_TABLE:TOMCAT_WEBMODULESTATS
collector.sl.rtvview.sub=$TOMCAT_WEBMODULETOTALS_TABLE:TOMCAT_WEBMODULETOTALS
```

## Configure High Availability for EMS Monitor

In addition to setting up High Availability for EM, you can also set up High Availability for EMS Monitor.

## EMS Monitor HA Solution Package Version

A High Availability (HA) Data Server configuration that is within the RTView Enterprise Monitor platform is available for the EMS Monitor Solution Package version.

The **emsample/servers** directory provides an example of HA for RTView Enterprise Monitor and the EMS Monitor Solution Package version. The example assumes the availability of two machines, **PRIMARYHOST** and **BACKUPHOST**, which are defined by environment variables of the same name. RTView Enterprise Monitor is configured by the **rtvservers-ha.dat** file in place of the **“rtvservers.dat”** file in the **emsample/servers** directory. By default, HA configuration is not enabled. To enable HA, you need to rename **rtvservers-ha.dat** to **rtvservers.dat**.

Assuming the environment variables **PRIMARYHOST** and **BACKUPHOST** are set correctly, EM components on the primary machine are started as normal using the **“central”** configuration with the **start\_rtv** command. EM components on the backup machine are started using the **“central-backup”** configuration with the **start\_rtv** command.

To start the HA configuration, first start the primary EMS Monitor Data Server on the primary machine as normal using the **emsmon** configuration with the **start\_rtv** command. For example:

### Windows

```
start_rtv emsmon dataserver
```

### UNIX

```
start_rtv.sh emsmon dataserver
```

Then start the backup EMS Monitor Data Server on the backup machine using the **emsmon-backup** configuration with the **start\_rtv** command. For example:

### Windows

```
start_rtv emsmon-backup dataserver
```

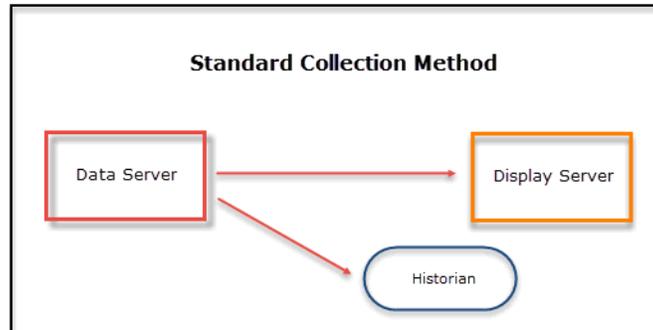
### UNIX

```
start_rtv.sh emsmon-backup dataserver
```

The appropriate property files and **propfilters** for the EMS Monitor Data Server are defined in the **rtvservers-ha.dat** file in the **servers** directory. The property values controlling HA used by the EMS Monitor Data Servers are defined in the **ha.properties** file in the **servers/emsmon** directory.

## Sender/Receiver: Distributing the Load of Data Collection

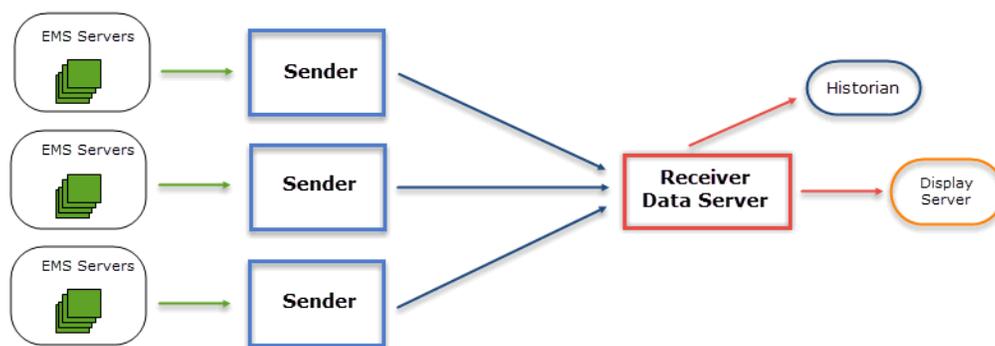
The standard method of collecting data involves one Data Server that sends the data to the Display Server and the Historian. For example:



This method is optimized to deliver data efficiently when large tables and high data volumes are involved. There is, however, an alternative method of collecting data: the Sender/Receiver Data Collection Method. This collection method allows you to configure EMS Monitor so that you have a Data Server (Receiver) that collects data from one or more remote Senders. This type of configuration could be useful in the following scenarios:

### 1. When dividing the collection load across different machines is more efficient

In the Sender/Receiver Data Collection Method, the Senders are configured as lightweight Data Servers without history being configured and whose primary purpose is to collect and aggregate data from their respective local EMS Servers that they then send to the full-featured Data Server (Receiver). The benefit of this type of configuration comes from balancing the load of the data collection. The Senders collect data exclusively from the EMS Servers in their network and send the data to the Receiver, which collects the data and sends it to the EMS Monitor Display Server, the Historian, and the Viewer. The following illustration provides one configuration example:

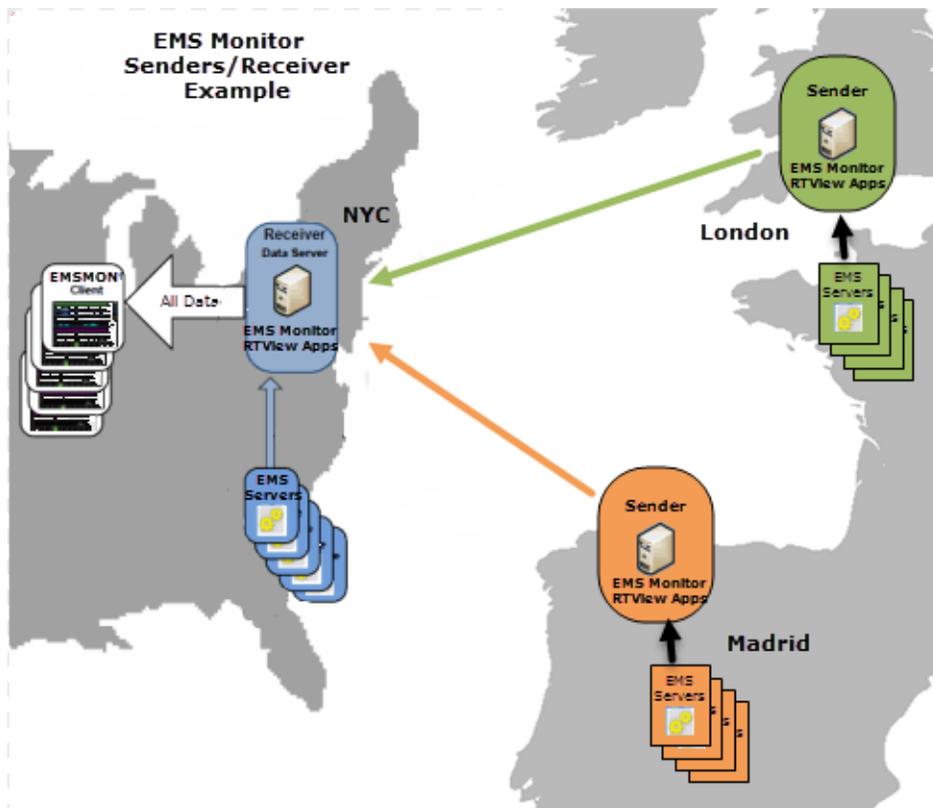


### 2. When firewall limitations prevent the Receiver Data Server from receiving data directly, Senders behind the firewall can be configured to send data to the Receiver

In the Standard Collection Method, the client must specify the network address of the Data Server to which it wants to connect, which might not be allowed due to security restrictions. In these situations, the Sender/Receiver Collection Method could be considered since the Receiver does not need to know the network addresses of the Senders because it simply opens the port and passively receives data from any defined Sender.

### Example

The following example contains Senders in London and Madrid that collect data from their associated EMS Servers and send the data to a Receiver Data Server in New York City. The Receiver takes the collected data from London and Madrid along with data collected from its own associated EMS Servers and sends it to the EMS Monitor displays.



| <b>Receiver Data Server -- NYC</b>  | <b>Sender -- London</b>  | <b>Sender -- Madrid</b>  |
|---|--|--|
| <ul style="list-style-type: none"> <li>Automatically detects and gathers data from its local EMS Servers.</li> <li>Receives data from London and Madrid Senders.</li> <li>Aggregates data.</li> <li>Provides data to the EMS Monitor displays.</li> </ul> | <ul style="list-style-type: none"> <li>Automatically detects and gathers data from its local EMS servers.</li> <li>Sends data to the NYC Data Server.</li> </ul> | <ul style="list-style-type: none"> <li>Automatically detects and gathers data from its local EMS Servers.</li> <li>Sends data to the NYC Data Server.</li> </ul> |

## Setting Up the Sender/Receiver Configuration

The following steps outline the workflow for setting up a Sender/Receiver configuration:

### Sender

1. In your project directory, add all of the EMS Servers to which you want to connect in the **servers.xml** file.
2. Rename the **sample.properties** file to something meaningful to you (for example, **mysample.properties**).
3. Verify that your **servers.xml** file location is specified in your **mysample.properties** file.
4. On each host where you want to configure a sender, verify that you can collect data from your local EMS Servers by starting the viewer using:

**runv -properties:mysample**

Verify that each **servers.xml** file on each host only lists the EMS Servers that are locally accessible. See **Configure Data Collection** for more information.

---

**Note:** Make sure all Senders are correctly configured so that they only collect data from their local connections. Incorrect configurations could lead to impaired performance.

---

5. If the data is being collected correctly, add the following to the **mysample.properties** file:
 

```
sender.sl.rtvview.sub=$rtvAgentTarget:'[IPofReceiver]:3172'
```

```
sender.sl.rtvview.sub=$rtvAgentName:[AgentName]
```

 where
   
**IPofReceiver** = actual hostname or IP address of the Receiver's system
   
and
   
**AgentName** = name descriptive of the Sender's location
6. To start the Sender, add the **propfilter** and **properties** arguments as such:
 

```
rundata -propfilter:sender -properties:mysample
```
7. Repeat Step 6 for each host where you want to execute a Sender to collect EMS data.
   
You can name all your sender properties files the same (for example, **mysample.properties** and **servers.xml**) on each host, thus allowing you to execute Senders the same way. You will only need to modify the **\$rtvAgentName** in the **mysample.properties** file and the list of EMS Servers in the **servers.xml** file for each host.

### Receiver

1. If the Receiver has local connections to EMS Servers, you will need to add the servers to the **servers.xml** file and make sure the file location of the **servers.xml** file is specified in the **mysample.properties** file.
2. Run the Receiver Data Server with the properties file:

**rundata -propfilter:receiver -properties:mysample**

Typically, Receiver Data Servers do not have any local EMS Server connections and, hence, can be run without the properties argument. For example:

**rundata -propfilter:receiver**

---

## EMS Monitor Views/Displays

The following EMS Monitor Views (and their associated displays) can be found under **Components** tab > **Middleware** > **TIBCO EMS Messaging** once EMS Monitor is installed:

- "All EMS Servers"
- "Single EMS Server"
- "EMS Topics"
- "EMS Queues"
- "EMS Clients"

### All EMS Servers

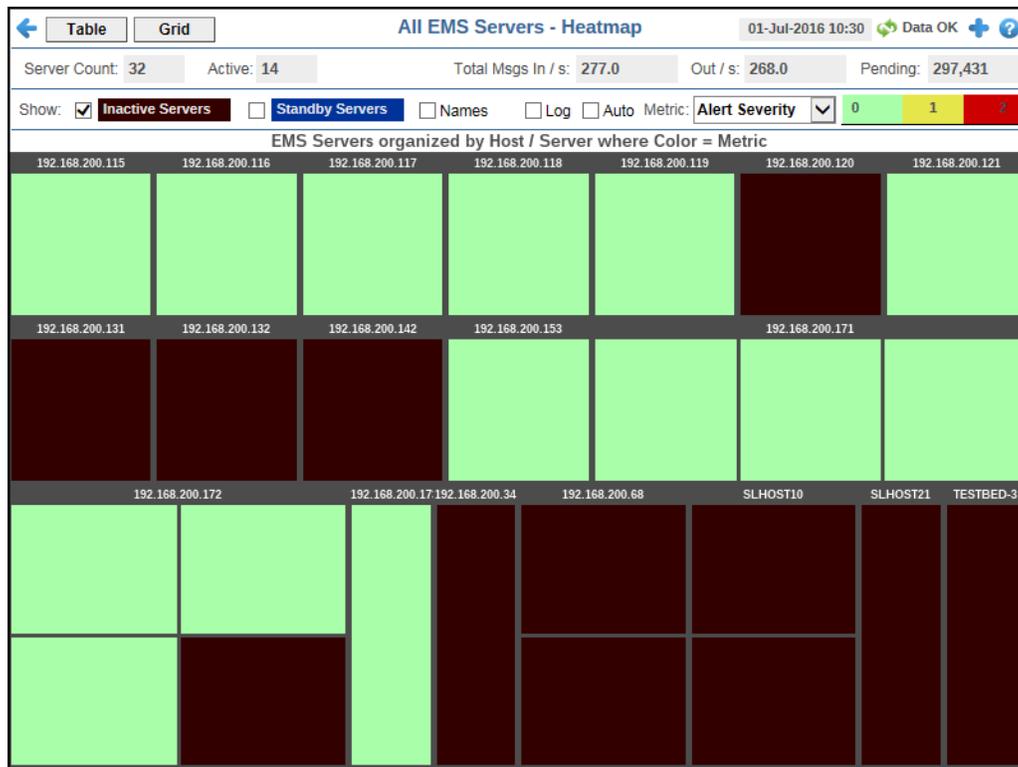
These displays present performance metrics and alert status for all EMS servers. The first three displays show different views of the same data:

- "All Servers Heatmap": Heatmap shows server and alert status for all EMS servers.
- "All Servers Table": Table shows all available utilization metrics for all EMS servers.
- "All Servers Grid": Grid enables you to see general performance of EMS servers in parallel. If you have few servers, this display is useful for verifying servers are active and generally performing as expected.
- "All Servers Topology": Topology of server routes and connections, as well as the status of active servers and standby servers that form a fault-tolerant pair.

### All Servers Heatmap

View status and alerts of all EMS servers. Use the **Metric** drop-down menu to view the **Alert Severity, Alert Count, Connections, Pending Messages, Inbound Message Rate, Outbound Message Rate, or Message Memory Percent (%)**.

The heatmap is organized by host, each rectangle representing a server. The rectangle color indicates the most critical alert state. Click on a node to drill-down to the Single Server Summary display and view metrics for a particular server. Toggle between the commonly accessed **Table, Grid, and Heatmap** displays. Mouse-over rectangles to view more details about host performance and status.



**Title Bar:** Indicators and functionality might include the following:

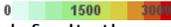
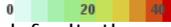
- Open the previous and upper display.
- Navigate to displays commonly accessed from this display.
- The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
- The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

**Fields and Data**

This display includes:

- Server Count** The total number of active, inactive, and standby EMS servers.
- Active** The total number of currently active EMS servers.
- Total Msgs In/s** **In/s** The total number of inbound messages, per second, from all producers and consumers on all EMS servers.
- Out/s** The total number of outbound messages, per second, from all producers and consumers on all EMS servers.
- Pending** The total number of pending messages waiting to be processed on all EMS servers. Click to open the "All Servers Table" display.

|                         |   |
|-------------------------|---|
| <b>Show</b>             | Select the type of servers for which to display data. By default, all active servers are displayed.   |
| <b>Inactive Servers</b> | Select to include servers that are not currently running. <b>Inactive Servers</b> are represented in dark red.  |
| <b>Standby Servers</b>  | Select to include servers that are currently in Standby mode. Standby Servers are represented in blue.  |
| <b>Names</b>            | Select to display the names of servers on the hosts.  |
| <b>Log</b>              | This option enables visualization on a logarithmic scale, and should be used when the range in your data is very broad. For example, if you have data that ranges from the tens to the thousands, then data in the range of tens will be neglected visually if you do not check this option. This option makes data on both extreme ranges visible by using the logarithmic of the values rather than the actual values.  |
| <b>Auto</b>             | When checked, the values of the selected metric are auto-scaled to its highest defined value. When unchecked, the values of the selected metric display based on the threshold defined for the alert associated with the selected metric. Selecting Auto helps to visualize the range of the values currently present for the selected metric instead of the threshold of the alert that has been associated with the metric. All metrics that have not been associated in the heatmap defaults with alerts use a monochromatic color gradient bar (whites and greens). All metrics that have been associated in the heatmap defaults with alerts use a multi-chromatic color gradient bar (reds, yellows, white, and greens).  |
| <b>Metric</b>           | Select the metric driving the heatmap display. The default is Alert Severity. Each <b>Metric</b> has a color gradient bar that maps values to colors. The heatmap organizes the servers by host, where each rectangle represents a server. Mouse-over any rectangle to display the current values of the metrics for the Server. Click on a rectangle to drill-down to the associated <a href="#">"Single Server Summary"</a> display for a detailed view of metrics for that particular server.  |
| <b>Alert Severity</b>   | <p>The maximum alert level in the item (index) associated with the rectangle. Values range from <b>0</b> to <b>2</b>, as indicated in the color gradient bar , where <b>2</b> is the greatest <b>Alert Severity</b>.</p> <p><b>2</b> -- Metrics that have exceeded their specified <b>ALARMLEVEL</b> threshold and have an Alert Severity value of <b>2</b> are shown in red. For a given rectangle, this indicates that one or more metrics have exceeded their alarm threshold.</p> <p><b>1</b> -- Metrics that have exceeded their specified <b>WARNINGLEVEL</b> threshold and have an Alert Severity value of <b>1</b> are shown in yellow. For a given rectangle, this indicates that one or more metrics have exceeded their warning threshold.</p> <p><b>0</b> -- Metrics that have not exceeded either specified threshold have an Alert Severity value of <b>0</b> and are shown in green. For a given rectangle, this indicates that no metrics have exceeded a specified alert threshold.</p> |
| <b>Alert Count</b>      | <p>The total number of alarm and warning alerts in a given item (index) associated with the rectangle.</p> <p>The color gradient bar  shows the range of the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the middle value of the range.</p>   |

|                      |   |
|----------------------|---|
| <b>Connections</b>   | <p>The total number of connections in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. The numerical values in the gradient bar range from <b>0</b> to the maximum count of connections in the heatmap. The middle value in the gradient bar indicates the middle value of the range.</p> <p>The <b>Auto</b> option does not impact this metric.</p>  |
| <b>Pend Messages</b> | <p>The total number of pending messages in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from <b>0</b> to the alert threshold of <b>EmsServerPendingMsgsHigh</b>, which is <b>3500</b>. The middle value in the gradient bar indicates the middle value of the range (the default is <b>1750</b>).</p> <p>When <b>Auto</b> is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.</p> |
| <b>In Msg Rate</b>   | <p>The total number of inbound messages in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from <b>0</b> to the alert threshold of <b>EmsServerInMsgRateHigh</b>, which is <b>40</b>. The middle value in the gradient bar indicates the middle value of the range (the default is <b>20</b>).</p> <p>When <b>Auto</b> is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.</p>       |
| <b>Out Msg Rate</b>  | <p>The total number of outbound messages in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from <b>0</b> to the alert threshold of <b>EmsServerOutMsgRateHigh</b>, which is <b>40</b>. The middle value in the gradient bar indicates the middle value of the range (the default is <b>20</b>).</p> <p>When <b>Auto</b> is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.</p>   |
| <b>Mem Msg %</b>     | <p>The percent (%) memory used by messages in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from <b>0</b> to the alert threshold of <b>EmsServerMemUsedHigh</b>, which is <b>40</b>. The middle value in the gradient bar indicates the middle value of the range (the default is <b>20</b>).</p> <p>When <b>Auto</b> is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.</p>    |

## All Servers Table

Investigate detailed utilization metrics for all EMS servers. The **All Servers Table** contains all metrics available for servers, including the number of current client connections. Each row in the table contains data for a particular server. Click a column header to sort column data in numerical or alphabetical order. Click on a table row to drill-down to the [“Single Server Summary”](#) display and view metrics for that particular server. Toggle between the commonly accessed **Table**, **Grid**, and **Heatmap** displays.

| URL                        | serverName                    | Host            | Expired                             | Alert Level | state  | versionIn |
|----------------------------|-------------------------------|-----------------|-------------------------------------|-------------|--------|-----------|
| tcp://192.168.200.115:7222 | EMS-SERVER                    | 192.168.200.115 | <input type="checkbox"/>            |             | Active | 6.0.0.8   |
| tcp://192.168.200.116:7222 | EMS-SERVER                    | 192.168.200.116 | <input type="checkbox"/>            |             | Active | 6.0.0.8   |
| tcp://192.168.200.117:7222 | EMS-SERVER                    | 192.168.200.117 | <input type="checkbox"/>            |             | Active | 6.1.0.6   |
| tcp://192.168.200.118:7222 | EMS-SERVER                    | 192.168.200.118 | <input type="checkbox"/>            |             | Active | 6.3.0.5   |
| tcp://192.168.200.119:7222 | EMS-SERVER                    | 192.168.200.119 | <input type="checkbox"/>            |             | Active | 6.3.0.5   |
| tcp://192.168.200.120:7222 | Unknown (tcp://192.168.200... | 192.168.200.120 | <input checked="" type="checkbox"/> |             |        |           |
| tcp://192.168.200.121:7222 | EMS-SERVER                    | 192.168.200.121 | <input type="checkbox"/>            |             | Active | 6.0.0.8   |
| tcp://192.168.200.131:7222 | TESTBED-1 (tcp://192.168.2... | 192.168.200.131 | <input checked="" type="checkbox"/> |             |        |           |
| tcp://192.168.200.132:7222 | TESTBED-2 (tcp://192.168.2... | 192.168.200.132 | <input checked="" type="checkbox"/> |             |        |           |
| tcp://192.168.200.142:7222 | Unknown (tcp://192.168.200... | 192.168.200.142 | <input checked="" type="checkbox"/> |             |        |           |
| tcp://192.168.200.153:7222 | EMS-SERVER-153                | 192.168.200.153 | <input type="checkbox"/>            |             | Active | 8.2.2.3   |
| tcp://192.168.200.171:6010 | EMS-SLDEMOS2-6010             | 192.168.200.171 | <input type="checkbox"/>            |             | Active | 6.0.0.8   |
| tcp://192.168.200.171:6020 | EMS-SLDEMOS2-6020             | 192.168.200.171 | <input type="checkbox"/>            |             | Active | 6.0.0.8   |
| tcp://192.168.200.171:6030 | EMS-SLDEMOS2-6030             | 192.168.200.171 | <input type="checkbox"/>            |             | Active | 6.0.0.8   |
| tcp://192.168.200.172:8011 | EMS-SLDEMOS3-8010             | 192.168.200.172 | <input type="checkbox"/>            |             | Active | 6.0.0.8   |
| tcp://192.168.200.172:8020 | EMS-SLDEMOS3-8020             | 192.168.200.172 | <input type="checkbox"/>            |             | Active | 6.0.0.8   |
| tcp://192.168.200.172:8030 | EMS-SLDEMOS3-8030             | 192.168.200.172 | <input type="checkbox"/>            |             | Active | 6.0.0.8   |
| tcp://192.168.200.172:8031 | Unknown (tcp://192.168.200... | 192.168.200.172 | <input checked="" type="checkbox"/> |             |        |           |
| tcp://192.168.200.173:9010 | EMS-SLDEMOS4-9010             | 192.168.200.173 | <input type="checkbox"/>            |             | Active | 6.0.0.8   |
| tcp://192.168.200.34:7222  | TESTBED-34 (tcp://192.168...  | 192.168.200.34  | <input checked="" type="checkbox"/> |             |        |           |
| tcp://192.168.200.68:7222  | Unknown (tcp://192.168.200... | 192.168.200.68  | <input checked="" type="checkbox"/> |             |        |           |
| tcp://192.168.200.68:7224  | Unknown (tcp://192.168.200... | 192.168.200.68  | <input checked="" type="checkbox"/> |             |        |           |
| tcp://SLHOST10:7010        | Unknown (tcp://SLHOST10:7...  | SLHOST10        | <input checked="" type="checkbox"/> |             |        |           |
| tcp://SLHOST10:7011        | Unknown (tcp://SLHOST10:7...  | SLHOST10        | <input checked="" type="checkbox"/> |             |        |           |
| tcp://SLHOST21:7222        | EMS-SERVER-SLHOST21 (t...     | SLHOST21        | <input checked="" type="checkbox"/> |             |        |           |
| tcp://TESTBED-3:7022       | Unknown (tcp://TESTBED-3:...  | TESTBED-3       | <input checked="" type="checkbox"/> |             |        |           |

**Title Bar:** Indicators and functionality might include the following:



Open the previous and upper display. Navigate to displays commonly accessed from this display.

19-Feb-2014 16:50

The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.



The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.



Open the **Alert Views - RTView Alerts Table** display.



Open an instance of this display in a new window.



Open the online help page for this display.

**Fields and Data**

This display includes:

**Server Count** The total number of active, inactive and standby EMS servers. **Inactive Servers** are represented in dark red. **Standby Servers** are represented in blue.

**Active** The total number of currently active EMS servers.

**Total Msgs In/s** The total number of inbound messages, per second, from all producers and consumers on all EMS servers.

**Out/s** The total number of outbound messages, per second, from all producers and consumers on all EMS servers.

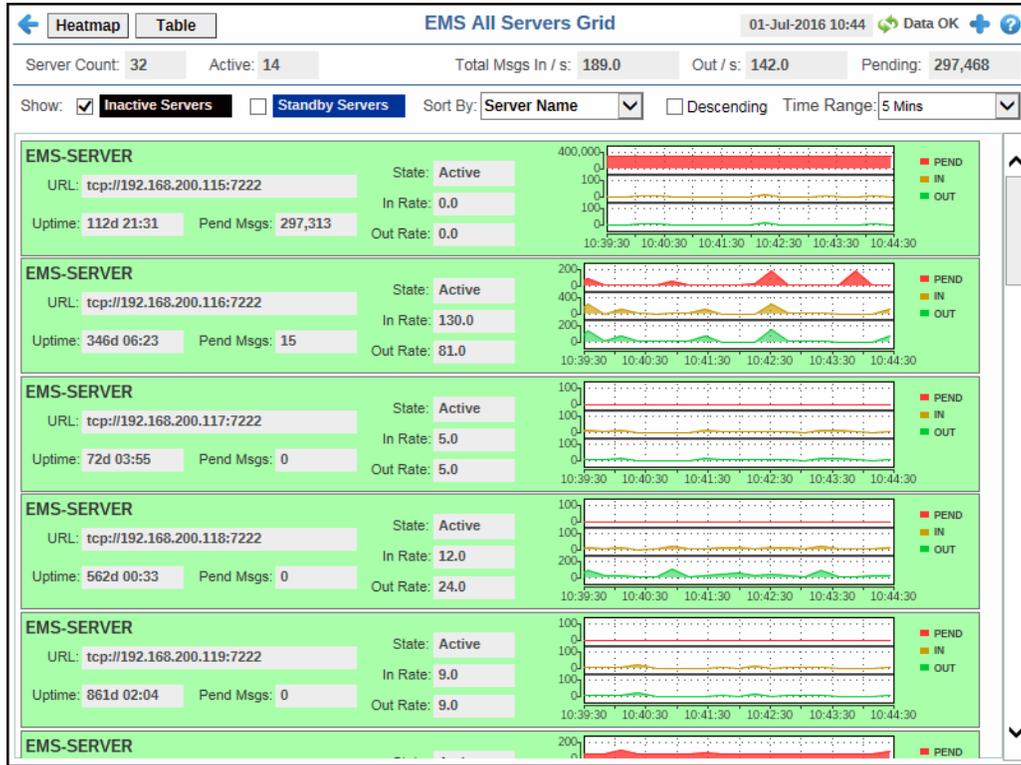
**Pending** The total number of inbound and outbound messages waiting to be processed on all EMS servers.

|                            |   |
|----------------------------|---|
| <b>Show</b>                | Select the type of servers to display data for. By default, all active servers are displayed.   |
| <b>Inactive Servers</b>    | Select to include servers that are not processing requests in the table. <b>Inactive Servers</b> are represented in dark red.   |
| <b>Standby Servers</b>     | Select to include servers that are not currently running. <b>Standby Servers</b> are represented in blue.   |
| <b>Table</b>               | This table shows information for all EMS servers. Click on a table row to drill-down to the " <a href="#">Single Server Summary</a> " display and view metrics for that particular server.  |
| <b>URL</b>                 | Select to include servers that are currently in Standby mode. <b>Standby Servers</b> are represented in blue.   |
| <b>serverName</b>          | The name of the server.   |
| <b>Host</b>                | The name or IP address for the host server.   |
| <b>Expired</b>             | Data has not been received from this server in the specified amount of time. The server will be removed from the EMS Monitor per the specified amount of time. The default setting is <b>35</b> seconds.  |
| <b>Alert Level</b>         | <p>The maximum alert level in the item (index) associated with the rectangle. Values range from 0 to 2, as indicated in the color gradient bar, where <b>2</b> is the greatest Alert Severity.</p> <p> -- One or more alerts have exceeded their specified <b>ALARMLEVEL</b> threshold, have an Alert Severity value of <b>2</b>, and are shown in red.</p> <p> -- One or more alerts have exceeded their specified <b>WARNINGLEVEL</b> threshold, have an Alert Severity value of <b>1</b>, and are shown in yellow.</p> <p> -- No alerts have exceeded an alert threshold, which have an Alert Severity value of <b>0</b>, and are shown in green.</p> |
| <b>state</b>               | <p>The server status:</p> <p><b>Active</b> -- The server is currently processing requests.</p> <p><b>Inactive</b> -- The server is not currently processing requests. <b>Inactive Servers</b> are represented in dark red.</p> <p><b>Standby</b> -- The server is functioning as a backup for a primary server. <b>Standby Servers</b> are represented in blue.</p>   |
| <b>versionInfo</b>         | The TIBCO EMS software version currently running.   |
| <b>faultTolerantURL</b>    | The IP address and port number for the source (application, server, and so forth) associated with the alert.  |
| <b>asyncDBsize</b>         | The amount of database space, in bytes, occupied by asynchronous data on the server.  |
| <b>backupName</b>          | The name of the backup server assigned as the backup to this server.  |
| <b>connectionCount</b>     | The number of clients currently connected to the server.  |
| <b>diskReadRate</b>        | The speed at which the server reads disk data.  |
| <b>diskWriteRate</b>       | The speed at which the server writes data to disk.  |
| <b>durableCount</b>        | The number of durables on the server.   |
| <b>inboundBytesRate</b>    | The rate of inbound messages in bytes per second.   |
| <b>inboundMessageCount</b> | The number of inbound messages received by the server since the server was started.   |

|                             |  |
|-----------------------------|--|
| <b>inboundMessageRate</b>   | The rate of inbound messages in number of messages per second.                       |
| <b>MaxMessageMemory</b>     | The maximum amount of memory, in bytes, allocated for use by messages on the server. |
| <b>messageMemory</b>        | The amount of memory, in bytes, currently used by messages on the server.            |
| <b>messageMemoryPct</b>     | The amount of memory, in percent, used by messages on the server.                    |
| <b>messageMemoryPooled</b>  | The currently allocated pool size, in bytes, for messages.                           |
| <b>outboundBytesRate</b>    | The rate of outbound messages in bytes per second.                                   |
| <b>outboundMessageCount</b> | The number of outbound messages sent by the server since the server was started.     |
| <b>outboundMessageRate</b>  | The rate of outbound messages in number of messages per second.                      |
| <b>pendingMessageCount</b>  | The number of currently pending messages on the server.                              |
| <b>pendingMessageSize</b>   | The amount of space, in bytes, pending messages use on the server.                   |
| <b>processId</b>            | The process ID of the EMS server.  |
| <b>queueCount</b>           | The number of message queues.  |
| <b>startTime</b>            | The date and time that the server was started.                                       |
| <b>syncDBSize</b>           | The amount of database space, in bytes, occupied by synchronous data on the server.  |
| <b>topicCount</b>           | The number of currently active topics on the server.                                 |
| <b>upTime</b>               | The amount of time, in milliseconds, since the server was started.                   |
| <b>time_stamp</b>           | The date and time this row of data was last updated.                                 |

## All Servers Grid

Track and view in parallel the general performance of all EMS servers. Click on a node to drill-down to the “Single Server Summary” display and view detailed metrics for that particular server.



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- Navigate to displays commonly accessed from this display.
- The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

- The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

### Fields and Data

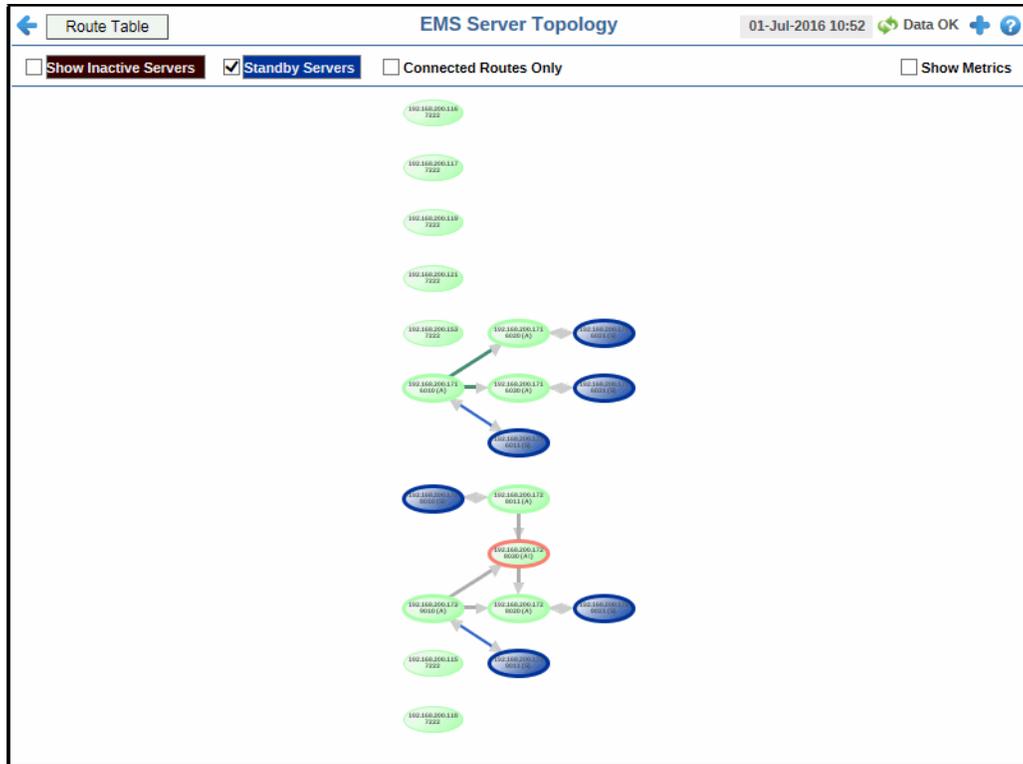
This display includes:

- Server Count** The total number of active, inactive and standby EMS servers. Inactive Servers are represented in dark red. Standby Servers are represented in blue.
- Active** The total number of currently active EMS servers.

|                   |                         |  |
|-------------------|-------------------------|--|
| <b>Total Msgs</b> | <b>In/s</b>             | The total number of inbound messages, per second, from all producers and consumers on all EMS servers.   |
|                   | <b>Out/s</b>            | The total number of outbound messages, per second, from all producers and consumers on all EMS servers.  |
|                   | <b>Pending</b>          | The total number of inbound and outbound messages waiting to be processed on all EMS servers. Click to open the <a href="#">"All Servers Table"</a> display.   |
| <b>Show</b>       |                         | Select the type of servers to display data for. By default, all active servers are displayed.  |
|                   | <b>Inactive Servers</b> | Select to include servers that are not processing requests in the table. <b>Inactive Servers</b> are represented in dark red.  |
|                   | <b>Standby Servers</b>  | Select to include servers that are not currently running. <b>Standby Servers</b> are represented in blue.  |
| <b>Sort By</b>    | <b>Server Name</b>      | Select to organize the servers in the grid by server name.   |
|                   | <b>Server URL</b>       | Select to organize the servers in the grid by server URL.  |
| <b>Descending</b> |                         | When checked, lists servers in the grid in descending order.   |
| <b>Time Range</b> |                         | Select a time range from the drop down menu varying from <b>2 Minutes</b> to <b>Last 7 Days</b> , or display <b>All Data</b> .   |
| <b>Grid</b>       | <b>Server Name</b>      | The name of the server.  |
|                   | <b>URL</b>              | The URL for the server.  |
|                   | <b>Uptime</b>           | The amount of time, in milliseconds, since the server was started.   |
|                   | <b>Pend Msgs</b>        | The number of currently pending messages on the server.  |
|                   | <b>State</b>            | The server status:<br><b>Active</b> -- The server is currently processing requests.<br><b>Inactive</b> -- The server is not currently processing requests. Inactive Servers are represented in dark red.<br><b>Standby</b> -- The server is functioning as a backup for a primary server. Standby Servers are represented in blue. |
|                   | <b>In Rate</b>          | The rate of inbound messages in messages per second.   |
|                   | <b>Out Rate</b>         | The rate of outbound messages in messages per second.  |
|                   | <b>Trend Graphs</b>     | Shows message data for the server.<br><b>Pend</b> -- Traces the total number of pending messages on the server.<br><b>In</b> -- Traces the rate of inbound messages in messages per second.<br><b>Out</b> -- Traces the rate of outbound messages in messages per second.  |

## All Servers Topology

View a server topology map for all EMS servers. Click on a node to drill-down to the “Single Server Summary” display and view metrics for that particular server.



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- Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

**Note:** Clicking the **Route Table** button displays the **EMS Server Route Table** window. See “[EMS Server Route Table](#)” for more information.

### Fields and Data

This display includes:

|                              |  |                          |   |                              |  |                              |  |
|------------------------------|--|--------------------------|---|------------------------------|--|------------------------------|--|
| <b>Show</b>                  | The total number of active, inactive and standby EMS servers. Inactive Servers are represented in dark red. Standby Servers are represented in blue.   |                          |   |                              |  |                              |  |
|                              | <table border="0"> <tr> <td style="vertical-align: top;"><b>Inactive Servers</b></td> <td>Select to show servers that are not processing requests in the topology. Inactive Servers are represented in dark red.</td> </tr> <tr> <td style="vertical-align: top;"><b>Standby Servers</b></td> <td>Select to show servers that are not processing requests in the topology. Standby Servers are represented in blue.</td> </tr> <tr> <td style="vertical-align: top;"><b>Connected Routes Only</b></td> <td>Select to show only routes that have an active connection.</td> </tr> </table>  | <b>Inactive Servers</b>  | Select to show servers that are not processing requests in the topology. Inactive Servers are represented in dark red.  | <b>Standby Servers</b>       | Select to show servers that are not processing requests in the topology. Standby Servers are represented in blue.                              | <b>Connected Routes Only</b> | Select to show only routes that have an active connection. |
| <b>Inactive Servers</b>      | Select to show servers that are not processing requests in the topology. Inactive Servers are represented in dark red.   |                          |   |                              |  |                              |  |
| <b>Standby Servers</b>       | Select to show servers that are not processing requests in the topology. Standby Servers are represented in blue.  |                          |   |                              |  |                              |  |
| <b>Connected Routes Only</b> | Select to show only routes that have an active connection.   |                          |   |                              |  |                              |  |
| <b>Show Metrics</b>          | Available on desktop application deployments only. Shows the total input message rates, per second, on the top of each server icon and the total output message rate on the bottom of each server icon.  |                          |   |                              |  |                              |  |
| <b>Topology</b>              | <p>Routes are shown between the active server and the standby server, which form a fault-tolerant pair. Either of the servers in a fault-tolerant pair can become the active server or the standby server. <b>Show Standby Servers</b> and <b>Show Inactive Servers</b> enable you to include or exclude standby and inactive servers. <b>Inactive Servers</b> are represented in dark red. <b>Standby Servers</b> are represented in blue. By default, standby servers are included in the topology and inactive servers are not.</p> <p>Typically, it takes about 30 seconds for a server to appear in the display after startup.</p> <p>The active server in a fault-tolerant pair appears in green with the suffix <b>(A)</b> appended to its URL. The standby server appears in blue, with the suffix <b>(S)</b> appended to its URL. Their link is blue and labeled <b>FT</b>.</p> <p>If the active server fails:</p> <ul style="list-style-type: none"> <li>• the failed server becomes inactive, its suffix changes to <b>(X!)</b>, and the node turns red with a red outline.</li> <li>• the standby server becomes active, its suffix changes to <b>(A!)</b>, and the node turns green with a red outline.</li> <li>• the link between the two servers turns red.</li> </ul> <p>If the standby server fails:</p> <ul style="list-style-type: none"> <li>• the failed server becomes inactive, its suffix changes to <b>(X!)</b>, and the node turns red with a red outline.</li> <li>• the active servers' suffix changes to <b>(A!)</b> and it is outlined in red.</li> <li>• the link between the two servers turns red.</li> </ul> <p>If a failed server recovers:</p> <ul style="list-style-type: none"> <li>• the recovered server becomes the standby server, its suffix changes to <b>(S)</b>, and the node turns blue with a grey outline.</li> <li>• the active servers' suffix <b>(A!)</b> changes to <b>(A)</b>, and the red node outline changes back to grey.</li> <li>• the link between the two servers changes back to blue.</li> </ul> <table border="0"> <tr> <td style="vertical-align: top;"><b>Suffix Definition</b></td> <td> <b>A</b> -- This is the active server and it is running.<br/> <b>A!</b> -- This is the active server and it is running but its standby has failed.<br/> <b>S</b> -- This is the standby server and it is running.<br/> <b>X!</b> -- The server is inactive. </td> </tr> <tr> <td style="vertical-align: top;"><b>Node Color Definition</b></td> <td> -- This is the active server and it is running.<br/> Blue -- This is the standby server and it is in standby mode.<br/> -- The server is inactive. </td> </tr> </table> | <b>Suffix Definition</b> | <b>A</b> -- This is the active server and it is running.<br><b>A!</b> -- This is the active server and it is running but its standby has failed.<br><b>S</b> -- This is the standby server and it is running.<br><b>X!</b> -- The server is inactive. | <b>Node Color Definition</b> | -- This is the active server and it is running.<br>Blue -- This is the standby server and it is in standby mode.<br>-- The server is inactive. |                              |  |
| <b>Suffix Definition</b>     | <b>A</b> -- This is the active server and it is running.<br><b>A!</b> -- This is the active server and it is running but its standby has failed.<br><b>S</b> -- This is the standby server and it is running.<br><b>X!</b> -- The server is inactive.  |                          |   |                              |  |                              |  |
| <b>Node Color Definition</b> | -- This is the active server and it is running.<br>Blue -- This is the standby server and it is in standby mode.<br>-- The server is inactive.   |                          |   |                              |  |                              |  |

- Link Color Definition**
  - Blue -- The two servers in the pair are running.
  - One of the servers in the pair is inactive.
- Outline Color Definition**
  - Grey -- The two servers in the pair are running.
  - One of the servers in the pair is inactive. If the node color indicates this server is running, its pair is inactive.

### EMS Server Route Table

Displays metrics for server routes on all servers. Inbound metrics, such as **inboundByteRate**, indicate an in route to the server. Outbound metrics, such as **outboundByteRate**, indicate an out route to the server.

| remoteURL   | remoteName        | connected | stalled | inboundByteRate | inboundMessage |
|---|-------------------|-----------|---------|-----------------|----------------|
| tcp://192.168.200.171:6020,tcp://192.168.200.1... | EMS-SLDEMOS2-6020 |           | 0       | 0.0             |                |
| tcp://192.168.200.171:6020,tcp://192.168.200.1... | EMS-SLDEMOS2-6020 |           | 0       | 0.0             |                |
| tcp://192.168.200.171:6030,tcp://192.168.200.1... | EMS-SLDEMOS2-6030 |           | 0       | 0.0             |                |
| tcp://192.168.200.171:6030,tcp://192.168.200.1... | EMS-SLDEMOS2-6030 |           | 0       | 0.0             |                |
| tcp://192.168.200.172:8020,tcp://192.168.200.1... | EMS-SLDEMOS3-8020 |           | 0       | 0.0             |                |
| tcp://192.168.200.172:8020,tcp://192.168.200.1... | EMS-SLDEMOS3-8020 |           | 0       | 0.0             |                |
| tcp://192.168.200.172:8020,tcp://192.168.200.1... | EMS-SLDEMOS3-8020 |           | 0       | 0.0             |                |
| tcp://192.168.200.172:8020,tcp://192.168.200.1... | EMS-SLDEMOS3-8020 |           | 0       | 0.0             |                |
| tcp://192.168.200.172:8030,tcp://192.168.200.1... | EMS-SLDEMOS3-8030 |           | 0       | 0.0             |                |
| tcp://192.168.200.172:8030,tcp://192.168.200.1... | EMS-SLDEMOS3-8030 |           | 0       | 0.0             |                |
| tcp://192.168.200.172:8030,tcp://192.168.200.1... | EMS-SLDEMOS3-8030 |           | 0       | 0.0             |                |
| tcp://192.168.200.172:8030,tcp://192.168.200.1... | EMS-SLDEMOS3-8030 |           | 0       | 0.0             |                |
| tcp://localhost:7022                              | EMS-SERVER2       |           | 0       | 0.0             |                |
| tcp://localhost:7022                              | EMS-SERVER2       |           | 0       | 0.0             |                |
| tcp://localhost:7022                              | EMS-SERVER2       |           | 0       | 0.0             |                |
| tcp://localhost:7022                              | EMS-SERVER2       |           | 0       | 0.0             |                |
| tcp://SLHOST10                                    | EMS-SLDEMOS1-7010 |           | 0       | 0.0             |                |
| tcp://vmrh5-4                                     | EMS-SLDEMOS2-6010 |           | 0       | 0.0             |                |
| tcp://vmrh5-4                                     | EMS-SLDEMOS2-6010 |           | 0       | 0.0             |                |

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- Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
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### Fields and Data

This display includes:

- remoteURL** The remote URL of the server.
- remoteName** The name of the server.
- connected** The connection state of the server route.

|                              |  |
|------------------------------|--|
|                              | <ul style="list-style-type: none"> <li> -- One or more routes for this server are disconnected.</li> <li> -- All routes for this server are connected.</li> <li> -- There are no routes for this server.</li> </ul> |
| <b>stalled</b>               | <p>Indicates whether the IO flow stalled on the route.</p> <p>A value of <b>0</b> (zero) = not stalled.</p> <p>A value of <b>1</b> = stalled.</p>  |
| <b>inboundByteRate</b>       | The rate of inbound data in bytes, per second.   |
| <b>inboundMessageRate</b>    | The rate of inbound messages in number of messages per second.   |
| <b>inboundTotalBytes</b>     | The total number of inbound bytes.   |
| <b>inboundTotalMessages</b>  | The total number of inbound messages.  |
| <b>outboundByteRate</b>      | The rate of inbound data in bytes, per second.   |
| <b>outboundMessageRate</b>   | The rate of outbound messages in number of messages per second.  |
| <b>outboundTotalBytes</b>    | The total number of outbound bytes.  |
| <b>outboundTotalMessages</b> | The total number of outbound messages.   |
| <b>zoneName</b>              | The name of the zone for the route.  |
| <b>zoneType</b>              | Indicates a multi-hop or one-hop route.  |
| <b>active</b>                | <p>Indicates whether the server route is currently transferring data:</p> <p><b>1</b> = true (is transferring data)</p> <p><b>0</b> = false</p>  |
| <b>inactive</b>              | <p>Indicates whether the server route is not currently transferring data:</p> <p><b>1</b> = true (is <b>not</b> transferring data)</p> <p><b>0</b> = false</p>   |
| <b>suspended</b>             | <p>Indicates whether outbound messages to the route have been suspended:</p> <p><b>1</b> = true</p> <p><b>0</b> = false</p>  |
| <b>remoteURLName</b>         | The IP address and name for the remote connection.   |

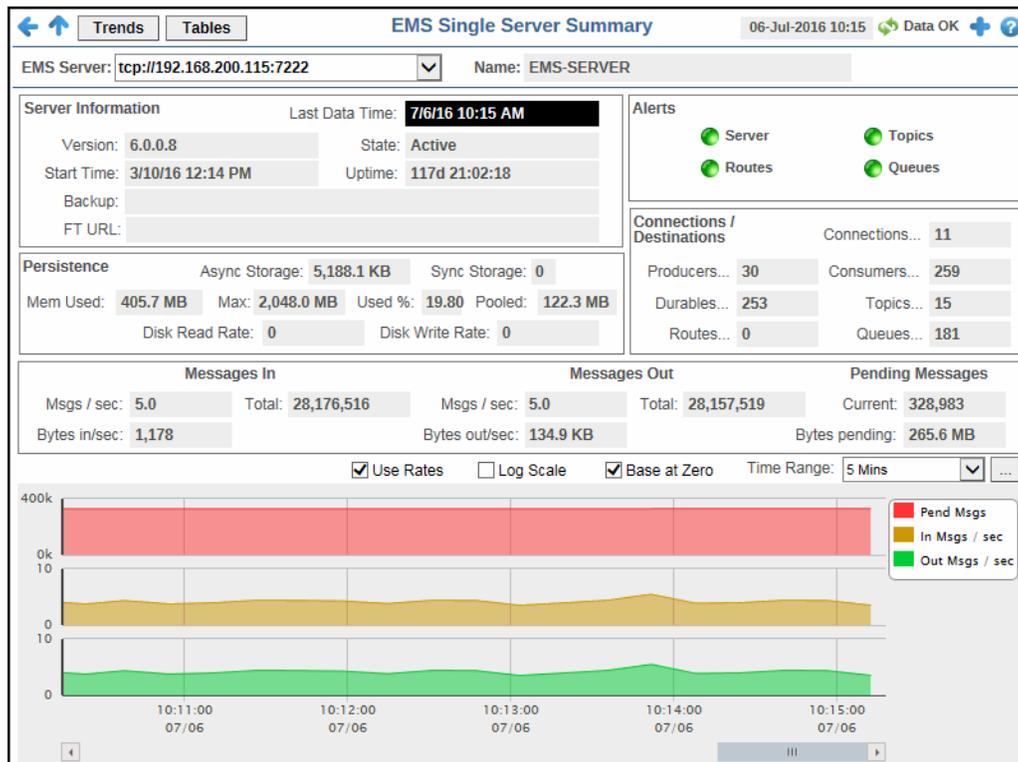
## Single EMS Server

These displays present detailed performance metrics, alert status and connection information for a single EMS server.

- **“Single Server Summary”**: Shows information for a single EMS server such as server connection details, the number of client connections, memory utilization, message performance metrics and alert status.
- **“Single Server Trends”**: Trend graphs show utilization metrics for a single EMS server, such as the number of client connections, number of pending messages and in/out rate, and memory and disk utilization.
- **“Single Server Tables”**: Tables show information about how the Monitor is connected to the EMS server, metrics queried from the server and alert details.

### Single Server Summary

Track utilization and performance metrics for specific servers.



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-   Open the previous and upper display.
-  **Table** Navigate to displays commonly accessed from this display.
-  **19-Feb-2014 16:50** The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
-  **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
-  Open the **Alert Views - RTView Alerts Table** display.
-  Open an instance of this display in a new window.
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## Fields and Data

This display includes:

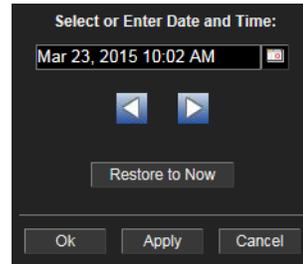
|                           |   |                      |   |                     |   |                 |  |               |  |                       |  |               |   |               |   |
|---------------------------|---|----------------------|---|---------------------|---|-----------------|--|---------------|--|-----------------------|--|---------------|---|---------------|---|
| <b>EMS Server</b>         | Select the EMS Server for which you want to view data. The selection made here populates this display.  |                      |   |                     |   |                 |  |               |  |                       |  |               |   |               |   |
| <b>Name</b>               | The name of the EMS Server selected from the EMS Server drop-down menu.   |                      |   |                     |   |                 |  |               |  |                       |  |               |   |               |   |
| <b>Server Information</b> | <table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top;"><b>Version</b></td> <td>The TIBCO EMS software version currently running.</td> </tr> <tr> <td style="vertical-align: top;"><b>Start Time</b></td> <td>The data and time that the server was started.</td> </tr> <tr> <td style="vertical-align: top;"><b>Backup</b></td> <td>The name of the backup server for the server.</td> </tr> <tr> <td style="vertical-align: top;"><b>FT URL</b></td> <td>The IP address and port number, or the hostname and port number, of the fault tolerant standby server assigned to this server.</td> </tr> <tr> <td style="vertical-align: top;"><b>Last Data Time</b></td> <td>The time that a data update was last made.</td> </tr> <tr> <td style="vertical-align: top;"><b>State</b></td> <td>           The server status:<br/> <b>Active</b> -- The server is currently processing requests.<br/> <b>Inactive</b> -- The server is not currently processing requests.<br/> <b>Standby</b> -- The server is functioning as a backup for a primary server.         </td> </tr> <tr> <td style="vertical-align: top;"><b>Uptime</b></td> <td>           The amount of time since the server was started.<br/>           Format:<br/> <b>dd HH:MM:SS</b><br/> <b>&lt;days&gt; &lt;hours&gt;:&lt;minutes&gt;:&lt;seconds&gt;</b><br/>           For example:<br/> <b>10d 08:41:38</b> </td> </tr> </table> | <b>Version</b>       | The TIBCO EMS software version currently running.   | <b>Start Time</b>   | The data and time that the server was started.  | <b>Backup</b>   | The name of the backup server for the server.                                  | <b>FT URL</b> | The IP address and port number, or the hostname and port number, of the fault tolerant standby server assigned to this server. | <b>Last Data Time</b> | The time that a data update was last made.                     | <b>State</b>  | The server status:<br><b>Active</b> -- The server is currently processing requests.<br><b>Inactive</b> -- The server is not currently processing requests.<br><b>Standby</b> -- The server is functioning as a backup for a primary server. | <b>Uptime</b> | The amount of time since the server was started.<br>Format:<br><b>dd HH:MM:SS</b><br><b>&lt;days&gt; &lt;hours&gt;:&lt;minutes&gt;:&lt;seconds&gt;</b><br>For example:<br><b>10d 08:41:38</b> |
| <b>Version</b>            | The TIBCO EMS software version currently running.   |                      |   |                     |   |                 |  |               |  |                       |  |               |   |               |   |
| <b>Start Time</b>         | The data and time that the server was started.  |                      |   |                     |   |                 |  |               |  |                       |  |               |   |               |   |
| <b>Backup</b>             | The name of the backup server for the server.   |                      |   |                     |   |                 |  |               |  |                       |  |               |   |               |   |
| <b>FT URL</b>             | The IP address and port number, or the hostname and port number, of the fault tolerant standby server assigned to this server.  |                      |   |                     |   |                 |  |               |  |                       |  |               |   |               |   |
| <b>Last Data Time</b>     | The time that a data update was last made.  |                      |   |                     |   |                 |  |               |  |                       |  |               |   |               |   |
| <b>State</b>              | The server status:<br><b>Active</b> -- The server is currently processing requests.<br><b>Inactive</b> -- The server is not currently processing requests.<br><b>Standby</b> -- The server is functioning as a backup for a primary server.   |                      |   |                     |   |                 |  |               |  |                       |  |               |   |               |   |
| <b>Uptime</b>             | The amount of time since the server was started.<br>Format:<br><b>dd HH:MM:SS</b><br><b>&lt;days&gt; &lt;hours&gt;:&lt;minutes&gt;:&lt;seconds&gt;</b><br>For example:<br><b>10d 08:41:38</b>   |                      |   |                     |   |                 |  |               |  |                       |  |               |   |               |   |
| <b>Persistence</b>        | <table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top;"><b>Async Storage</b></td> <td>The amount of database space, in bytes, used by asynchronous message persistence data on the server</td> </tr> <tr> <td style="vertical-align: top;"><b>Sync Storage</b></td> <td>The amount of database space, in bytes, used by synchronous message persistence data on the server.</td> </tr> <tr> <td style="vertical-align: top;"><b>Mem Used</b></td> <td>The amount of memory, in kilobytes, used by message persistence on the server.</td> </tr> <tr> <td style="vertical-align: top;"><b>Max</b></td> <td>The maximum amount of memory, in kilobytes, used by message persistence on the server.</td> </tr> <tr> <td style="vertical-align: top;"><b>Used %</b></td> <td>The amount of memory, in percent, used by message persistence.</td> </tr> <tr> <td style="vertical-align: top;"><b>Pooled</b></td> <td>The amount of message memory that has been pooled.</td> </tr> </table>  | <b>Async Storage</b> | The amount of database space, in bytes, used by asynchronous message persistence data on the server | <b>Sync Storage</b> | The amount of database space, in bytes, used by synchronous message persistence data on the server. | <b>Mem Used</b> | The amount of memory, in kilobytes, used by message persistence on the server. | <b>Max</b>    | The maximum amount of memory, in kilobytes, used by message persistence on the server.   | <b>Used %</b>         | The amount of memory, in percent, used by message persistence. | <b>Pooled</b> | The amount of message memory that has been pooled.  |               |   |
| <b>Async Storage</b>      | The amount of database space, in bytes, used by asynchronous message persistence data on the server   |                      |   |                     |   |                 |  |               |  |                       |  |               |   |               |   |
| <b>Sync Storage</b>       | The amount of database space, in bytes, used by synchronous message persistence data on the server.   |                      |   |                     |   |                 |  |               |  |                       |  |               |   |               |   |
| <b>Mem Used</b>           | The amount of memory, in kilobytes, used by message persistence on the server.  |                      |   |                     |   |                 |  |               |  |                       |  |               |   |               |   |
| <b>Max</b>                | The maximum amount of memory, in kilobytes, used by message persistence on the server.  |                      |   |                     |   |                 |  |               |  |                       |  |               |   |               |   |
| <b>Used %</b>             | The amount of memory, in percent, used by message persistence.  |                      |   |                     |   |                 |  |               |  |                       |  |               |   |               |   |
| <b>Pooled</b>             | The amount of message memory that has been pooled.  |                      |   |                     |   |                 |  |               |  |                       |  |               |   |               |   |

|               |                                   |  |
|---------------|-----------------------------------|--|
|               | <b>Disk Read Rate</b>             | The speed at which the server reads message persistence disk data.   |
|               | <b>Disk Write Rate</b>            | The speed at which the server writes message persistence disk data.  |
| <b>Alerts</b> | <b>Server</b>                     | <p>Status indicator for server-related alerts. Click to open the EMS <a href="#">"Single Server Tables"</a> display and view the <b>Server Alert Table</b> for more detail.</p> <ul style="list-style-type: none"> <li> -- No alerts have exceeded a specified threshold.</li> <li> -- One or more alerts have exceeded their specified <b>WARNINGLEVEL</b> threshold.</li> <li> -- One or more alerts have exceeded their specified <b>ALARMLEVEL</b> threshold.</li> </ul>      |
|               | <b>Routes</b>                     | <p>Status indicator for route-related alerts. Click to open the EMS <a href="#">"Single Server Tables"</a> display and view the <b>Server Alert Table</b> for more detail.</p> <ul style="list-style-type: none"> <li> -- No alerts have exceeded a specified threshold.</li> <li> -- One or more alerts have exceeded their specified <b>WARNINGLEVEL</b> threshold.</li> <li> -- One or more alerts have exceeded their specified <b>ALARMLEVEL</b> threshold.</li> </ul>       |
|               | <b>Topics</b>                     | <p>Status indicator for topic-related alerts. Click to open the EMS <a href="#">"Single Server Tables"</a> display and view the <b>Server Alert Table</b> for more detail.</p> <ul style="list-style-type: none"> <li> -- No alerts have exceeded a specified threshold.</li> <li> -- One or more alerts have exceeded their specified <b>WARNINGLEVEL</b> threshold.</li> <li> -- One or more alerts have exceeded their specified <b>ALARMLEVEL</b> threshold.</li> </ul>      |
|               | <b>Queues</b>                     | <p>Status indicator for queue-related alerts. Click to open the EMS <a href="#">"Single Server Tables"</a> display and view the <b>Server Alert Table</b> for more detail.</p> <ul style="list-style-type: none"> <li> -- No alerts have exceeded a specified threshold.</li> <li> -- One or more alerts have exceeded their specified <b>WARNINGLEVEL</b> threshold.</li> <li> -- One or more alerts have exceeded their specified <b>ALARMLEVEL</b> threshold.</li> </ul> |
|               | <b>Connections / Destinations</b> | Shows connection information for the server. The counts shown here are also visible in the <a href="#">"EMS Topics"</a> and <a href="#">"EMS Clients"</a> displays.  |
|               | <b>Producers</b>                  | The number of producers currently active on the server. Click to open the <a href="#">"EMS Clients"</a> / <a href="#">"Producers"</a> for Server display for details.  |
|               | <b>Durables</b>                   | The number of durables currently active on the server. Click to open the <a href="#">"EMS Clients"</a> / <a href="#">"Consumer Summary"</a> for Server display for details.  |
|               | <b>Routes</b>                     | The number of routes defined on the server.  |
|               | <b>Connections</b>                | The number of clients currently connected to the server. Click to open the <a href="#">"EMS Clients"</a> / <a href="#">"Connections"</a> for Server display for details.   |
|               | <b>Consumers</b>                  | The number of consumers currently connected to the server. Click to open the <a href="#">"EMS Clients"</a> / <a href="#">"Producer Summary"</a> for Server display for details.  |
|               | <b>Topics</b>                     | The number of topics currently active on the server. Click to open the <a href="#">"EMS Topics"</a> / <a href="#">"All Topics Table"</a> display for details.  |

|                         |  |  |
|-------------------------|--|--|
|                         | <b>Queues</b>                                  | The number of queues currently active on the server. Click to open the <a href="#">"EMS Topics"</a> / <a href="#">"All Queues Heatmap"</a> display for details.  |
| <b>Messages In</b>      | <b>Msgs/sec</b>                                | The number of inbound messages, per second, from all producers and consumers   |
|                         | <b>Bytes in/sec</b>                            | The total size of inbound messages, in bytes per second, from all producers and consumers.   |
|                         | <b>Total</b>                                   | The total number of inbound messages, in bytes, from all producers and consumers since the server was started.   |
| <b>Messages Out</b>     | <b>Msgs/sec</b>                                | The number of outbound messages, per second, from all producers and consumers.   |
|                         | <b>Bytes out/sec</b>                           | The total size of outbound messages, in bytes per second, from all producers and consumers.  |
|                         | <b>Total</b>                                   | The total of outbound messages, in bytes, from all producers and consumers since the server was started.   |
| <b>Pending Messages</b> | <b>Current</b>                                 | The total number of inbound and outbound messages currently waiting to be processed.   |
|                         | <b>Bytes pending</b>                           | The total size of inbound and outbound messages, in bytes, currently waiting to be processed.  |
| <b>Trend Graphs</b>     | Shows message metrics for the selected server. |  |
|                         | <b>Pend Message</b>                            | -- Traces the total number of inbound and outbound messages currently waiting to be processed.   |
|                         | <b>In Msgs / sec</b>                           | -- Traces the number of inbound messages, per second, from all producers and consumers. This trend graph only displays when <b>Use Rates</b> is selected.  |
|                         | <b>Out Msgs / sec</b>                          | -- Traces the number of outbound messages, per second, from all producers and consumers. This trend graph only displays when <b>Use Rates</b> is selected.   |
|                         | <b>Delta In Msgs</b>                           | -- Traces the change in total inbound messages since the last update. This trend graph only displays when <b>Use Rates</b> is not selected.  |
|                         | <b>Delta Out Msgs</b>                          | -- Traces the change in total outbound messages since the last update. This trend graph only displays when <b>Use Rates</b> is not selected.   |
|                         | <b>Use Rates</b>                               | When this check box is selected, the inbound and outbound message rates ( <b>In Msgs/sec</b> and <b>Out Msgs/sec</b> ) display in the trend graph. When this check box is not selected, the delta inbound and outbound messages ( <b>Delta In Msgs</b> and <b>Delta Out Msgs</b> ) display in the trend graph.   |
|                         | <b>Log Scale</b>                               | This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option. |

**Base at Zero** When this option is checked, zero is set as the Y axis minimum for all graph traces.

**Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click the  button.



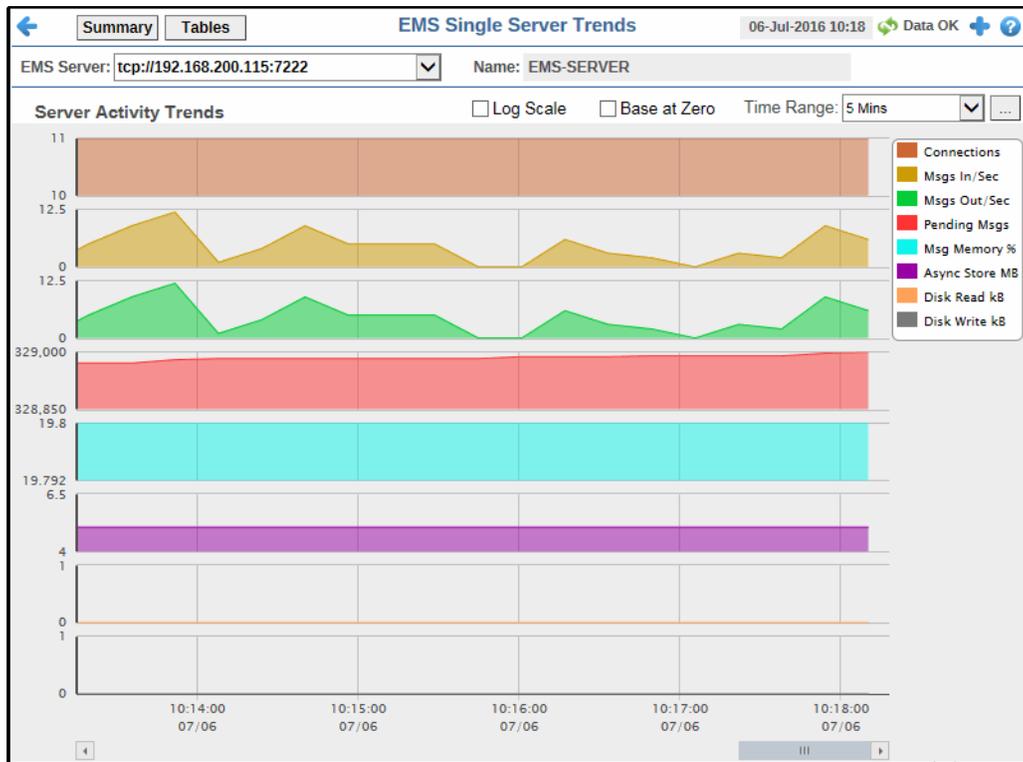
By default, the time range end point is the current time. To change the time range end point, click the  button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. **Note:** The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

## Single Server Trends

View trend graphs in parallel to investigate performance issues for a specific server.



**Title Bar:** Indicators and functionality might include the following:

- Open the previous and upper display.
- Navigate to displays commonly accessed from this display.
- The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

- The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

### Fields and Data

This display includes:

- EMS Server** Select the EMS server for which you want to view data from this drop-down menu. The selection made here populates this display.
- Name** The name of the EMS Server selected from the EMS Server drop-down menu.
- Server Activity Trends** Specifies settings for the trend graphs.

**Trend Graphs**

Shows metrics for the selected server.

**Connections** -- Traces the total number of client connections.

**Msgs In/Sec** -- Traces the number of inbound messages, per second, from all producers and consumers.

**Msgs Out/Sec** -- Traces the number of outbound messages, per second, from all producers and consumers.

**Pending Msgs** -- Traces the total number of messages currently waiting to be processed.

**Msg Memory %** -- Traces the amount of memory, in percent, used by messages.

**Async Store MB** -- Traces the amount of database space, in megabytes, used by asynchronous data on the server.

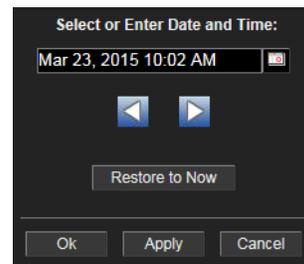
**Disk Read KB** -- Traces the amount of disk data, in kilobytes, read by the server since the server was started.

**Disk Write KB** -- Traces the amount of data, in kilobytes, written to disk by the server since the server was started.

**Log Scale** This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option.

**Base at Zero** When this option is checked, zero is set as the Y axis minimum for all graph traces.

**Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click the  button.



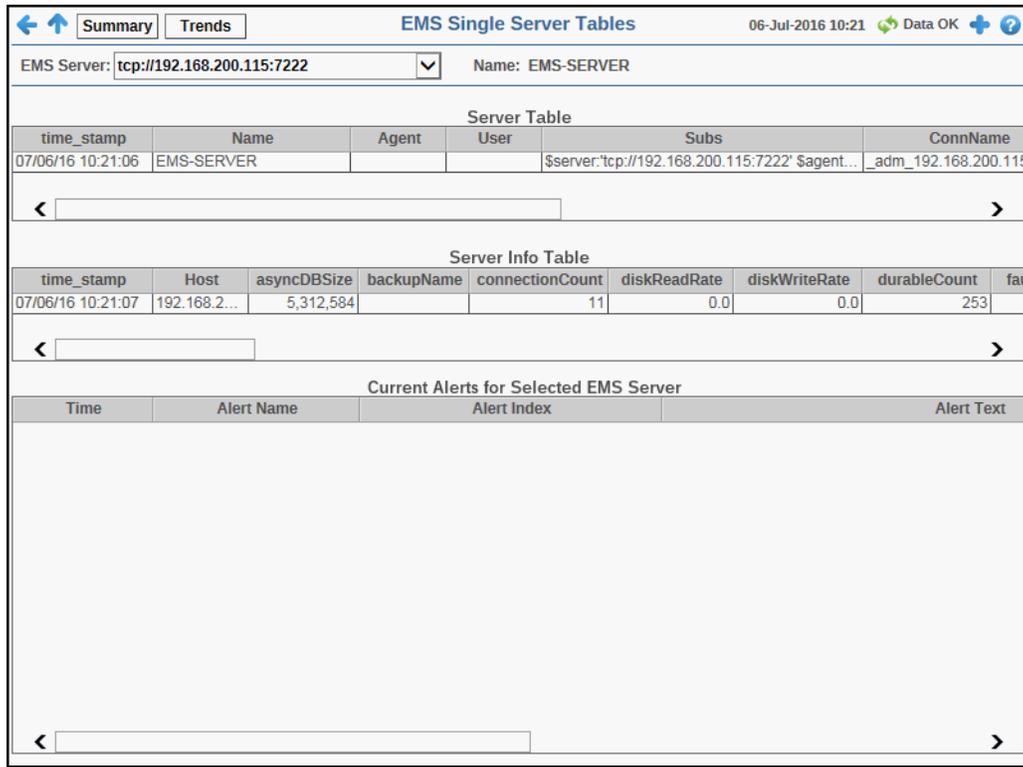
By default, the time range end point is the current time. To change the time range end point, click the  button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. **Note:** The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

**Single Server Tables**

View all available utilization and performance data for specific servers.



**Title Bar:** Indicators and functionality might include the following:



Open the previous and upper display. Navigate to displays commonly accessed from this display.



The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.



The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.



Open the **Alert Views - RTView Alerts Table** display.



Open an instance of this display in a new window.



Open the online help page for this display.

### Fields and Data

This display includes:

- EMS Server** Select the EMS server for which you want to view data from this drop-down menu. The selection made here populates this display
- Name** The name of the EMS Server selected from the EMS Server drop-down menu.
- Server Table** This table shows information about how the monitor is connected to the server.
  - time\_stamp** The date and time this row of data was last updated.
  - Name** The name of the server.

|                                 |   |
|---------------------------------|---|
| <b>Agent</b>                    | If used, the name of the RTView agent connecting to the EMS server.   |
| <b>User</b>                     | The user name for gaining access to the server.   |
| <b>Password</b>                 | The password associated with user name for gaining access to the server.  |
| <b>Subs</b>                     | RTView substitutions used when connecting to this server.   |
| <b>ConnName</b>                 | The name of the RTView connection to this server.   |
| <b>Active</b>                   | When checked, indicates that the server is currently running.   |
| <b>FaultTolerantStandbyMode</b> | When checked, indicates that the server is running as a backup server.  |
| <b>FaultTolerantURL</b>         | The IP address and port number for the backup server assigned to this server.   |
| <b>BackupName</b>               | The name of the backup server assigned as backup to this server.  |
| <b>Expired</b>                  | Data has not been received from this server in the specified amount of time. The server will be removed from the Server Table in the specified amount of time. The default setting is 35 seconds. |
| <b>Server Info Table</b>        | Select an EMS Server from the EMS Server drop-down menu. This table shows server metrics queried from the server.   |
| <b>time_stamp</b>               | The date and time this row of data was last updated.  |
| <b>Host</b>                     | The name or IP address for the host server.   |
| <b>asyncDBSize</b>              | The amount of database space, in bytes, used by asynchronous data on the server.  |
| <b>backupName</b>               | The name of the backup server assigned as backup to this server.  |
| <b>connectionCount</b>          | The number of currently connected clients.  |
| <b>diskReadRate</b>             | The speed at which the server reads disk data.  |
| <b>diskWriteRate</b>            | The speed at which the server writes data to disk.  |
| <b>durableCount</b>             | The number of currently active durables.  |
| <b>FaultTolerantURL</b>         | The IP address and port number, or the hostname and port number, of the fault tolerant standby server assigned to this server.  |
| <b>inboundBytesRate</b>         | The rate of inbound messages in bytes per second.   |
| <b>inboundMessageCount</b>      | The number of inbound messages received by the server since the server was started.   |
| <b>inboundMessageRate</b>       | The rate of inbound messages in number of messages per second.  |
| <b>maxMessageMemory</b>         | The maximum amount of memory, in bytes, allocated for use by messages on the server.  |
| <b>messageMemory</b>            | The amount of memory, in bytes, currently used by messages on the server.   |

|   |  |
|---|--|
| <b>messageMemoryPct</b>                             | The amount of memory, in percent, used by messages on the server.  |
| <b>messageMemoryPooled</b>                          | The currently allocated pool size for messages in bytes.   |
| <b>outboundBytesRate</b>                            | The rate of outbound messages in bytes per second.   |
| <b>outboundMessageCount</b>                         | The number of outbound messages sent by the server since the server was started.   |
| <b>outboundMessageRate</b>                          | The rate of outbound messages in number of messages per second   |
| <b>pendingMessageCount</b>                          | The number of currently pending messages on the server.  |
| <b>pendingMessageSize</b>                           | The amount of space, in bytes, pending messages use on the server.   |
| <b>processId</b>                                    | The process ID of the EMS server.  |
| <b>queueCount</b>                                   | The number of message queues.  |
| <b>serverName</b>                                   | The name of the server.  |
| <b>startTime</b>                                    | The date and time that the server was started.   |
| <b>state</b>  | The server status:<br><b>Active</b> -- The server is currently processing requests.<br><b>Inactive</b> --The server is not currently processing requests.<br><b>Standby</b> -- The server is functioning as a backup for a primary server. |
| <b>syncDBSize</b>                                   | The amount of database space, in bytes, used by synchronous data on the server.  |
| <b>topicCount</b>                                   | The number of currently active topics.   |
| <b>upTime</b>                                       | The amount of time, in milliseconds, since the server was started.   |
| <b>versionInfo</b>                                  | The TIBCO EMS software version currently running.  |
| <b>Expired</b>                                      | Data has not been received from this server in the specified amount of time. The server will be removed from the Server Info table in the specified amount of time. The default setting is 35 seconds.                                     |
| <b>Current Alerts Table for Selected EMS Server</b> | Select an EMS Server from the EMS Server drop-down menu. This table lists all available data for currently active alerts. Click an alert to view details in the Alert Detail Window.   |
| <b>Time</b>   | The time the alert was first activated.  |
| <b>Alert Name</b>                                   | The name of the alert.   |
| <b>Alert Index</b>                                  | The EMS server that activated the alert.   |
| <b>Alert Text</b>                                   | The text that is displayed for the alert.  |
| <b>Package</b>                                      | The RTView package reporting the alert.  |
| <b>Category</b>                                     | The alert category: Server, Queue or Topic.  |
| <b>ID</b>   | The unique identifier for this alert instance.   |
| <b>Clr'd</b>  | When checked, the alert thresholds are no longer out of bounds and the alert has cleared.  |

|               |   |
|---------------|---|
| <b>Ack'd</b>  | When checked, a user has indicated that they have acknowledged the alert. |
| <b>Owner</b>  | The user who has accepted ownership of this alert.                        |
| <b>Source</b> | The source of the alert.  |

**Alert Detail Window**

The screenshot shows the 'Alert Detail' window with the following fields and values:

- Alert Time:** 02/26/15 07:27:45
- ID:** 1000
- Name:** EmsServerMemUsedHigh
- Index:** tcp://SLHOST21:7222
- Owner:** (empty)
- Alert Text:** High Warning Limit exceeded, current value: 9.36 limit: 5.0
- Comments:** (empty text area)
- Acknowledged:**
- Cleared:**
- Severity:** 1

|                     |   |
|---------------------|---|
| <b>Alert Time</b>   | The time the alert was first activated.   |
| <b>ID</b>           | The unique identifier for this alert instance.  |
| <b>Name</b>         | The name of the alert.  |
| <b>Index</b>        | The EMS server which activated the alert.   |
| <b>Owner</b>        | The user who has accepted ownership of this alert.  |
| <b>Alert Text</b>   | The text that is displayed for the alert.   |
| <b>Comments</b>     | User-supplied comments about this alert.  |
| <b>Acknowledged</b> | When checked, a user has indicated that they have acknowledged the alert.                 |
| <b>Cleared</b>      | When checked, the alert thresholds are no longer out of bounds and the alert has cleared. |
| <b>Severity</b>     | Severity of the alert.  |

## EMS Topics

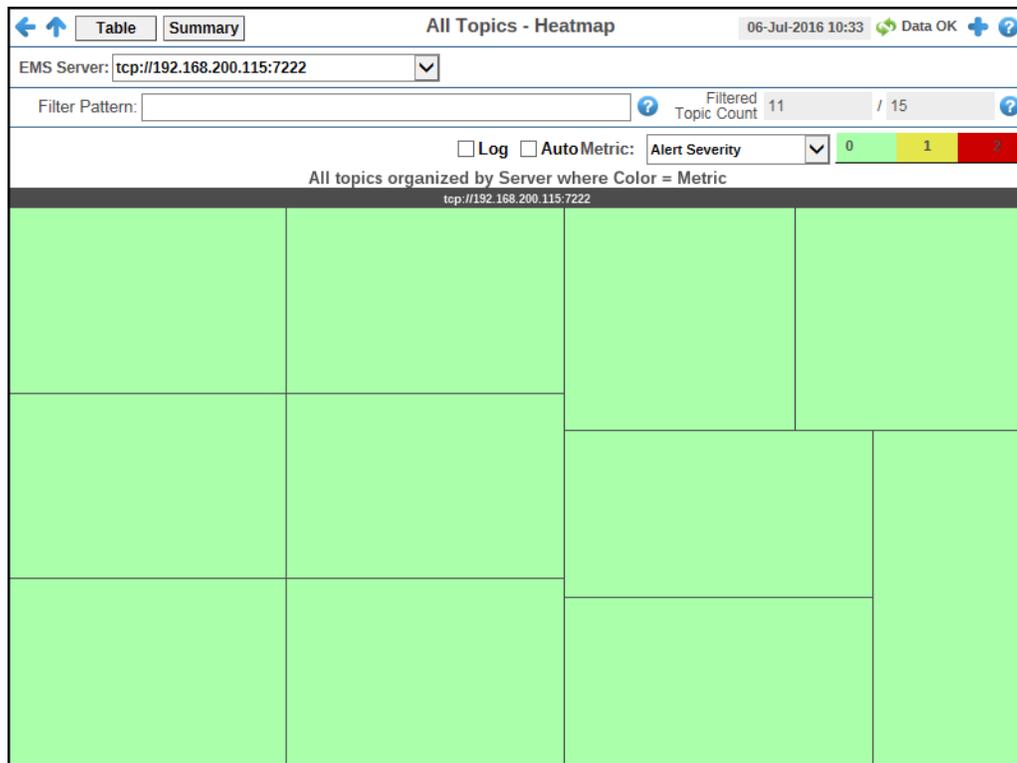
These displays present several views of performance metrics for topics. You can view all topics that are defined on a specific server in the “[All Topics Table](#)” display, or you can view all servers that have a specific topic defined in the “[Single Topic Summary](#)” display. The “[Single Topic By Server](#)” display provides a list of all the servers on which those topics are defined.

- “[All Topics Heatmap](#)”: A heatmap representation of a selected set of metrics from Topics organized by Server that allows you to track performance and utilization metrics and trends for all topics on a single server.
- “[All Topics Table](#)”: Shows performance and utilization metrics and trends for all topics defined on a specified server, including consumer and subscriber count, memory utilization, and message performance metrics.
- “[All Topics Summary](#)”: Shows performance and utilization metrics and trends for all topics defined on a specified server, including consumer and subscriber count, memory utilization, and message performance metrics.
- “[Single Topic Summary](#)”: Shows detailed performance and utilization metrics and trends for a specified topic on a single server, including producer and consumer counts, and message performance metrics.
- “[Single EMS Topic-Clients](#)”: View data for all consumers and producers associated with the selected topic.
- “[Single Topic By Server](#)”: Table shows performance and utilization metrics for all servers that have a specified topic defined, including consumer and subscriber count, and message performance metrics.

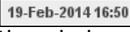
### All Topics Heatmap

A heatmap representation of a selected set of metrics from Topics organized by Server that allows you to track performance and utilization metrics and trends for all topics on a single server. View status and alerts of all topics for a server. Use the **Metric** drop-down menu to view to **Alert Severity**, **Alert Count**, **Consumers**, **Receivers**, **Pending Messages**, **Inbound Message Rate**, **Inbound Total Messages**, **Outbound Message Rate**, or **Outbound Total Messages**.

The heatmap is organized so that each rectangle represents a Topic on the selected Server. The rectangle color indicates the value of the selected metric in the **Metric** drop down list. You can mouse-over rectangles to view more details about the performance and status of each topic or click on a rectangle to drill-down to the “[Single Topic Summary](#)” display and view metrics for that particular Topic. You can click **Table** on this display to navigate to the “[All Topics Table](#)” display.



**Title Bar:** Indicators and functionality might include the following:

 Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.  
 Open an instance of this display in a new window.  
 Open the online help page for this display.

**Note:** Clicking **Table** in the Title Bar takes you to the “All Topics Table” display. Clicking **Summary** in the Title Bar takes you to the “All Topics Summary” display.

### Fields and Data

This display includes:

|                       |   |
|-----------------------|---|
| <b>EMS Server</b>     | The EMS Server selected from this drop-down menu populates all associated Topic data in this display.   |
| <b>Filter Pattern</b> | Enter a string to show only topics with names that contain the string. For example, if you enter the string Madrid, all topics with Madrid in the topic name are shown in the table. If no entry is made, all topic names are shown. For most use cases, you can enter a portion of the topic name. |

**Filtered Topic Count**

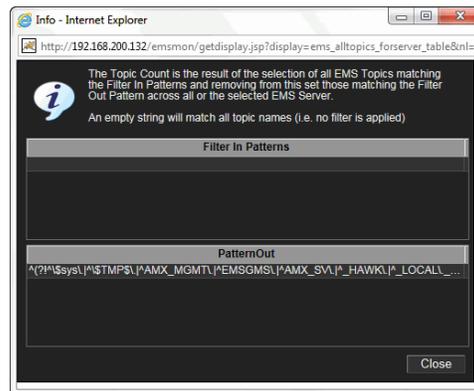
This field is broken into two different values. The first value is the total number of currently active topics on the selected server, which is filtered by the **Filter Pattern** field and by the default value specified in the **\$emsTopicFilterOutPattern** property in the **emsmon/conf/rtvapm.properties** file. The second value is the total number of topics on the selected server. In other words, the filtered number of topics/the total number of topics on the server.

The default value for the **\$emsTopicFilterOutPattern** property is:

```
collector.sl.rtvview.sub=$emsTopicFilterOutPattern:'^(?!^\\$sys\\.|^\\$TMP\\$\\.|^AMX_MGMT\\.|^EMSGMS\\.|^AMX_SV\\.|^_HAWK\\.|^_LOCAL\\. _HAWK\\.|^TMP\\. EMS)'
```

You can modify the filter value by editing the **\$emsTopicFilterOutPattern** property in the **sample.properties File**, which will override the default value.

Clicking the associated Help button  displays the **Info** dialog, which displays the defined filter in and filter out properties used by the **Filtered Topic Count**.

**Log**

This option enables visualization on a logarithmic scale, and should be used when the range in your data is very broad. For example, if you have data that ranges from the tens to the thousands, then data in the range of tens will be neglected visually if you do not check this option. This option makes data on both extreme ranges visible by using the logarithmic of the values rather than the actual values.

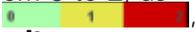
**Auto**

When checked, the values of the selected metric are auto-scaled to its highest defined value. When unchecked, the values of the selected metric display based on the threshold defined for the alert associated with the selected metric. Selecting Auto helps to visualize the range of the values currently present for the selected metric instead of the threshold of the alert that has been associated with the metric. All metrics that have not been associated in the heatmap defaults with alerts use a monochromatic color gradient bar (whites and greens). All metrics that have been associated in the heatmap defaults with alerts use a multi-chromatic color gradient bar (reds, yellows, white, and greens).

**Metric**

Select the metric driving the heatmap display. The default is Alert Severity. Each **Metric** has a color gradient bar that maps values to colors. The heatmap organizes the topics by server, where each rectangle represents a Topic. Mouse-over any rectangle to display the current values of the metrics for the Topic. Click on a rectangle to drill-down to the associated **Single Topic Summary** display for a detailed view of metrics for that particular topic.

**Alert Severity**

The maximum alert level in the item (index) associated with the rectangle. Values range from **0** to **2**, as indicated in the color gradient bar , where **2** is the greatest **Alert Severity**.

**2** -- Metrics that have exceeded their specified **ALARMLEVEL** threshold and have an Alert Severity value of **2** are shown in red. For a given rectangle, this indicates that one or more metrics have exceeded their alarm threshold.

**1** -- Metrics that have exceeded their specified **WARNINGLEVEL** threshold and have an Alert Severity value of **1** are shown in yellow. For a given rectangle, this indicates that one or more metrics have exceeded their warning threshold.

**0** -- Metrics that have not exceeded either specified threshold have an Alert Severity value of **0** and are shown in green. For a given rectangle, this indicates that no metrics have exceeded a specified alert threshold.

**Alert Count**

The total number of alarm and warning alerts in a given item (index) associated with the rectangle.

The color gradient bar  shows the range of the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the middle value of the range.

**Consumers**

The total number of consumers in a given item (index) associated with the rectangle. The color gradient bar  shows the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of consumers in the heatmap. The middle value in the gradient bar indicates the middle value of the range.

The **Auto** option does not impact this metric.

**Durables**

The total number of active durables in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of durables in the heatmap. The middle value in the gradient bar indicates the middle value of the range.

**Subscribers**

The total number of subscribers in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of subscribers in the heatmap. The middle value in the gradient bar indicates the middle value of the range.

**Pending Msgs**

The total number of pending messages in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from **0** to the alert threshold of **EmsTopicssPendingMsgsHigh**, which is **3000**. The middle value in the gradient bar indicates the middle value of the range (the default is **1500**).

When **Auto** is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.

**In Msg /sec**

The number of inbound messages per second in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from **0** to the alert threshold of **EmsTopicsInMsgRateHigh**, which is **9**. The middle value in the gradient bar indicates the middle value of the range (the default is **4.5**).

When **Auto** is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.

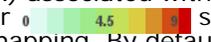
**Note:** This metric comes directly from the **tibjms.admin.DestinationInfo** class from TIBCO.

**In Total Msg**

The total number of inbound messages in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of receivers in the heatmap. The middle value in the gradient bar indicates the middle value of the range.

The **Auto** option does not impact this metric.

**Out Msg/sec**

The number of outbound messages per second in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from **0** to the alert threshold of **EmsTopicsOutMsgRateHigh**, which is **9**. The middle value in the gradient bar indicates the middle value of the range (the default is **4.5**).

When **Auto** is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.

**Note:** This metric comes directly from the **tibjms.admin.DestinationInfo** class from TIBCO.

**Out Total Msgs**

The total number of outbound messages in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of receivers in the heatmap. The middle value in the gradient bar indicates the middle value of the range.

The **Auto** option does not impact this metric.

## All Topics Table

Track performance and utilization metrics for all topics on a single server.

| Topic Name                        | URL            | In Rate | In Total | Out Rate | Out Total | Pend Msgs | P   |
|-----------------------------------|----------------|---------|----------|----------|-----------|-----------|-----|
| adb.custom.jmsrequest             | tcp://192.1... | 0       | 0        | 0        | 0         | 0         |     |
| adb.salesorder.rr                 | tcp://192.1... | 0       | 0        | 0        | 0         | 0         |     |
| adb.salesorder.sub                | tcp://192.1... | 0       | 0        | 0        | 0         | 0         |     |
| adb.standard.jmsrequest           | tcp://192.1... | 0       | 582,832  | 0        | 583,934   | 2,233,301 | 1.9 |
| MessageSelector                   | tcp://192.1... | 0       | 0        | 0        | 0         | 0         |     |
| rtv.amx.governance.internal.stats | tcp://192.1... | 0       | 0        | 0        | 0         | 0         |     |
| rtv.amx.governance.stats          | tcp://192.1... | 0       | 0        | 0        | 0         | 0         |     |
| sample                            | tcp://192.1... | 0       | 0        | 0        | 0         | 0         |     |
| topic.sample                      | tcp://192.1... | 0       | 0        | 0        | 0         | 0         |     |
| topic.sample.exported             | tcp://192.1... | 0       | 0        | 0        | 0         | 0         |     |
| topic.sample.imported             | tcp://192.1... | 0       | 0        | 0        | 0         | 0         |     |

**Title Bar:** Indicators and functionality might include the following:



Open the previous and upper display.

**Table** Navigate to displays commonly accessed from this display.

19-Feb-2014 16:50

The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.



**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.



Open the **Alert Views - RTView Alerts Table** display.



Open an instance of this display in a new window.



Open the online help page for this display.

**Note:** Clicking **Heatmap** in the Title Bar takes you to the “All Topics Heatmap” display. Clicking **Summary** in the Title Bar takes you to the “All Topics Summary” display.

### Fields and Data

This display includes:

#### EMS Server

The EMS Server selected from this drop-down menu populates all associated Topic data in this display.

**Filter Pattern** Enter a string to show only topics with names that contain the string. For example, if you enter the string Madrid, all topics with Madrid in the topic name are shown in the table. If no entry is made, all topic names are shown. For most use cases, you can enter a portion of the topic name.

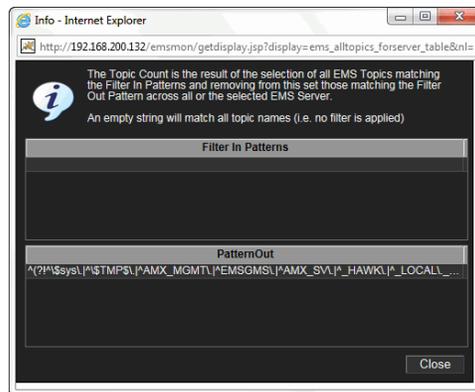
**Filtered Topic Count** This field is broken into two different values. The first value is the total number of currently active topics on the selected server, which is filtered by the **Filter Pattern** field and by the default value specified in the **\$emsTopicFilterOutPattern** property in the **emsmon/conf/rtvapm.properties** file. The second value is the total number of topics on the selected server. In other words, the filtered number of topics/the total number of topics on the server.

The default value for the **\$emsTopicFilterOutPattern** property is:

```
collector.sl.rtvew.sub=$emsTopicFilterOutPattern: '^(!^\\$sys\\.|^\\$TMP\\$\\.|^AMX_MGMT\\.|^EMSGMS\\.|^AMX_SV\\.|^_HAWK\\.|^_LOCAL\\. _HAWK\\.|^TMP\\. EMS)'
```

You can modify the filter value by editing the **\$emsTopicFilterOutPattern** property in the **“sample.properties File”**, which will override the default value.

Clicking the associated Help button  displays the **Info** dialog, which displays the defined filter in and filter out properties used by the **Filtered Topic Count**.



**Table** This table describes all topics on the selected server. Click a row to view metrics for a single topic in the **“Single Topic Summary”** display.

|                           |  |
|---------------------------|--|
| <b>Topic Name</b>         | The name of the topic.   |
| <b>URL</b>                | The IP address and port number for the server.   |
| <b>In Rate</b>            | The number of inbound messages for the topic, per second.<br><b>Note:</b> This metric comes directly from the <b>tibjms.admin.DestinationInfo</b> class from TIBCO.  |
| <b>In Total</b>           | The total number of inbound messages for the topic.  |
| <b>Out Rate</b>           | The number of outbound messages for the topic, per second.<br><b>Note:</b> This metric comes directly from the <b>tibjms.admin.DestinationInfo</b> class from TIBCO. |
| <b>Out Total</b>          | The total number of outbound messages for the topic.   |
| <b>Pend Msgs</b>          | The number of currently pending messages for the topic.  |
| <b>Pend Size</b>          | The amount of space, in bytes, used by pending messages for the topic.   |
| <b>activeDurableCount</b> | The number of currently active durables or the topic.  |

|                                   |  |
|-----------------------------------|--|
| <b>consumerCount</b>              | The number of consumers for the topic.   |
| <b>durableCount</b>               | The number of durables for the topic.  |
| <b>failSafe</b>                   | When checked, the message is marked as failsafe delivery.  |
| <b>fcMaxBytes</b>                 | The maximum number of bytes allocated for use by flow control.   |
| <b>global</b>                     | When checked, the message is global and is routed to other servers.  |
| <b>inboundByteRate</b>            | The amount of inbound messages for the topic, in bytes per second.   |
| <b>inboundTotalBytes</b>          | The total amount of inbound messages for the topic, in bytes, since the server started.  |
| <b>maxBytes</b>                   | The maximum size, in bytes, that the topic can store for delivery to each durable or non-durable online subscriber on that topic.  |
| <b>maxMsgs</b>                    | The maximum number of messages before the server indicates an error and overflow policies are activated.   |
| <b>outboundByteRate</b>           | The amount of outbound messages for the topic, in bytes per second.  |
| <b>outboundTotalBytes</b>         | The total amount of outbound messages for the topic, in bytes.   |
| <b>overflowPolicy</b>             | Indicates whether an overflow policy is set for the topic:<br><b>0</b> = No policy is set.<br><b>1</b> = A policy is set.  |
| <b>secure</b>                     | When checked, the topic is designated as secure and enforces permission policies.  |
| <b>static</b>                     | When checked, the topic has a static destination.  |
| <b>subscriberCount</b>            | The number of subscribers for the topic.   |
| <b>description</b>                | Descriptive text to help the administrator identify this resource.   |
| <b>Expired</b>                    | This check box becomes automatically checked when the data displayed in the row has exceeded the specified cache expiration time (set by default at 45 seconds) and is no longer current. Once the cache has been refreshed and is displaying current data, the check box will return to being unchecked. This check box will remain unchecked as long as the cache has been refreshed within the specified cache expiration time and the data is current. |
| <b>time_stamp</b>                 | The date and time this row of data was last updated.   |
| <b>DeltainboundTotalMessages</b>  | Displays the change (delta) in inboundTotalMessages from the previous cache refresh to the current cache refresh.  |
| <b>DeltainboundTotalBytes</b>     | Displays the change (delta) in inboundTotalBytes from the previous cache refresh to the current cache refresh.   |
| <b>DeltaoutboundTotalMessages</b> | Displays the change (delta) in outboundTotalMessages from the previous cache refresh to the current cache refresh.   |

**DeltaoutboundTotalBytes**

Displays the change (delta) in outboundTotalBytes from the previous cache refresh to the current cache refresh.

**prefetch**

Lists the maximum number of messages consumers can fetch.

**expiryOverride**

If set to a non-zero value for a destination and the server delivers a message to the destination, the server replaces the producer's expiration value with this value.

**store**

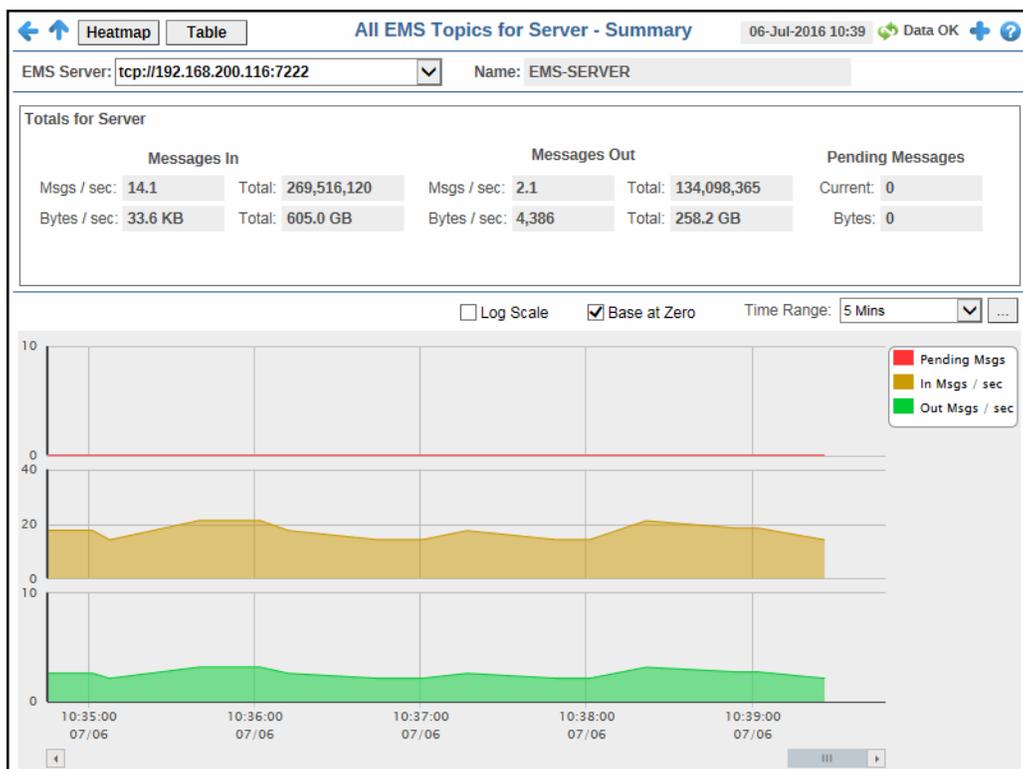
Provides the store for this destination where persistent messages are stored.

**URLTopic**

The topic's URL.

### All Topics Summary

Track performance and utilization metrics and trends for all topics on a single server.



**Title Bar:** Indicators and functionality might include the following:

  Open the previous and upper display.  
 **Table** Navigate to displays commonly accessed from this display.  
 **19-Feb-2014 16:50** The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

**Note:** Clicking **Heatmap** in the Title Bar takes you to the “[All Topics Heatmap](#)” display. Clicking **Table** in the Title Bar takes you to the “[All Topics Table](#)” display.

### Fields and Data

This display includes:

|                          |   |
|--------------------------|---|
| <b>EMS Server</b>        | The EMS Server selected from this drop-down menu populates all associated Topic data in this display.   |
| <b>Name</b>              | The name of the server selected in the <b>EMS Server</b> drop down list.  |
| <b>Totals for Server</b> | Shows metrics for all topics on the selected server.  |
| <b>Messages In</b>       | <p><b>Msgs/sec</b> -- The number of inbound messages for all topics on the server, per second.</p> <p><b>Total</b> -- The total number of inbound messages for all topics on the server since the server was started.</p> <p><b>Bytes/sec</b> -- The size of inbound messages, in bytes per second, for all topics on the server.</p> <p><b>Total</b> -- The total size of inbound messages, in kilobytes, for all topics on the server since the server was started.</p>     |
| <b>Messages Out</b>      | <p><b>Msgs/sec</b> -- The number of outbound messages for all topics on the server, per second.</p> <p><b>Total</b> -- The total number of outbound messages for all topics on the server since the server was started.</p> <p><b>Bytes/sec</b> -- The size of outbound messages, in bytes per second, for all topics on the server.</p> <p><b>Total</b> -- The total size of outbound messages for all topics on the server, in kilobytes, since the server was started.</p> |
| <b>Pending Messages</b>  | <p><b>Current</b> -- The total number of messages for all topics on the server currently waiting to be processed.</p> <p><b>Bytes</b> -- The total size of messages, in bytes, for all topics on the server currently waiting to be processed.</p>  |
| <b>Trend Graphs</b>      | Shows metrics for all topics on the selected server. <p><b>Pend Msgs</b> -- Traces the total number of messages for all topics on the server currently waiting to be processed.</p> <p><b>In Msgs / sec</b> -- Traces the number of inbound messages for all topics, per second.</p> <p><b>Out Msgs / sec</b> -- Traces the number of outbound messages for all topics, per second.</p>   |

**Log Scale**

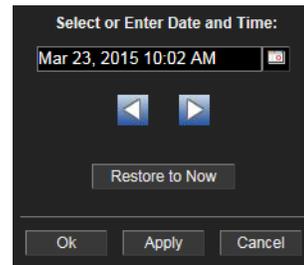
This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option.

**Base at Zero**

When this option is checked, zero is set as the Y axis minimum for all graph traces.

**Time Range**

Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click the  button.



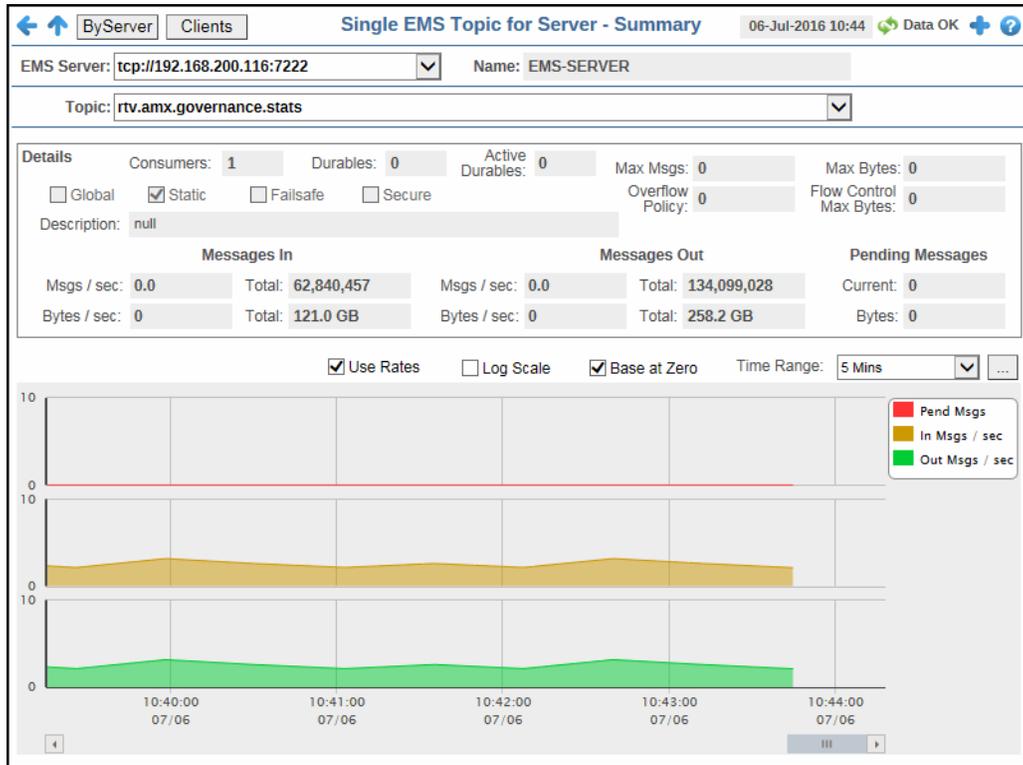
By default, the time range end point is the current time. To change the time range end point, click the  button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. **Note:** The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

## Single Topic Summary

Track performance and utilization metrics for a single topic on a single server.



**Title Bar:** Indicators and functionality might include the following:

- Open the previous and upper display.
- Navigate to displays commonly accessed from this display.
- The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

- The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

**Note:** Clicking **Clients** in the Title Bar takes you to the “Single EMS Topic-Clients” display for the selected topic.

### Fields and Data

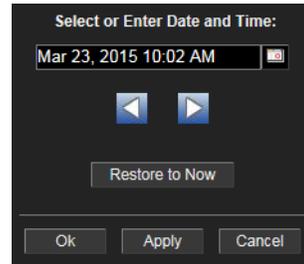
This display includes:

- EMS Server** The EMS Server selected from this drop-down menu populates the Topics drop-down menu with the Topics belonging to this EMS Server.
- Name** The name of the EMS server selected from the EMS Server drop-down menu.



|                         |   |   |
|-------------------------|---|---|
|                         | <b>Total</b>  | The total size of outbound messages, in bytes, for the selected topic since the server was started.   |
| <b>Pending Messages</b> | <b>Current</b>  | The number of messages for the selected topic currently waiting to be processed.  |
|                         | <b>Bytes</b>  | The size of the messages for the selected topic, in bytes, currently waiting to be processed.   |
| <b>Trend Graphs</b>     |   | Shows message data for the selected topic.  |
|                         |   | <b>Pend Msgs</b> -- Traces the number of messages currently waiting to be processed.  |
|                         |   | <b>In Msgs / sec</b> -- Traces the number of inbound messages, per second. This trend graph only displays when <b>Use Rates</b> is selected.  |
|                         |   | <b>Out Msgs / sec</b> -- Traces the number of outbound messages, per second. This trend graph only displays when <b>Use Rates</b> is selected.  |
|                         |   | <b>Delta In Msgs</b> -- Traces the change in total inbound messages since the last update. This trend graph only displays when <b>Use Rates</b> is not selected.  |
|                         |   | <b>Delta Out Msgs</b> -- Traces the change in total inbound messages since the last update. This trend graph only displays when <b>Use Rates</b> is not selected.   |
|                         |   | <b>Use Rates</b> When this check box is selected, the inbound and outbound message rates ( <b>In Msgs/sec</b> and <b>Out Msgs/sec</b> ) display in the trend graph. When this check box is not selected, the delta inbound and outbound messages ( <b>Delta In Msgs</b> and <b>Delta Out Msgs</b> ) display in the trend graph. |
|                         | <b>Log Scale</b> This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option. |   |

- Base at Zero** When this option is checked, zero is set as the Y axis minimum for all graph traces.
- Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click the  button.



By default, the time range end point is the current time. To change the time range end point, click the  button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. **Note:** The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

## Single EMS Topic-Clients

View data for all consumers and producers associated with the selected topic.

The screenshot shows the 'Single EMS Topic - Clients' interface. At the top, there are navigation buttons (back, forward) and a 'Table' button. The title bar includes 'Summary', 'Single EMS Topic - Clients', and a timestamp '06-Jul-2016 10:51' with a green 'Data OK' indicator. Below the title bar, there are fields for 'EMS Server: tcp://192.168.200.116:7222' and 'Name: EMS-SERVER'. A 'Topic: rtv.amx.governance.stats' dropdown is also present, along with a 'Show Active Only' checkbox. The main content area is split into two sections: 'Producers' (Count: 0) and 'Consumers' (Count: 1). The 'Consumers' section contains a table with the following data:

| ID      | clientID | Msgs/sec | Msgs Total | Bytes/sec | Total Bytes   | userName | hos      |
|---------|----------|----------|------------|-----------|---------------|----------|----------|
| 5614606 |          | 0.0      | 1,739,409  | 0.0       | 3,626,981,... | admin    | SLHOST21 |

**Title Bar:** Indicators and functionality might include the following:

Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

Open the online help page for this display.

**Note:** Clicking **Summary** in the Title Bar takes you to the “Single Topic Summary” display. Clicking **ByServer** in the Title Bar takes you to the “Single Topic By Server” display.

### Fields and Data

This display includes:

- EMS Server** The EMS Server selected from this drop-down menu populates the Topics drop-down menu with the Topics belonging to this EMS Server.
- Name** The name of the EMS Server selected from the EMS Server drop-down menu.

|                         |   |
|-------------------------|---|
| <b>Topic</b>            | Select a Topic from the drop-down menu to view details for the selected Topic.  |
| <b>Show Active Only</b> | Select this check box to view only the active producers and consumers for the selected Server/ Topic combination.   |
| <b>Producers</b>        | Shows data for all producers for the selected topic.  |
| <b>ID</b>               | A unique string identifier assigned to each producer.   |
| <b>clientID</b>         | A unique string identifier assigned to each client.   |
| <b>Msgs / sec</b>       | The number of messages, per second, emitted by the producer.  |
| <b>Msgs Total</b>       | The total number of messages emitted by the producer since the server was started.  |
| <b>Bytes / sec</b>      | The size of messages, in bytes per second, emitted by the producer.   |
| <b>Total Bytes</b>      | The total size of messages, in bytes, emitted by the producer since the server was started.   |
| <b>userName</b>         | The user name.  |
| <b>host</b>             | The name of the host.   |
| <b>sessionID</b>        | A unique string identifier assigned to each session.  |
| <b>connection ID</b>    | A unique string identifier assigned to each connection.   |
| <b>createTime</b>       | The amount of time, in milliseconds, since the producer was created.  |
| <b>time_stamp</b>       | The date and time this row of data was last updated.  |
| <b>Expired</b>          | When checked, performance data for that producer has not been received in the last 45 seconds. After 3600 seconds, the producer is deleted from the table.  |
| <b>Consumers</b>        | Shows data for all consumers of messages for the selected topic.  |
| <b>ID</b>               | A unique string identifier assigned to each consumer.   |
| <b>clientID</b>         | A unique string identifier assigned to each client.   |
| <b>Msgs / sec</b>       | The number of messages, per second, processed by the consumer.  |
| <b>Msgs Total</b>       | The total number of messages processed by the consumer.   |
| <b>Bytes / sec</b>      | The size of messages, in bytes per second, processed by the consumer.   |
| <b>Total Bytes</b>      | The total size of messages, in bytes, processed by the consumer since the server was started.   |
| <b>userName</b>         | The user name.  |
| <b>host</b>             | The name of the host machine.   |
| <b>Msgs Sent</b>        | The number of messages sent to the consumer that were not yet acknowledged by the consumer's session.<br>The <b>sl.rtvew.jmsadm.queryCIDetails</b> property must be set to <b>true</b> in your <b>sample.properties</b> file to see this column.        |
| <b>Size Msg Sent</b>    | The combined size of messages sent to the consumer that were not yet acknowledged by the consumer's session.<br><b>The sl.rtvew.jmsadm.queryCIDetails</b> property must be set to <b>true</b> in your <b>sample.properties</b> file to see this column. |

|                                 |   |
|---------------------------------|---|
| <b>Ack Msgs</b>                 | <p>The total number of messages that have been sent to the consumer and have been acknowledged by the consumer's session.</p> <p>The <b>sl.rtvew.jmsadm.queryCIDetails</b> property must be set to <b>true</b> in your <b>sample.properties</b> file to see this column.</p>  |
| <b>Sent Msgs</b>                | <p>The total number of messages sent to the consumer since the consumer was created.</p> <p>The <b>sl.rtvew.jmsadm.queryCIDetails</b> property must be set to <b>true</b> in your <b>sample.properties</b> file to see this column.</p>   |
| <b>Elap. Since Last Ack</b>     | <p>The amount of time (in milliseconds) that has elapsed since the last time a message sent to the consumer was acknowledged by the consumer's session.</p> <p>The <b>sl.rtvew.jmsadm.queryCIDetails</b> property must be set to <b>true</b> in your <b>sample.properties</b> file to see this column.</p>  |
| <b>Elap. Since Last Sent</b>    | <p>The amount of time (in milliseconds) that has elapsed since the last time the server sent a message to the consumer.</p> <p>The <b>sl.rtvew.jmsadm.queryCIDetails</b> property must be set to <b>true</b> in your <b>sample.properties</b> file to see this column.</p>  |
| <b>destination Prefetch</b>     | <p>The actual destination prefetch value used by the server at runtime.</p> <p>The <b>sl.rtvew.jmsadm.queryCIDetails</b> property must be set to <b>true</b> in your <b>sample.properties</b> file to see this column.</p>  |
| <b>prefetch Delivered Count</b> | <p>The number of prefetch messages delivered to the consumer by the server. For consumers receiving messages on any destination with positive prefetch value, this value is never more than the prefetch value of the destination. This value cannot be used to identify the status of the consumer, but it can be used in conjunction with other consumer information values to identify consumers who stopped receiving messages due to application-specific problems.</p> <p>The <b>sl.rtvew.jmsadm.queryCIDetails</b> property must be set to <b>true</b> in your <b>sample.properties</b> file to see this column.</p> |
| <b>durable Name</b>             | <p>The name of the durable.</p>   |
| <b>routeName</b>                | <p>The queue owner server name if the consumer's destination is a routed queue.</p> <p>The <b>sl.rtvew.jmsadm.queryCIDetails</b> property must be set to <b>true</b> in your <b>sample.properties</b> file to see this column.</p>  |
| <b>isActive</b>                 | <p>When checked, the consumer is active and can receive messages from the server.</p> <p>The <b>sl.rtvew.jmsadm.queryCIDetails</b> property must be set to <b>true</b> in your <b>sample.properties</b> file to see this column.</p>  |
| <b>isSystem</b>                 | <p>This check box is checked if the consumer was automatically created by the system.</p> <p>The <b>sl.rtvew.jmsadm.queryCIDetails</b> property must be set to <b>true</b> in your <b>sample.properties</b> file to see this column.</p>  |
| <b>sessionAck Mode</b>          | <p>Lists the consumer's session acknowledge mode as a constant defined in <b>TibjmsAdmin</b>.</p> <p>The <b>sl.rtvew.jmsadm.queryCIDetails</b> property must be set to <b>true</b> in your <b>sample.properties</b> file to see this column.</p>  |
| <b>session ID</b>               | <p>A unique string identifier assigned to each session.</p>   |
| <b>connection ID</b>            | <p>A unique string identifier assigned to each connection.</p>  |
| <b>createTime</b>               | <p>The amount of time, in milliseconds, since the consumer was created.</p>   |

|                   |  |
|-------------------|--|
| <b>time_stamp</b> | The date and time this row of data was last updated.   |
| <b>Expired</b>    | When checked, performance data about a consumer has not been received for <b>45</b> seconds. After <b>3600</b> seconds it is deleted from the table. |

## Single Topic By Server

Track performance and utilization metrics of a single topic across all servers that have the topic defined on it. Compare topic activity among servers.

| URL                        | Act. Durables | Consumers | Durables | failsafe                 | fcMaxBytes | global                   | In B |
|----------------------------|---------------|-----------|----------|--------------------------|------------|--------------------------|------|
| tcp://192.168.200.115:7222 | 1             | 8         | 8        | <input type="checkbox"/> | 0          | <input type="checkbox"/> |      |

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The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.  
 Open an instance of this display in a new window.  
 Open the online help page for this display.

**Note:** Clicking **Clients** in the Title Bar takes you to the “Single EMS Topic-Clients” display for the selected topic. Clicking **Summary** in the Title Bar takes you to the “Single Topic Summary” display.

**Fields and Data**

This display includes:

|                          |   |
|--------------------------|---|
| <b>Topic</b>             | The Topic selected from this drop-down menu populates this display.   |
| <b>Table</b>             | Shows details about the selected Topic for each server that has the Topic defined. Select a server from the list to view details in the <a href="#">“Single Topic Summary”</a> display. |
| <b>URL</b>               | The IP address and port number for the server.  |
| <b>Act. Durables</b>     | The number of currently active durables.  |
| <b>Consumers</b>         | The current number of consumers.  |
| <b>Durables</b>          | The number of active and inactive durables.   |
| <b>failsafe</b>          | When checked, the message is marked as failsafe delivery.   |
| <b>fcMaxBytes</b>        | The maximum number of bytes allocated for use by flow control.  |
| <b>global</b>            | When checked, the message is global and is routed to other servers.   |
| <b>In Byte Rate</b>      | The amount of inbound messages for the topic, in bytes per second.  |
| <b>In Msgs Rate</b>      | The amount of inbound messages for the topic, in number of messages per second.   |
| <b>In Total Bytes</b>    | The total number of inbound bytes for the topic.  |
| <b>In Total Msgs</b>     | The total number of inbound messages for the topic.   |
| <b>maxBytes</b>          | The maximum size, in bytes, that the topic can store for delivery to each durable or non-durable online subscriber on the topic.  |
| <b>maxMsgs</b>           | The maximum number of messages allocated for use by the topic.  |
| <b>Out Byte Rate</b>     | The amount of outbound messages (in bytes) per second.  |
| <b>Out Msg Rate</b>      | The number of outbound messages per second.   |
| <b>Out Total Bytes</b>   | The total amount of outbound messages for the topic, in bytes, since the server was started.  |
| <b>Out Total Msgs</b>    | The total number of outbound messages for the topic since the server was started.   |
| <b>overflowPolicy</b>    | Policy Indicates whether an overflow policy is set for the topic:<br><b>0</b> = No policy is set.<br><b>1</b> = A policy is set.  |
| <b>Pending Msgs</b>      | The number of currently pending messages for the topic.   |
| <b>Pending Msgs Size</b> | The amount of space, in bytes, pending messages use for the topic.  |
| <b>secure</b>            | When checked, the topic is designated as secure and enforces permission policies.   |

|                    |  |
|--------------------|--|
| <b>static</b>      | When checked, the topic has a static destination.                  |
| <b>Subscribers</b> | The number of subscribers for the topic.                           |
| <b>time_stamp</b>  | The date and time this row of data was last updated.               |
| <b>description</b> | Descriptive text to help the administrator identify this resource. |

## EMS Queues

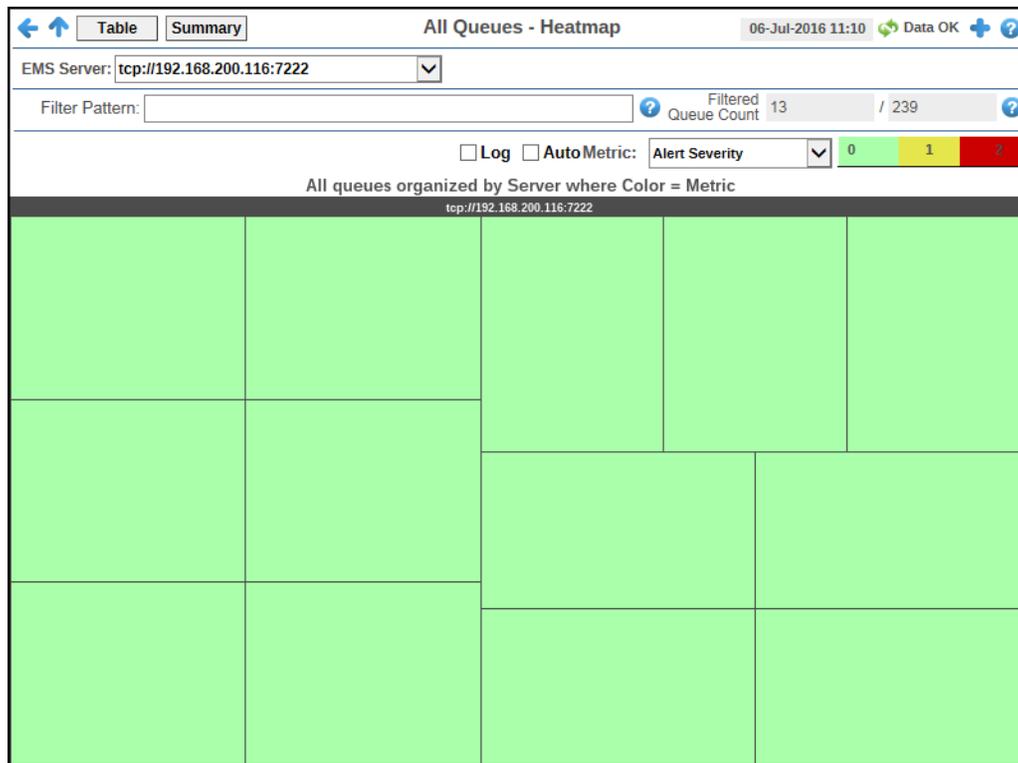
These displays present several views of performance metrics for queues. You can view all queues that are defined on a specific server in the [“All Queues Heatmap”](#) display, or you can view all servers that have a specific queue defined in the [“Single Queue Summary”](#) display. The [“Single EMS Queue-Clients”](#) display provides a list of all the servers on which those queues are defined.

- [“All Queues Heatmap”](#): A heatmap representation of a selected set of metrics that shows performance and utilization metrics and trends for all queues defined on a specified server, including message performance metrics.
- [“All Queues Table”](#): Shows performance and utilization metrics for all queues defined on a specified server.
- [“All Queues Summary”](#): Shows performance and utilization metrics and trends for all queues defined on a specified server, including message performance metrics.
- [“Single Queue Summary”](#): Shows detailed performance and utilization metrics and trends for a specified queue on a single server, including producer and consumer counts, and message performance metrics.
- [“Single EMS Queue-Clients”](#): View data for all consumers and producers associated with the selected queue.
- [“Single Queue By Server”](#): Table shows performance and utilization metrics for all servers that have a specified queue defined, including consumer and receiver count, and message performance metrics.

## All Queues Heatmap

A heatmap representation of the [“All Queues Table”](#) display that allows you to track performance and utilization metrics and trends for all queues on a single server. View status and alerts of all queues for a server. Use the **Metric** drop-down menu to view to **Alert Severity, Alert Count, Consumers, Receivers, Pending Messages, Inbound Message Rate, Inbound Total Messages, Outbound Message Rate, or Outbound Total Messages**.

The heatmap is organized so that each rectangle represents a queue on the selected server. The rectangle color indicates the most critical alert state. Click on a node to drill-down to the [“Single Queue Summary”](#) display and view metrics for a particular queue. Toggle between the commonly accessed **Table** (link to the [“All Queues Table”](#) display) and **Heatmap** displays. Mouse-over rectangles to view more details about the performance and status of each queue.



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 Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

**Note:** Clicking **Table** in the Title Bar takes you to the “All Queues Table” display. Clicking **Summary** in the Title Bar takes you to the “All Queues Summary” display.

### Fields and Data

This display includes:

**EMS Server** The EMS Server selected from this drop-down menu populates all the associated Queue data in this display.

**Filter Pattern** Enter a string to show only queues with names that contain the string. For example, if you enter the string Madrid, all queues with Madrid in the queue name are shown in the table. If no entry is made, all queue names are shown. For most use cases, you can enter a portion of the queue name.

**Filtered Queue Count**

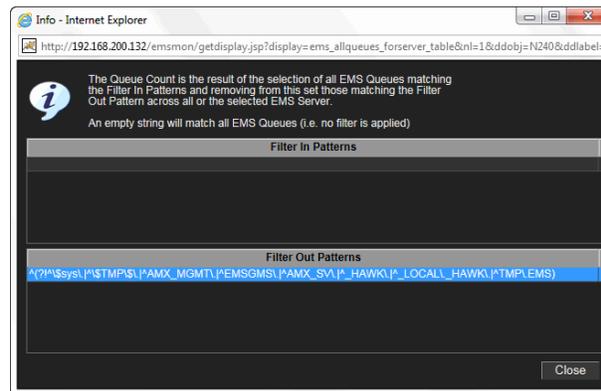
This field is broken into two different values. The first value is the total number of currently active queues on the selected server, which is filtered by the **Filter Pattern** field and by the default value specified in the **\$emsQueueFilterOutPattern** property in the **emsmon/conf/rtvapl.properties** file. The second value is the total number of queues on the selected server. In other words, the filtered number of queues/the total number of queues on the server.

The default value for the **\$emsQueueFilterOutPattern** property is:

```
collector.sl.rtvview.sub=$emsQueueFilterOutPattern: '^(?!^\\$sys\\.|^\\$TMP\\$\\.|^AMX_MGMT\\.|^EMSGMS\\.|^AMX_SV\\.|^_HAWK\\.|^_LOCAL\\.|_HAWK\\.|^TMP\\.EMS)'
```

You can modify the filter value by editing the **\$emsQueueFilterOutPattern** property in the **sample.properties File**, which will override the default value.

Clicking the associated Help button  displays the **Info** dialog, which displays the defined filter in and filter out properties used by the **Filtered Queue Count**.

**Log**

This option enables visualization on a logarithmic scale, and should be used when the range in your data is very broad. For example, if you have data that ranges from the tens to the thousands, then data in the range of tens will be neglected visually if you do not check this option. This option makes data on both extreme ranges visible by using the logarithmic of the values rather than the actual values.

**Auto**

When checked, the values of the selected metric are auto-scaled to its highest defined value. When unchecked, the values of the selected metric display based on the threshold defined for the alert associated with the selected metric. Selecting Auto helps to visualize the range of the values currently present for the selected metric instead of the threshold of the alert that has been associated with the metric. All metrics that have not been associated in the heatmap defaults with alerts use a monochromatic color gradient bar (whites and greens). All metrics that have been associated in the heatmap defaults with alerts use a multi-chromatic color gradient bar (reds, yellows, white, and greens).

**Metric**

Select the metric driving the heatmap display. The default is **Alert Severity**. Each Metric has a color gradient bar that maps values to colors. The heatmap organizes the topics by server, where each rectangle represents a Queue. Mouse-over any rectangle to display the current values of the metrics for the Queue. Click on a rectangle to drill-down to the associated **Single Queue Summary** display for a detailed view of metrics for that particular queue.

**Alert Severity**

The maximum alert level in the item (index) associated with the rectangle. Values range from **0** to **2**, as indicated in the color gradient bar , where **2** is the greatest **Alert Severity**.

-- Metrics that have exceeded their specified **ALARMLEVEL** threshold and have an Alert Severity value of **2** are shown in red. For a given rectangle, this indicates that one or more metrics have exceeded their alarm threshold.

**1** -- Metrics that have exceeded their specified **WARNINGLEVEL** threshold and have an Alert Severity value of **1** are shown in yellow. For a given rectangle, this indicates that one or more metrics have exceeded their warning threshold.

-- Metrics that have not exceeded either specified threshold have an Alert Severity value of **0** and are shown in green. For a given rectangle, this indicates that no metrics have exceeded a specified alert threshold.

**Alert Count**

The total number of alarm and warning alerts in a given item (index) associated with the rectangle.

The color gradient bar  shows the range of the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the middle value of the range.

**Consumers**

The total number of consumers in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of receivers in the heatmap. The middle value in the gradient bar indicates the middle value of the range.

The **Auto** option does not impact this metric.

**Receivers**

The total number of receivers in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of receivers in the heatmap. The middle value in the gradient bar indicates the middle value of the range.

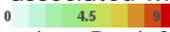
The **Auto** option does not impact this metric.

**Pending Msgs**

The total number of pending messages in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from **0** to the alert threshold of **EmsQueuesPendingMsgsHigh**, which is **3000**. The middle value in the gradient bar indicates the middle value of the range (the default is **1500**).

When **Auto** is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.

**In Msgs /sec**

The number of inbound messages per second in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from **0** to the alert threshold of **EmsQueuesInMsgRateHigh**, which is **9**. The middle value in the gradient bar indicates the middle value of the range (the default is **4.5**).

When **Auto** is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.

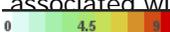
**Note:** This metric comes directly from the **tibjms.admin.DestinationInfo** class from TIBCO.

**In Total Msg**

The total number of inbound messages in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of receivers in the heatmap. The middle value in the gradient bar indicates the middle value of the range.

The **Auto** option does not impact this metric.

**Out Msgs/sec**

The number of outbound messages per second in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from **0** to the alert threshold of **EmsQueuesOutMsgRateHigh**, which is **9**. The middle value in the gradient bar indicates the middle value of the range (the default is **4.5**).

When **Auto** is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.

**Note:** This metric comes directly from the **tibjms.admin.DestinationInfo** class from TIBCO.

**Out Total Msgs**

The total number of outbound messages in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of receivers in the heatmap. The middle value in the gradient bar indicates the middle value of the range.

The **Auto** option does not impact this metric.

## All Queues Table

Track performance and utilization metrics for all queues on a single server.

| Queue Name  | URL            | In Rate | In Total    | Out Rate | Out Total   | Pend Msgs |
|---|----------------|---------|-------------|----------|-------------|-----------|
| amx.governance.internal.stats                     | tcp://192.1... | 0       | 206,708,124 | 0        | 206,708,124 | 103       |
| amx.governance.stats                              | tcp://192.1... | 0       | 62,845,363  | 0        | 62,845,367  | 0         |
| cl_logservice_queue                               | tcp://192.1... | 0       | 0           | 0        | 0           | 0         |
| cl_payload_queue                                  | tcp://192.1... | 0       | 0           | 0        | 0           | 0         |
| com.tibco.amf.admin.deploymentServerQueue.inst... | tcp://192.1... | 0       | 4           | 0        | 4           | 0         |
| com.tibco.amf.admin.deploymentServerQueue.inst... | tcp://192.1... | 0       | 9           | 0        | 9           | 0         |
| com.tibco.amf.admin.deploymentServerQueue.SL...   | tcp://192.1... | 0       | 0           | 0        | 0           | 0         |
| com.tibco.amf.admin.deploymentServerQueue.SL...   | tcp://192.1... | 0       | 11          | 0        | 11          | 0         |
| com.tibco.amf.admin.deploymentServerQueue.Sys...  | tcp://192.1... | 0       | 0           | 0        | 0           | 0         |
| com.tibco.amf.admin.deploymentServerQueue.Sys...  | tcp://192.1... | 0       | 8           | 0        | 8           | 0         |
| com.tibco.amf.admin.deploymentServerQueue.Sys...  | tcp://192.1... | 0       | 0           | 0        | 0           | 0         |
| queue.sample                                      | tcp://192.1... | 0       | 0           | 0        | 0           | 0         |
| sample  | tcp://192.1... | 0       | 0           | 0        | 0           | 0         |

**Title Bar:** Indicators and functionality might include the following:



Open the previous and upper display.



Navigate to displays commonly accessed from this display.



The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.



The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.



Open the **Alert Views - RTView Alerts Table** display.



Open an instance of this display in a new window.



Open the online help page for this display.

**Note:** Clicking **Heatmap** in the Title Bar takes you to the “All Queues Heatmap” display. Clicking **Summary** in the Title Bar takes you to the “All Queues Summary” display.

### Fields and Data

This display includes:

**EMS Server**

The EMS Server selected from this drop-down menu populates all associated Queue data in this display.

**Filter Pattern** Enter a string to show only queues with names that contain the string. For example, if you enter the string Madrid, all queues with Madrid in the queue name are shown in the table. If no entry is made, all queue names are shown. For most use cases, you can enter a portion of the queue name.

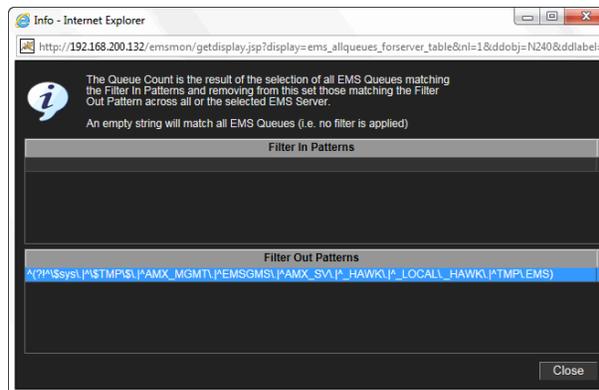
**Filtered Queue Count** This field is broken into two different values. The first value is the total number of currently active queues on the selected server, which is filtered by the **Filter Pattern** field and by the default value specified in the **\$emsQueueFilterOutPattern** property in the **emsmon/conf/rtvapm.properties** file. The second value is the total number of queues on the selected server. In other words, the filtered number of queues/the total number of queues on the server.

The default value for the **\$emsQueueFilterOutPattern** property is:

```
collector.sl.rtvview.sub=$emsQueueFilterOutPattern: '^(?!^\\$sys\\.|^\\$TMP\\$\\.|^AMX_MGMT\\.|^EMSGMS\\.|^AMX_SV\\.|^_HAWK\\.|^_LOCAL\\.|^_HAWK\\.|^TMP\\.EMS)'
```

You can modify the filter value by editing the **\$emsQueueFilterOutPattern** property in the **sample.properties File**, which will override the default value.

Clicking the associated Help button  displays the **Info** dialog, which displays the defined filter in and filter out properties used by the **Filtered Queue Count**.



**Table** This table describes all queues on the selected server. Click a row to view metrics for a single queue in the **Single Queue Summary** display.

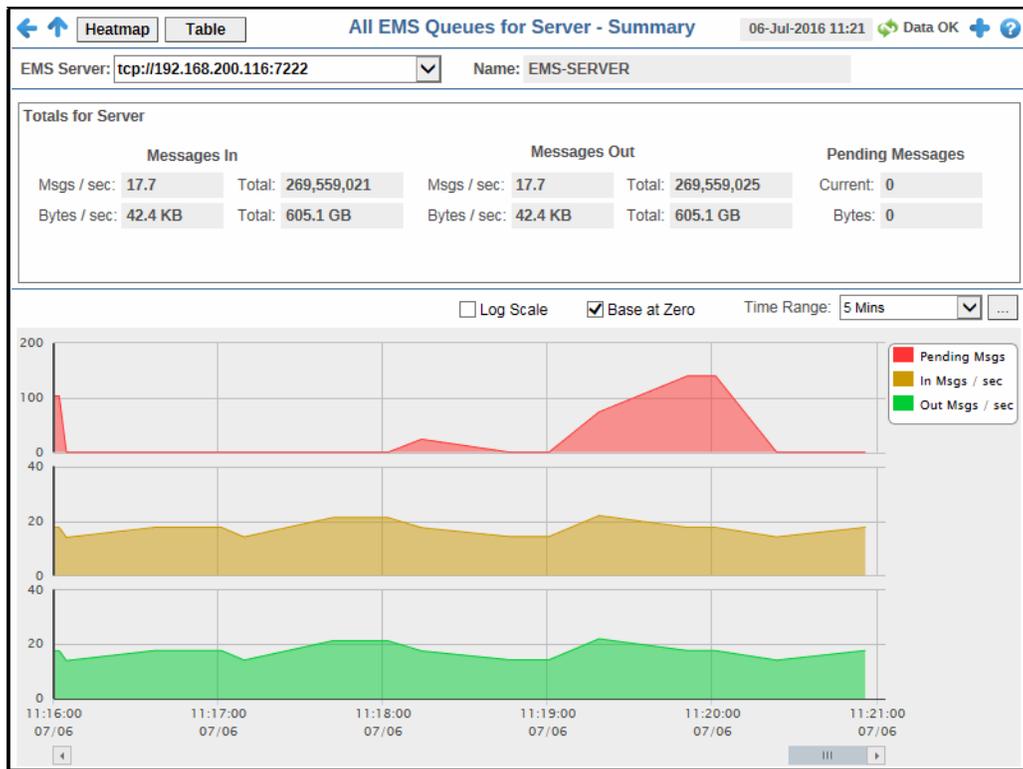
|                   |  |
|-------------------|--|
| <b>Queue Name</b> | The name of the queue.   |
| <b>URL</b>        | The IP address and port number for the server.   |
| <b>In Rate</b>    | The number of inbound messages for the queue, per second.<br><b>Note:</b> This metric comes directly from the <b>tibjms.admin.DestinationInfo</b> class from TIBCO.  |
| <b>In Total</b>   | The total number of inbound messages for the queue.  |
| <b>Out Rate</b>   | The number of outbound messages for the queue, per second.<br><b>Note:</b> This metric comes directly from the <b>tibjms.admin.DestinationInfo</b> class from TIBCO. |
| <b>Out Total</b>  | The total number of outbound messages for the queue.   |
| <b>Pend Msgs</b>  | The number of currently pending messages for the queue.  |

|                           |  |
|---------------------------|--|
| <b>Pend Size</b>          | The amount of space, in bytes, used by pending messages for the queue.   |
| <b>activeDurableCount</b> | The current number of active durables.   |
| <b>consumerCount</b>      | The number of active and inactive consumers.   |
| <b>durableCount</b>       | The number of active and inactive durables.  |
| <b>failSafe</b>           | When checked, the message is marked as failsafe delivery.  |
| <b>fcMaxBytes</b>         | The maximum number of bytes allocated for use by flow control.   |
| <b>global</b>             | When checked, the message is global and is routed to other servers.  |
| <b>inboundByteRate</b>    | The amount of inbound messages for the queue, in bytes per second.   |
| <b>inboundTotalBytes</b>  | The total amount of inbound messages for the queue, in bytes.  |
| <b>maxBytes</b>           | The maximum amount of bytes allocated for use by the queue.  |
| <b>maxMsgs</b>            | The maximum number of messages allocated for use by the queue.   |
| <b>outboundByteRate</b>   | The amount of outbound messages for the queue, in bytes per second.  |
| <b>outboundTotalBytes</b> | The total amount of outbound messages for the queue, in bytes.   |
| <b>overflowPolicy</b>     | Indicates whether an overflow policy is set for the queue:<br><b>0</b> = No policy is set.<br><b>1</b> = A policy is set.  |
| <b>secure</b>             | When checked, the queue is designated as secure and enforces permission policies.  |
| <b>static</b>             | When checked, the queue has a static destination.  |
| <b>subscriberCount</b>    | The number of subscribers that receive queue message.  |
| <b>description</b>        | Descriptive text to help the administrator identify this resource.   |
| <b>Expired</b>            | This check box becomes automatically checked when the data displayed in the row has exceeded the specified cache expiration time (set by default at 45 seconds) and is no longer current. Once the cache has been refreshed and is displaying current data, the check box will return to being unchecked. This check box will remain unchecked as long as the cache has been refreshed within the specified cache expiration time and the data is current. |

|                                   |   |
|-----------------------------------|---|
| <b>time_stamp</b>                 | The date and time this row of data was last updated.  |
| <b>DeltainboundTotalMessages</b>  | The change in total inbound messages since the last update.   |
| <b>DeltainboundTotalBytes</b>     | The change in total inbound message bytes since the last update.  |
| <b>DeltaoutboundTotalMessages</b> | The change in total outbound messages since the last update.  |
| <b>DeltaoutboundTotalBytes</b>    | The change in total outbound message bytes since the last update.   |
| <b>prefetch</b>                   | Lists the maximum number of messages consumers can fetch.   |
| <b>expiryOverride</b>             | If set to a non-zero value for a destination and the server delivers a message to the destination, the server replaces the producer's expiration value with this value. |
| <b>store</b>                      | Provides the store for this destination where persistent messages are stored.   |
| <b>deliveredMessageCount</b>      | Indicates the total number of messages that have been delivered and acknowledged.   |
| <b>URLQueue</b>                   | The IP address and port for the queue.  |
| <b>exclusive</b>                  | When checked, the server sends all messages on this queue to one consumer.  |
| <b>maxRedelivery</b>              | The maximum number of attempts for attempting redelivery of a message.  |
| <b>receiverCount</b>              | The number of receivers that receive queue message.   |

## All Queues Summary

Track performance and utilization metrics and trends for all queues on a single server.



**Title Bar:** Indicators and functionality might include the following:



Open the previous and upper display. Navigate to displays commonly accessed from this display.

19-Feb-2014 16:50

The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.



The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.



Open the **Alert Views - RTView Alerts Table** display.



Open an instance of this display in a new window.



Open the online help page for this display.

**Note:** Clicking **Heatmap** in the Title Bar takes you to the "All Queues Heatmap" display. Clicking **Table** in the Title Bar takes you to the "All Queues Table" display.

### Fields and Data

This display includes:

**EMS Server**

The EMS Server selected from this drop-down menu populates all associated queue data in this display.

**Name**

The name of the server selected in the **EMS Server** drop down list.

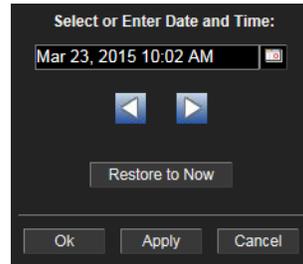
**Totals For Server**

Shows metrics for all queues on the selected server.

|                     |  |
|---------------------|--|
|                     | <p><b>Messages In</b>    <b>Msgs/sec</b> -- The total number of inbound messages for all queues on the server, per second.</p> <p>                  <b>Total</b> -- The total number of inbound messages for all queues on the server since the server was started.</p> <p>                  <b>Bytes/sec</b> -- The amount of inbound messages, in bytes per second, for all queues on the server.</p> <p>                  <b>Total</b> -- The amount of inbound messages, in kilobytes, for all queues on the server since the server was started.</p>      |
|                     | <p><b>Messages Out</b>    <b>Msgs/sec</b> -- The total number of outbound messages for all queues on the server, per second.</p> <p>                  <b>Total</b> -- The total number of outbound messages for all queues on the server since the server was started.</p> <p>                  <b>Bytes/sec</b> -- The amount of outbound messages, in bytes per second, for all queues on the server.</p> <p>                  <b>Total</b> -- The amount of outbound messages for all queues on the server, in kilobytes, since the server was started.</p> |
|                     | <p><b>Pending Messages</b>    <b>Current</b> -- The total number of messages currently waiting to be processed.</p> <p>                              <b>Bytes</b> -- The amount of messages, in bytes, currently waiting to be processed.</p>  |
| <b>Trend Graphs</b> | <p>Shows metrics for all queues on the selected server.</p> <p>          <b>Pending Msgs</b> -- Traces the number of messages currently waiting to be processed.</p> <p>          <b>In Msgs / sec</b> -- Traces the number of inbound messages for all queues, per second.</p> <p>          <b>Out Msgs / sec</b> -- Traces the number of outbound messages for all queues, per second.</p>   |
|                     | <p><b>Log Scale</b>            This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option.</p>  |

**Base at Zero** When this option is checked, zero is set as the Y axis minimum for all graph traces.

**Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click the  button.



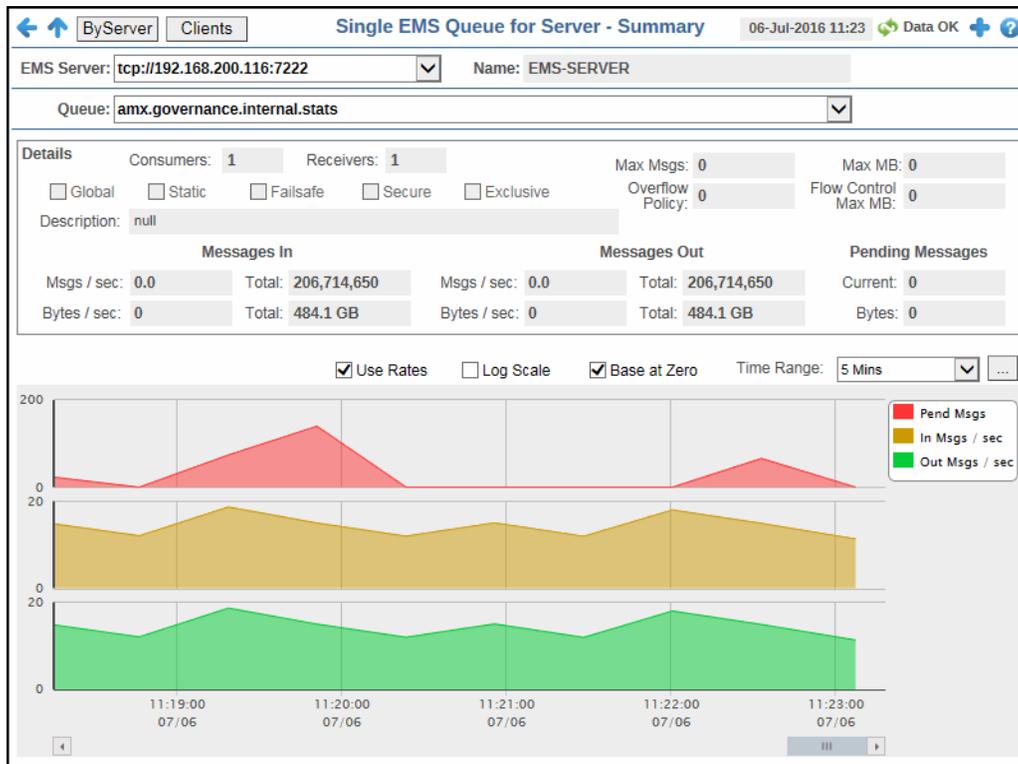
By default, the time range end point is the current time. To change the time range end point, click the  button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. **Note:** The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

## Single Queue Summary

Track performance and utilization metrics for a single queue on a single server.



**Title Bar:** Indicators and functionality might include the following:



Open the previous and upper display.



Navigate to displays commonly accessed from this display.



The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.



The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.



Open the **Alert Views - RTView Alerts Table** display.



Open an instance of this display in a new window.



Open the online help page for this display.

**Note:** Clicking **Clients** in the Title Bar takes you to the “Single EMS Queue-Clients” display. Clicking **By Server** in the Title Bar takes you to the “Single Queue By Server”.

### Fields and Data

This display includes:

**EMS Server** The EMS Server selected from this drop-down menu populates the **Queues** drop-down menu with the queues belonging to this EMS Server.

**Name** The name of the EMS Server selected from the **EMS Server** drop-down menu.

**Queue** Select a queue from the drop-down menu. The selection made here populates this display.

**Browse** Click to browse the contents of the selected queue in a separate window. The queue browser table displays up to 100,000 rows of messages.

The screenshot shows a table titled 'Queue Browser' with columns for Message ID, Source, Destination, and other attributes. The table contains several rows of message data, including message IDs like 1748, 1749, 1753, 1754, 1755, 1756, 1757, 1758, and 1760. Each row includes a 'Test' button and a 'View' button.

By default, this button is disabled due to the fact that use of this option could significantly impact performance. To enable it, add the following substitution to the properties file with which you execute the Display Server and/or Viewer:

**sl.rtvview.sub=\$emsDestBrowseButtonVisFlag:1**

**Details** Shows metrics for the queue selected from the **Queue** drop-down menu.

**Consumers** The number of consumers currently interacting with the queue.

**Receivers** The number of consumers currently receiving messages from the queue.

**Max Msgs** The maximum number of messages allocated for the queue.

**Max MB** The maximum amount of memory, in megabytes, allocated for use by the queue.

**Global** When checked, the message is global and is routed to other servers.

**Static** When checked, the queue has a static destination.

**Failsafe** When checked, the message is marked as failsafe delivery.

**Secure** When checked, the queue is designated as secure and enforces permission policies.

**Exclusive** When checked, the server sends all messages on this queue to one consumer.

**Overflow Policy** Indicates whether an overflow policy is set for the queue:  
**0** = No policy is set.  
**1** = A policy is set.

**Flow Control Max MB** The maximum amount of memory, in megabytes, allocated for flow control use by the queue.

**Description** Description of the Queue.

**Messages In** **Msgs/sec** The number of inbound messages, per second, for the selected queue.

**Total** The total number of inbound messages for the selected queue since the server was started.

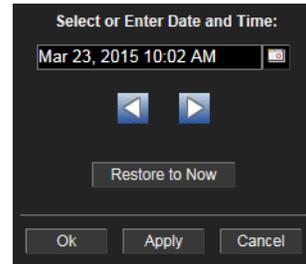
**Bytes/sec** The size of the inbound messages, in bytes per second, for the selected queue.

**Total** The total size of inbound messages, in bytes, for the selected queue since the server was started.

|                         |  |  |
|-------------------------|--|--|
| <b>Messages Out</b>     | <b>Msgs/sec</b>  | The number of outbound messages, per second, for the selected queue.   |
|                         | <b>Total</b>   | The total number of outbound messages for the selected queue since the server was started.   |
|                         | <b>Bytes/sec</b>   | The size of outbound messages, in bytes per second, for the selected queue.  |
|                         | <b>Total</b>   | The total size of outbound messages, in bytes, for the selected queue since the server was started.  |
| <b>Pending Messages</b> | <b>Current</b>   | The total number of messages for the selected queue currently waiting to be processed.   |
|                         | <b>Bytes</b>   | The size, in bytes, of messages for the selected queue currently waiting to be processed.  |
| <b>Trend Graphs</b>     | Shows metrics for the selected queue on the specified server.  |  |
|                         | <b>Pending Msgs</b>  | -- Traces the number of messages currently waiting to be processed.  |
|                         | <b>In Msgs / sec</b>   | -- Traces the number of inbound messages, per second. This trend graph only displays when <b>Use Rates</b> is selected.  |
|                         | <b>Out Msgs / sec</b>  | -- Traces the number of outbound messages, per second. This trend graph only displays when <b>Use Rates</b> is selected.   |
|                         | <b>Delta In Msgs</b>   | -- Traces the change in total inbound messages since the last update. This trend graph only displays when <b>Use Rates</b> is not selected.  |
|                         | <b>Delta Out Msgs</b>  | -- Traces the change in total inbound messages since the last update. This trend graph only displays when <b>Use Rates</b> is selected.  |
|                         | <b>Use Rates</b>   | When this check box is selected, the inbound and outbound message rates ( <b>In Msgs/sec</b> and <b>Out Msgs/sec</b> ) display in the trend graph. When this check box is not selected, the delta inbound and outbound messages ( <b>Delta In Msgs</b> and <b>Delta Out Msgs</b> ) display in the trend graph. |
| <b>Log Scale</b>        | This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option. |  |

**Base at Zero** When this option is checked, zero is set as the Y axis minimum for all graph traces.

**Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click the  button.



By default, the time range end point is the current time. To change the time range end point, click the  button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows  to move forward or backward one time period. **Note:** The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

## Single EMS Queue-Clients

View data for all consumers and producers associated with the selected queue.

| Producers |          |            |             |             |               |          |          | Count: 1 |
|-----------|----------|------------|-------------|-------------|---------------|----------|----------|----------|
| ID        | clientID | Msgs / sec | Msgs Total  | Bytes / sec | Total Bytes   | userName | hos      |          |
| 1180060   |          | 96.0       | 413,436,138 | 245,782.0   | 1,039,568,... | admin    | SLHOST16 |          |

| Consumers |          |          |             |           |               |          |          | Count: 1 |
|-----------|----------|----------|-------------|-----------|---------------|----------|----------|----------|
| ID        | clientID | Msgs/sec | Msgs Total  | Bytes/sec | Total Bytes   | userName | hos      |          |
| 1180446   |          | 48.0     | 206,718,069 | 122,915.0 | 519,849,21... | admin    | SLHOST16 |          |

**Title Bar:** Indicators and functionality might include the following:



Open the previous and upper display.



Navigate to displays commonly accessed from this display.

19-Feb-2014 16:50

The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.



The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.



Open the **Alert Views - RTView Alerts Table** display.



Open an instance of this display in a new window.



Open the online help page for this display.

**Note:** Clicking **By Server** in the Title Bar takes you to the "Single Queue By Server". Clicking **Summary** in the Title Bar takes you to the "Single Queue Summary" display.

### Fields and Data

This display includes:

- EMS Server** The EMS Server selected from this drop-down menu populates the Queue drop-down menu with the Queues belonging to this EMS Server.
- Name** The name of the EMS Server selected from the EMS Server drop-down menu.

|                         |  |
|-------------------------|--|
| <b>Queue</b>            | Select a Queue from the drop-down menu to view details for the selected Queue.   |
| <b>Show Active Only</b> | Select this check box to view only the active producers and consumers for the selected EMS Queue.  |
| <b>Producers</b>        | Shows data for all producers for the selected queue.   |
| <b>ID</b>               | A unique string identifier assigned to each producer.  |
| <b>clientID</b>         | A unique string identifier assigned to each client.  |
| <b>Msgs / sec</b>       | The number of messages, per second, that are emitted by the producer.  |
| <b>Msgs Total</b>       | The total number of messages emitted by the producer since the server was started.   |
| <b>Bytes / sec</b>      | The size of messages, in bytes per second, that are emitted by the producer.   |
| <b>Total Bytes</b>      | The total size of messages, in bytes, emitted by the producer since the server was started.  |
| <b>userName</b>         | The user name.   |
| <b>host</b>             | The name of the host.  |
| <b>sessionID</b>        | A unique string identifier assigned to each session.   |
| <b>connection ID</b>    | A unique string identifier assigned to each connection.  |
| <b>createTime</b>       | The amount of time, in milliseconds, since the producer was created.   |
| <b>time_stamp</b>       | The date and time this row of data was last updated.   |
| <b>Expired</b>          | When checked, performance data about this producer has not been received for 45 seconds. After 3600 seconds, the producer is deleted from the table.   |
| <b>Consumers</b>        | Shows data for all consumers associated with the selected queue.   |
| <b>ID</b>               | A unique string identifier assigned to each consumer.  |
| <b>clientID</b>         | A unique string identifier assigned to each client.  |
| <b>Msgs / sec</b>       | The number of messages, per second, that are processed by the consumer.  |
| <b>Msgs Total</b>       | The total number of messages that have been processed by the consumer.   |
| <b>Bytes / sec</b>      | The size of messages, in bytes per second, that are processed by the consumer.   |
| <b>Total Bytes</b>      | The total size of messages, in bytes, processed by the consumer since the server was started.  |
| <b>userName</b>         | The user name.   |
| <b>host</b>             | The name of the host machine.  |
| <b>Msgs Sentt</b>       | The number of messages sent to the consumer that were not yet acknowledged by the consumer's session.<br>The <b>sl.rtvew.jmsadm.queryCIDetails</b> property must be set to <b>true</b> in your <b>sample.properties</b> file to see this column. |

|                                 |   |
|---------------------------------|---|
| <b>Size Msg Sent</b>            | <p>The combined size of messages sent to the consumer that were not yet acknowledged by the consumer's session.</p> <p>The <b>sl.rtvew.jmsadm.queryCIDetails</b> property must be set to <b>true</b> in your <b>sample.properties</b> file to see this column.</p>  |
| <b>Ack Msgs</b>                 | <p>The total number of messages that have been sent to the consumer and have been acknowledged by the consumer's session.</p> <p>The <b>sl.rtvew.jmsadm.queryCIDetails</b> property must be set to <b>true</b> in your <b>sample.properties</b> file to see this column.</p>  |
| <b>Sent Msgs</b>                | <p>The total number of messages sent to the consumer since the consumer was created.</p> <p>The <b>sl.rtvew.jmsadm.queryCIDetails</b> property must be set to <b>true</b> in your <b>sample.properties</b> file to see this column.</p>   |
| <b>Elap. Since Last Ack</b>     | <p>The amount of time (in milliseconds) that has elapsed since the last time a message sent to the consumer was acknowledged by the consumer's session.</p> <p>The <b>sl.rtvew.jmsadm.queryCIDetails</b> property must be set to <b>true</b> in your <b>sample.properties</b> file to see this column.</p>  |
| <b>Elap. Since Last Sent</b>    | <p>The amount of time (in milliseconds) that has elapsed since the last time the server sent a message to the consumer.</p> <p>The <b>sl.rtvew.jmsadm.queryCIDetails</b> property must be set to <b>true</b> in your <b>sample.properties</b> file to see this column.</p>  |
| <b>destination Prefetch</b>     | <p>The actual destination prefetch value used by the server at runtime.</p> <p>The <b>sl.rtvew.jmsadm.queryCIDetails</b> property must be set to <b>true</b> in your <b>sample.properties</b> file to see this column.</p>  |
| <b>prefetch Delivered Count</b> | <p>The number of prefetch messages delivered to the consumer by the server. For consumers receiving messages on any destination with positive prefetch value, this value is never more than the prefetch value of the destination. This value cannot be used to identify the status of the consumer, but it can be used in conjunction with other consumer information values to identify consumers who stopped receiving messages due to application-specific problems.</p> <p>The <b>sl.rtvew.jmsadm.queryCIDetails</b> property must be set to <b>true</b> in your <b>sample.properties</b> file to see this column.</p> |
| <b> durable Name</b>            | <p>The name of the durable.</p>   |
| <b>routeName</b>                | <p>The queue owner server name if the consumer's destination is a routed queue.</p> <p>The <b>sl.rtvew.jmsadm.queryCIDetails</b> property must be set to <b>true</b> in your <b>sample.properties</b> file to see this column.</p>  |
| <b>isActive</b>                 | <p>When checked, the consumer is active and can receive messages from the server.</p> <p>The <b>sl.rtvew.jmsadm.queryCIDetails</b> property must be set to <b>true</b> in your <b>sample.properties</b> file to see this column.</p>  |
| <b>isSystem</b>                 | <p>This check box is checked if the consumer was automatically created by the system.</p> <p>The <b>sl.rtvew.jmsadm.queryCIDetails</b> property must be set to <b>true</b> in your <b>sample.properties</b> file to see this column.</p>  |
| <b>sessionAck Mode</b>          | <p>Lists the consumer's session acknowledge mode as a constant defined in <b>TibjmsAdmin</b>.</p> <p>The <b>sl.rtvew.jmsadm.queryCIDetails</b> property must be set to <b>true</b> in your <b>sample.properties</b> file to see this column.</p>  |
| <b>session ID</b>               | <p>A unique string identifier assigned to each session.</p>   |

- connection ID**      A unique string identifier assigned to each connection.
- createTime**      The amount of time, in milliseconds, since the consumer was created.
- time\_stamp**      The date and time this row of data was last updated.
- Expired**            When checked, performance data about this consumer has not been received for **45** seconds. After **3600** seconds, the consumer is deleted from the table.

## Single Queue By Server

Track performance and utilization metrics of a single queue across all servers. Compare queue activity among servers.

The screenshot shows the 'EMS Queue - Detail by Server' interface. At the top, there are navigation buttons for 'Summary' and 'Clients', and a dropdown menu for the queue name 'amx.governance.stats'. The table below displays the following data:

| URL                        | Consumers | exclusive                | failsafe                 | fcMaxBytes | global                   | In Byte Rate | In Msg R |
|----------------------------|-----------|--------------------------|--------------------------|------------|--------------------------|--------------|----------|
| tcp://192.168.200.115:7222 | 0         | <input type="checkbox"/> | <input type="checkbox"/> | 0          | <input type="checkbox"/> | 0            |          |
| tcp://192.168.200.116:7222 | 1         | <input type="checkbox"/> | <input type="checkbox"/> | 0          | <input type="checkbox"/> | 17,609       |          |
| tcp://192.168.200.121:7222 | 1         | <input type="checkbox"/> | <input type="checkbox"/> | 0          | <input type="checkbox"/> | 0            |          |

**Title Bar:** Indicators and functionality might include the following:

  Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

**Note:** Clicking **Summary** in the Title Bar takes you to the “[Single Queue Summary](#)”. Clicking **Clients** in the Title Bar takes you to the “[Single EMS Queue-Clients](#)” display.

## Fields and Data

This display includes:

|                       |   |
|-----------------------|---|
| <b>Queue</b>          | The Queue selected from this drop-down menu populates this display.   |
| <b>Table</b>          | Shows details about the selected Queue for each server that has the queue defined. Select a server to view details in the “ <a href="#">Single Queue Summary</a> ” display. |
| <b>URL</b>            | The URL of the server.  |
| <b>Consumers</b>      | The number of active and inactive consumers.  |
| <b>exclusive</b>      | When checked, the server sends all messages on this queue to one consumer.  |
| <b>failSafe</b>       | When checked, the message is marked as failsafe delivery.   |
| <b>fcMaxBytes</b>     | The maximum number of bytes allocated for use by flow control.  |
| <b>global</b>         | When checked, the message is global and is routed to other servers.   |
| <b>In Byte Rate</b>   | The amount of inbound messages for the queue, in bytes per second.  |
| <b>In Msg Rate</b>    | The amount of inbound messages for the queue, in number of messages per second.   |
| <b>In Total Bytes</b> | The total number of inbound bytes for the queue.  |
| <b>In Total Msgs</b>  | The total number of inbound messages for the queue.   |
| <b>maxBytes</b>       | The maximum amount of bytes allocated for use by the queue.   |
| <b>maxMsgs</b>        | The maximum number of messages allocated for use by the queue.  |
| <b>maxRedelivery</b>  | The maximum number of attempts for attempting redelivery of a message.  |

|                          |   |
|--------------------------|---|
| <b>Out Byte Rate</b>     | The amount of outbound messages (in bytes) per second.  |
| <b>Out Msg Rate</b>      | The number of outbound messages per second.   |
| <b>Out Total Bytes</b>   | The total amount of outbound messages, in bytes, since the server was started.  |
| <b>Out Total Msgs</b>    | The total number of outbound messages since the server was started.   |
| <b>overflowPolicy</b>    | Indicates whether an overflow policy is set for the queue:<br><b>0</b> = No policy is set.<br><b>1</b> = A policy is set. |
| <b>Pending Msgs</b>      | The number of currently pending messages.   |
| <b>Pending Msgs Size</b> | The amount of space, in bytes, pending messages use for the queue.  |
| <b>Receivers</b>         | The number of receivers of queue messages.  |
| <b>secure</b>            | When checked, the topic is designated as secure and enforces permission policies.   |
| <b>static</b>            | When checked, the topic has a static destination.   |
| <b>time_stamp</b>        | The date and time this row of data was last updated.  |
| <b>description</b>       | Descriptive text to help the administrator identify this resource.  |

## EMS Clients

These displays present performance metrics for all server connections, including users, routes between servers, producers, consumers and durables connected to a specific EMS server.

- **"Connections"**: Shows connection information on a single server.
- **"Bridges, Users, Ports"**: Shows utilization metrics for bridges, users and ports on a single server.
- **"Routes"**: Shows bridges for server routes on a single server.
- **"Producers"**: Shows utilization metrics for producers on a single server.
- **"Producer Summary"**: Shows utilization metrics for producers on a single server.
- **"Consumers"**: Shows utilization metrics for consumers on a single server.
- **"Consumer Summary"**: Shows utilization metrics for consumers on a single server.
- **"Durables"**: Shows utilization metrics for durables on a single server.

## Connections

View connections on a single server.

| Conn ID | Client ID           | Conn URL         | User  | host     | type    | consumerCount | produce |
|---------|---------------------|------------------|-------|----------|---------|---------------|---------|
| 1181372 |                     | [admin@SLHOST16] | admin | SLHOST16 | CONN... | 3             |         |
| 1181373 | EMSGMS.Unbound...   | [admin@SLHOST16] | admin | SLHOST16 | CONN... | 0             |         |
| 1181375 |                     | [admin@SLHOST16] | admin | SLHOST16 | CONN... | 3             |         |
| 1181376 | EMSGMS.Unbound...   | [admin@SLHOST16] | admin | SLHOST16 | CONN... | 0             |         |
| 1181378 |                     | [admin@SLHOST16] | admin | SLHOST16 | CONN... | 3             |         |
| 1181379 | EMSGMS.amxadmi...   | [admin@SLHOST16] | admin | SLHOST16 | CONN... | 0             |         |
| 1181388 |                     | [admin@SLHOST16] | admin | SLHOST16 | CONN... | 0             |         |
| 1181396 |                     | [admin@SLHOST16] | admin | SLHOST16 | CONN... | 0             |         |
| 1181398 |                     | [admin@SLHOST16] | admin | SLHOST16 | CONN... | 3             |         |
| 1181399 | EMSGMS.amxadmi...   | [admin@SLHOST16] | admin | SLHOST16 | CONN... | 0             |         |
| 1181402 |                     | [admin@SLHOST16] | admin | SLHOST16 | CONN... | 0             |         |
| 1181403 |                     | [admin@SLHOST16] | admin | SLHOST16 | CONN... | 3             |         |
| 1181405 | EMSGMS.amxadmi...   | [admin@SLHOST16] | admin | SLHOST16 | CONN... | 0             |         |
| 1181407 |                     | [admin@SLHOST16] | admin | SLHOST16 | QUEUE   | 0             |         |
| 1181410 |                     | [admin@SLHOST16] | admin | SLHOST16 | CONN... | 0             |         |
| 1181415 |                     | [admin@SLHOST16] | admin | SLHOST16 | QUEUE   | 0             |         |
| 1181424 | AMX_MGMT.DevEn...   | [admin@SLHOST16] | admin | SLHOST16 | CONN... | 4             |         |
| 1181427 | AMX_SV:8bf3d299-... | [admin@SLHOST16] | admin | SLHOST16 | CONN... | 37            |         |
| 1181590 |                     | [admin@SLHOST16] | admin | SLHOST16 | CONN... | 3             |         |
| 1181591 | EMSGMS._amxadm...   | [admin@SLHOST16] | admin | SLHOST16 | CONN... | 0             |         |
| 1181593 |                     | [admin@SLHOST16] | admin | SLHOST16 | CONN... | 3             |         |
| 1181594 | EMSGMS.Unbound...   | [admin@SLHOST16] | admin | SLHOST16 | CONN... | 0             |         |
| 1181596 |                     | [admin@SLHOST16] | admin | SLHOST16 | CONN... | 3             |         |
| 1181597 | EMSGMS.Unbound...   | [admin@SLHOST16] | admin | SLHOST16 | CONN... | 0             |         |
| 1181599 |                     | [admin@SLHOST16] | admin | SLHOST16 | CONN... | 3             |         |
| 1181600 | EMSGMS.amxadmi...   | [admin@SLHOST16] | admin | SLHOST16 | CONN... | 0             |         |
| 1181603 |                     | [admin@SLHOST16] | admin | SLHOST16 | CONN... | 7             |         |
| 1181609 | AMX_MGMT.Syste...   | [admin@SLHOST16] | admin | SLHOST16 | CONN... | 5             |         |
| 1181619 | AMX_SV:8e2302c0-... | [admin@SLHOST16] | admin | SLHOST16 | CONN... | 25            |         |

**Title Bar:** Indicators and functionality might include the following:



Open the previous and upper display.

Navigate to displays commonly accessed from this display.

The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.



The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.



Open the **Alert Views - RTView Alerts Table** display.



Open an instance of this display in a new window.



Open the online help page for this display.

### Fields and Data

This display includes:

- EMS Server** The EMS Server selected from this drop-down menu populates all associated Connections data in this display.
- Name** The name of the EMS Server selected from the EMS Server drop-down menu.
- Show Active Only** Select this check box to display only active connections.
- Client ID Filter** Filter field that allows you to filter the list of connections by client ID.

**Filtered Connection Count**

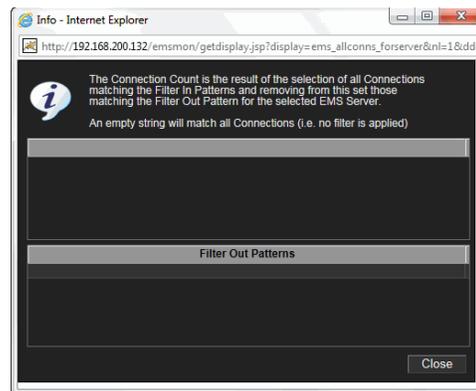
This field is broken into two different values. The first value is the total number of currently active connections on the selected server, which is filtered by the **Filter Pattern** field and by the default value specified in the **\$emsConnectionFilterOutPattern** property in the **emsmon/conf/rtvapl.properties** file. The second value is the total number of connections on the selected server. In other words, the filtered number of connections/the total number of connections on the server.

The default value for the **\$emsConnectionFilterOutPattern** property is:

```
collector.sl.rtvview.sub=$emsConnectionFilterOutPattern: '^(?!^[admin\\@])'
```

You can modify the filter value by editing the **\$emsConnectionFilterOutPattern** property in the "**sample.properties File**", which will override the default value.

Clicking the associated Help button  displays the **Info** dialog, which displays the defined filter in and filter out properties used by the **Filtered Connection Count**.



**Connections** This table describes the current connections on the selected server.

|                      |   |
|----------------------|---|
| <b>Conn ID</b>       | The unique numeric ID assigned to this connection that can be used for deletion.  |
| <b>Client ID</b>     | The unique string identifier assigned to the client.  |
| <b>Conn URL</b>      | The connection URL.   |
| <b>User</b>          | The user name.  |
| <b>host</b>          | The name of the host to which the server is connected.  |
| <b>type</b>          | The type of connection: Queue, Topic or System.   |
| <b>consumerCount</b> | The total number of consumers currently connected.  |
| <b>producerCount</b> | The total number of producers currently connected.  |
| <b>sessionCount</b>  | The total number of sessions currently connected.   |
| <b>startTime</b>     | The date and time the server was started  |
| <b>upTime</b>        | The amount of time, in milliseconds, since the server was started.  |
| <b>Expired</b>       | When checked, this check box signifies that the connection has been inactive for 45 seconds. After 3600 seconds it is deleted from the table. |
| <b>time_stamp</b>    | The date and time this row of data was last updated.  |

## Bridges, Users, Ports

View bridges configured on an EMS Server, as well as their associated users and ports. You can right-click in the **Bridges** table and select **Go To Source** to view bridged source information in the “[Single Queue Summary](#)” if the source is a queue, or “[Single Topic Summary](#)” if the source is a topic. You can right-click in the **Bridges** table and select **Go To Target** to view bridged target information in the “[Single Queue Summary](#)” if the target is a queue, or “[Single Topic Summary](#)” if the target is a topic.

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**Note:** The **Go To Source** option will not be enabled if the source side of the bridge is wildcarded.

---



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**Note:** The functionality of the **Drop Down** option in the drop down list that displays when you right-click in the **Bridges** table is replaced by the **Go To Source** and **Go To Target** options, and no additional functionality exists for the **Drop Down** option.

---

The screenshot displays the following data:

| Bridges                       |                                   |          |                          |
|-------------------------------|-----------------------------------|----------|--------------------------|
| source                        | target                            | selector | Expired                  |
| amx.governance.internal.stats | rtv.amx.governance.internal.stats |          | <input type="checkbox"/> |
| amx.governance.stats          | rtv.amx.governance.stats          |          | <input type="checkbox"/> |

| Users       |                          |               |
|-------------|--------------------------|---------------|
| name        | external                 | description   |
| admin       | <input type="checkbox"/> | Administrator |
| EMS-SERVER  | <input type="checkbox"/> | Main Server   |
| EMS-SERVER2 | <input type="checkbox"/> | Route Server  |

| Listen Ports |                            |
|--------------|----------------------------|
| port         | URL                        |
| tcp://7222   | tcp://192.168.200.116:7222 |

**Title Bar:** Indicators and functionality might include the following:

  Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

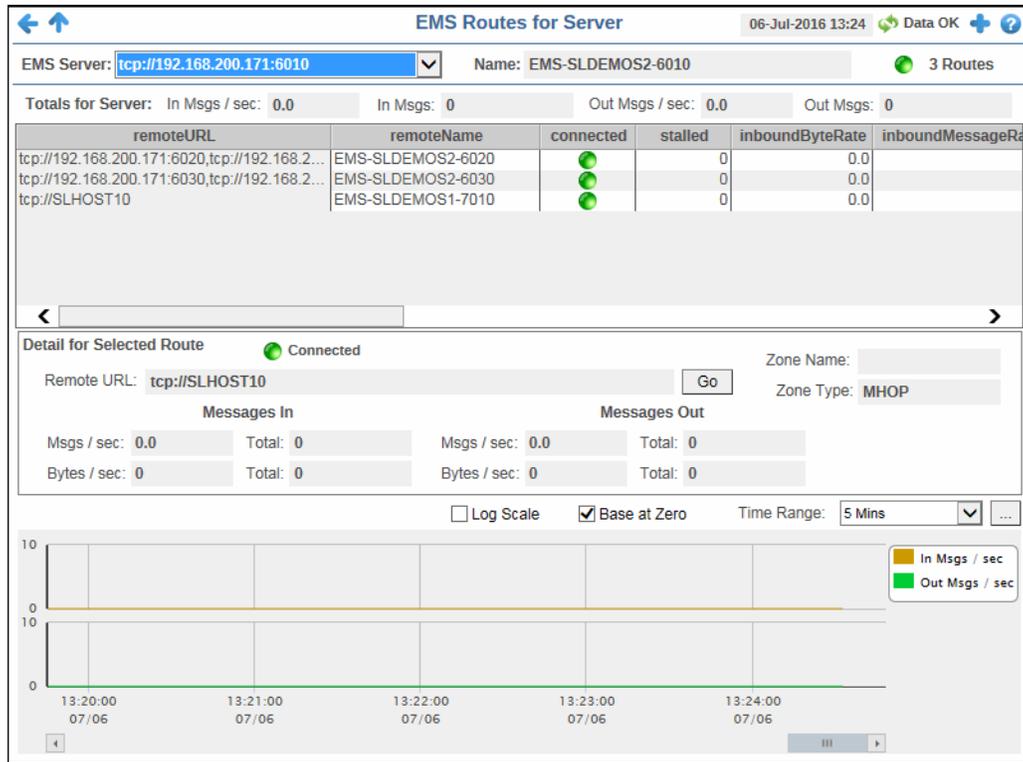
## Fields and Data

This display includes:

|                     |   |               |  |                 |   |                    |  |                |  |
|---------------------|---|---------------|--|-----------------|---|--------------------|--|----------------|--|
| <b>EMS Server</b>   | The EMS Server selected from this drop-down menu populates all associated Bridges, Users, and Ports data in this display.   |               |  |                 |   |                    |  |                |  |
| <b>Name</b>         | The name of the EMS Server selected from the <b>EMS Server</b> drop-down menu.  |               |  |                 |   |                    |  |                |  |
| <b>Bridges</b>      | This table describes the bridges for the selected server. <table> <tr> <td><b>source</b></td> <td>The topic or queue which is the source of the bridge.</td> </tr> <tr> <td><b>target</b></td> <td>The topic or queue which is the target of the bridge.</td> </tr> <tr> <td><b>selector</b></td> <td>The message selector string or blank if none has been set.</td> </tr> <tr> <td><b>Expired</b></td> <td>When checked, data about the bridge has not been received for 45 seconds. After 3600 seconds it is deleted from the table.</td> </tr> </table> | <b>source</b> | The topic or queue which is the source of the bridge.                            | <b>target</b>   | The topic or queue which is the target of the bridge.     | <b>selector</b>    | The message selector string or blank if none has been set. | <b>Expired</b> | When checked, data about the bridge has not been received for 45 seconds. After 3600 seconds it is deleted from the table. |
| <b>source</b>       | The topic or queue which is the source of the bridge.   |               |  |                 |   |                    |  |                |  |
| <b>target</b>       | The topic or queue which is the target of the bridge.   |               |  |                 |   |                    |  |                |  |
| <b>selector</b>     | The message selector string or blank if none has been set.  |               |  |                 |   |                    |  |                |  |
| <b>Expired</b>      | When checked, data about the bridge has not been received for 45 seconds. After 3600 seconds it is deleted from the table.  |               |  |                 |   |                    |  |                |  |
| <b>Users</b>        | This table describes the users on the selected server. <table> <tr> <td><b>name</b></td> <td>The name of the connected user.</td> </tr> <tr> <td><b>external</b></td> <td>When checked, the user is defined in an external system.</td> </tr> <tr> <td><b>description</b></td> <td>Textual description of the user.</td> </tr> </table>   | <b>name</b>   | The name of the connected user.  | <b>external</b> | When checked, the user is defined in an external system.  | <b>description</b> | Textual description of the user.                           |                |  |
| <b>name</b>         | The name of the connected user.   |               |  |                 |   |                    |  |                |  |
| <b>external</b>     | When checked, the user is defined in an external system.  |               |  |                 |   |                    |  |                |  |
| <b>description</b>  | Textual description of the user.  |               |  |                 |   |                    |  |                |  |
| <b>Listen Ports</b> | This table describes the connections the selected server is to listen for. <table> <tr> <td><b>port</b></td> <td>The IP address and port number on which the server is to listen for connections.</td> </tr> <tr> <td><b>URL</b></td> <td>The URL on which the server is to listen for connections.</td> </tr> </table>   | <b>port</b>   | The IP address and port number on which the server is to listen for connections. | <b>URL</b>      | The URL on which the server is to listen for connections. |                    |  |                |  |
| <b>port</b>         | The IP address and port number on which the server is to listen for connections.  |               |  |                 |   |                    |  |                |  |
| <b>URL</b>          | The URL on which the server is to listen for connections.   |               |  |                 |   |                    |  |                |  |

## Routes

Track utilization metrics for server routes on a single server. Inbound metrics, such as **inboundByteRate**, indicate an in route to the server. Outbound metrics, such as **outboundByteRate**, indicate an out route to the server.



**Title Bar:** Indicators and functionality might include the following:

- Open the previous and upper display.
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- The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

- The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

### Fields and Data

This display includes:

- EMS Server** The EMS Server selected from this drop-down menu populates all associated Routes data in this display.
- Name** The name of the EMS server selected from the **EMS Server** drop-down menu.
- Routes** The number of server routes and the connection state.

-  -- One or more routes for this server are disconnected.
-  -- All routes for this server are connected.
-  -- There are no routes for this server.

**Totals For Server**

Shows metrics for all server routes on the selected server.

|                       |  |
|-----------------------|--|
| <b>In Msgs / sec</b>  | The number of inbound messages, per second.  |
| <b>In Msgs</b>        | The total number of inbound messages.        |
| <b>Out Msgs / sec</b> | The number of outbound messages, per second. |
| <b>Out Msgs</b>       | The total number of outbound messages.       |

**Table**

This table shows metrics for each server route on the selected server. Select a route to view details.

|                              |  |
|------------------------------|--|
| <b>remoteURL</b>             | The URL of the remote server.  |
| <b>remoteName</b>            | The name of the remote server.   |
| <b>connected</b>             | When checked, the server route is connected.   |
| <b>stalled</b>               | Indicates whether the IO flow stalled on the route.<br>A value of <b>0</b> (zero) = not stalled.<br>A value of <b>1</b> = stalled. |
| <b>inboundByteRate</b>       | The rate of inbound data in bytes, per second.   |
| <b>inboundMessageRate</b>    | The rate of inbound messages in number of messages per second.   |
| <b>inboundTotalBytes</b>     | The total number of inbound bytes.   |
| <b>inboundTotalMessages</b>  | The total number of inbound messages.  |
| <b>outboundByteRate</b>      | The rate of outbound data in bytes per second.   |
| <b>outboundMessageRate</b>   | The rate of outbound messages in number of messages per second.  |
| <b>outboundTotalBytes</b>    | The total number of outbound bytes.  |
| <b>outboundTotalMessages</b> | The total number of outbound messages.   |
| <b>zoneName</b>              | The name of the zone for the route.  |
| <b>zoneType</b>              | Indicates a multi-hop or one-hop zone.   |
| <b>active</b>                | Indicates whether the server route is currently transferring data:<br><b>1</b> = true<br><b>0</b> = false                          |

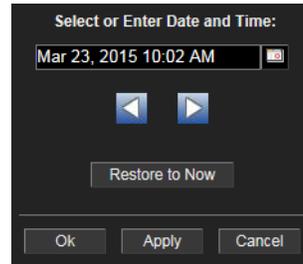
|                                  |   |  |  |
|----------------------------------|---|--|--|
|                                  | <b>inactive</b>   | Indicates whether the server route is currently transferring data:<br><b>1</b> = true<br><b>0</b> = false  |  |
|                                  | <b>suspended</b>  | Indicates whether outbound messages to the route have been suspended:<br><b>1</b> = true<br><b>0</b> = false   |  |
|                                  | <b>remoteURLName</b>  | The IP address and name for the remote connection.   |  |
| <b>Detail for Selected Route</b> | Shows metrics for the server route selected from the table. |  |  |
|                                  | <b>Connected</b>  | The server route connection state.<br> -- The server route is disconnected<br> -- The server route is connected.   |  |
|                                  | <b>Zone Name</b>  | The name of the zone for the route.  |  |
|                                  | <b>Remote URL</b>   | The IP address and port number for the server route connection. Click the  button to open the selected server in the EMS Single Server Summary display.   |  |
|                                  | <b>Zone Type</b>  | Indicates a multi-hop or one-hop zone.   |  |
|                                  | <b>Messages In</b>  | <b>Msgs/sec</b> -- The number of inbound messages, per second.<br><b>Total</b> -- The total number of inbound messages since the connection was established.<br><b>Bytes/sec</b> -- The amount of inbound messages, in bytes per second, for this server route.<br><b>Total</b> -- The amount of inbound messages, in kilobytes, for this server route since the connection was established.                                     |  |
|                                  | <b>Messages Out</b>   | <b>Msgs/sec</b> -- The number of outbound messages, per second.<br><b>Total</b> -- The total number of outbound messages since the connection was established.<br><b>Bytes/sec</b> -- The amount of outbound messages, in bytes per second.<br><b>Total</b> -- The amount of outbound messages, in kilobytes, since the connection was established.  |  |
|                                  | <b>Trend Graphs</b>   | Shows message data for the selected route.   |  |
|                                  |   | <b>In Msgs / sec</b>   | -- Traces the number of inbound messages, per second.  |
|                                  |   | <b>Out Msgs / sec</b>  | -- Traces the number of outbound messages, per second. |
|                                  | <b>Log Scale</b>  | This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option. |  |

**Base at Zero**

When this option is checked, zero is set as the Y axis minimum for all graph traces.

**Time Range**

Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click the  button.



By default, the time range end point is the current time. To change the time range end point, click the  button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows  to move forward or backward one time period. **Note:** The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

## Producers

Track utilization metrics for producers on a single server.

| ID   | Client ID | Destination | Msgs / sec | Total Msgs | By |
|------|-----------|-------------|------------|------------|----|
| 2007 |           | \$sys.admin | 0.0        | 3,302,620  |    |
| 2049 |           | \$sys.admin | 0.0        | 2,196,187  |    |
| 2055 |           | \$sys.admin | 0.0        | 276,789    |    |
| 2121 |           | \$sys.admin | 0.0        | 348,891    |    |
| 2136 |           | \$sys.admin | 4.0        | 43,490     |    |
| 2138 |           | \$sys.admin | 0.0        | 22,003     |    |
| 2139 |           | \$sys.admin | 0.0        | 11,948     |    |
| 2140 |           | \$sys.admin | 0.0        | 11,229     |    |

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Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.  
 Open the **Alert Views - RTView Alerts Table** display.  
 Open an instance of this display in a new window.  
 Open the online help page for this display.

**Note:** Clicking on a row in the Producers table and then clicking the Dest. button in the Title Bar takes you to the ["Single Queue Summary"](#) display for the selected producer.

### Fields and Data

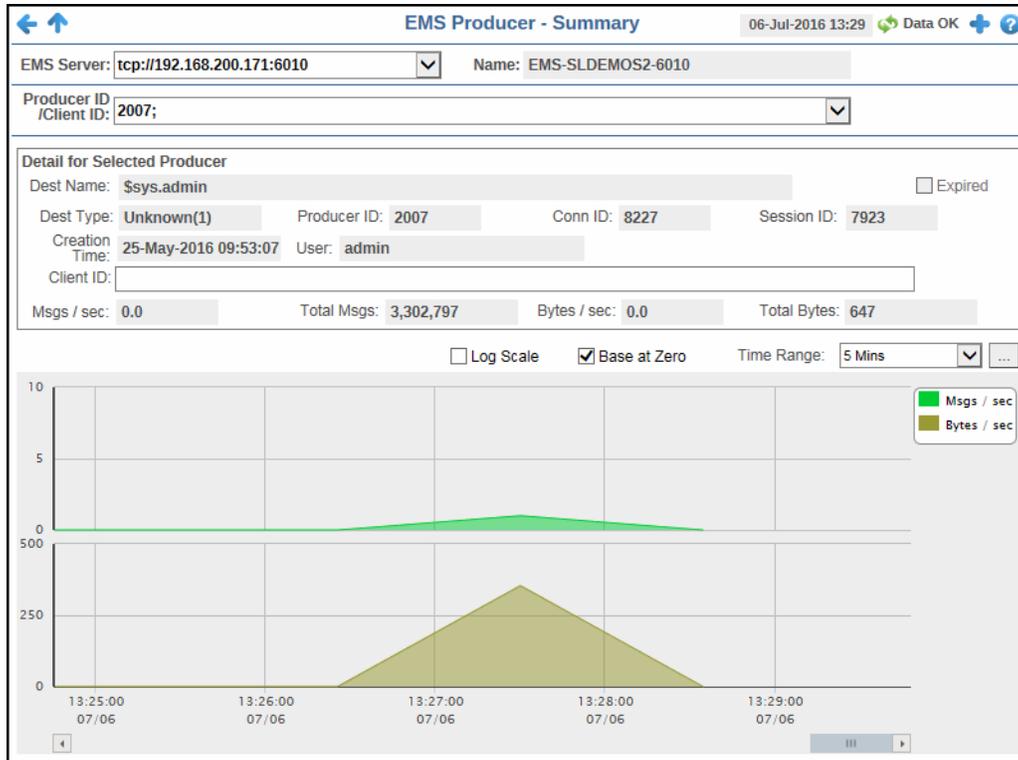
This display includes:

- EMS Server** The EMS Server selected from this drop-down list displays a list of the currently connected Producers.
- Name** The name of the EMS server selected from the **EMS Server** drop-down menu.

|                         |  |
|-------------------------|--|
| <b>Producers</b>        | The number of currently connected producers on the server.   |
| <b>Client ID Filter</b> | Filter field that allows you to filter the list of producers by client ID.   |
| <b>DestName Filter</b>  | Filter field that allows you to filter the list of producers by destination name.  |
| <b>Show Active Only</b> | Select this check box to display only active producers.  |
| <b>Count</b>            | The number of currently connected producers on the server.   |
| <b>Msgs / sec</b>       | The number of messages, per second, for the producer.  |
| <b>Total Msgs</b>       | The total number of messages for the producer.   |
| <b>Bytes / sec</b>      | The amount of messages, in bytes per second, for the producer.   |
| <b>Total Bytes</b>      | The total size of messages, in bytes, for the producer.  |
| <b>Table</b>            | This table shows metrics for each producer on the selected server. Double-clicking on a row in the Producers table displays details for the producer in the <a href="#">"Producer Summary"</a> drill-down display. |
| <b>ID</b>               | A unique string identifier assigned to each producer.  |
| <b>Client ID</b>        | A unique string identifier assigned to each client.  |
| <b>Destination</b>      | The name of the destination.   |
| <b>Msgs / sec</b>       | The number of messages, per second, for the producer.  |
| <b>Total Msgs</b>       | The total number of messages for the producer.   |
| <b>Bytes / sec</b>      | The size of messages, in bytes per second, for the producer.   |
| <b>Total Bytes</b>      | The total size of messages, in bytes, for the producer.  |
| <b>User</b>             | The user name.   |
| <b>Host</b>             | The name of the host.  |
| <b>sessionID</b>        | A unique string identifier assigned to each session.   |
| <b>ConnID</b>           | A unique string identifier assigned to each connection.  |
| <b>createTime</b>       | The amount of time, in milliseconds, since the producer was created.   |
| <b>time_stamp</b>       | The date and time this row of data was last updated.   |
| <b>Expired</b>          | When checked, performance data about a producer has not been received for 45 seconds. After 3600 seconds it is deleted from the table.   |
| <b>destinationType</b>  | The configured destination type.   |

## Producer Summary

Displays details for an individual producer. You can access this display by double-clicking on a producer in the “Producers” display.



**Title Bar:** Indicators and functionality might include the following:

Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

Open the online help page for this display.

### Fields and Data

This display includes:

- EMS Server** The selected EMS Server populates the Producer ID/ Client ID drop-down menu with associated Producer IDs/Client IDs. This drop down list defaults to the EMS Server that was selected on the previous display.
- Name** The name of the EMS server selected from the **EMS Server** drop-down menu.
- Producer ID/ Client ID** Drop-down menu containing the Producer IDs/Client IDs. This drop down list defaults to the Producer ID/Client ID that was selected on the previous display.

**Detail for Selected Producer**

Shows metrics for the producer selected from the table.

|                      |   |
|----------------------|---|
| <b>Dest Name</b>     | The name of the destination.  |
| <b>Expired</b>       | When checked, performance data about a producer has not been received for 45 seconds. After 3600 seconds, the data is deleted from the table. |
| <b>Dest Type</b>     | The configured destination type.  |
| <b>Producer ID</b>   | A unique string identifier assigned to each producer.   |
| <b>Conn ID</b>       | A unique string identifier assigned to each connection.   |
| <b>Session ID</b>    | A unique string identifier assigned to each session.  |
| <b>Creation Time</b> | The amount of time, in milliseconds, since the producer was created.  |
| <b>User</b>          | The user name.  |
| <b>Client ID</b>     | A unique string identifier assigned to each client.   |
| <b>Msgs/sec</b>      | The number of messages, per second, for the producer.   |
| <b>Total Msgs</b>    | The total number of messages for the producer.  |
| <b>Bytes/sec</b>     | The size of messages, in bytes per second, for the producer.  |
| <b>Total Bytes</b>   | The total size of messages, in bytes, for the producer.   |

**Trend Graphs**

Shows message data for the selected producer.

**Msgs / sec** -- Traces the number of messages for the producer, per second.

**Bytes / sec** -- Traces the size of messages for the producer, in bytes.

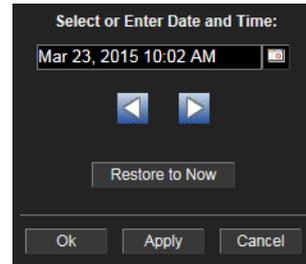
**Log Scale** This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option.

**Base at Zero**

When this option is checked, zero is set as the Y axis minimum for all graph traces.

**Time Range**

Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click the  button.



By default, the time range end point is the current time. To change the time range end point, click the  button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. **Note:** The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

## Consumers

Track utilization metrics for consumers on a single server.

| ID   | Client ID | Dest Name                                     | Msgs / sec | Total Msgs | By |
|------|-----------|---|------------|------------|----|
| 7    |           | \$TMP\$.EMS-SLDEMOS2-6020.>                   | 0.0        | 0          |    |
| 9    |           | \$TMP\$.EMS-SLDEMOS2-6030.>                   | 0.0        | 0          |    |
| 2583 |           | \$TMP\$.EMS-SLDEMOS2-6010.53A25602AAE11EF3... | 4.0        | 3,304,272  |    |
| 2653 |           | \$TMP\$.EMS-SLDEMOS2-6010.53A25602AAE11F2B... | 0.0        | 2,197,813  |    |
| 2667 |           | \$TMP\$.EMS-SLDEMOS2-6010.53A25602AAE11F35... | 0.0        | 276,789    |    |
| 2785 |           | \$TMP\$.EMS-SLDEMOS2-6010.53A25602AAE11F91... | 0.0        | 350,505    |    |
| 2808 |           | \$TMP\$.EMS-SLDEMOS1-7010.>                   | 0.0        | 0          |    |
| 2809 |           | \$TMP\$.EMS-SLDEMOS1-7020.>                   | 0.0        | 0          |    |
| 2810 |           | \$TMP\$.EMS-SLDEMOS2-6010.53A25602AAE11FA5.6  | 4.0        | 45,130     |    |
| 2812 |           | \$TMP\$.EMS-SLDEMOS2-6010.53A25602AAE11FA7.4  | 0.0        | 23,655     |    |
| 2813 |           | \$TMP\$.EMS-SLDEMOS2-6010.53A25602AAE11FA8.2  | 0.0        | 13,594     |    |
| 2814 |           | \$TMP\$.EMS-SLDEMOS2-6010.53A25602AAE11FA9... | 0.0        | 12,881     |    |

**Title Bar:** Indicators and functionality might include the following:

Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

Open the online help page for this display.

**Note:** Clicking on a row in the Consumers table and then clicking the **Dest.** button in the Title Bar takes you to the "Single Topic Summary" display for the selected consumer.

### Fields and Data

This display includes:

**EMS Server** The EMS Server selected from this drop-down list displays a list of the currently connected Consumers.

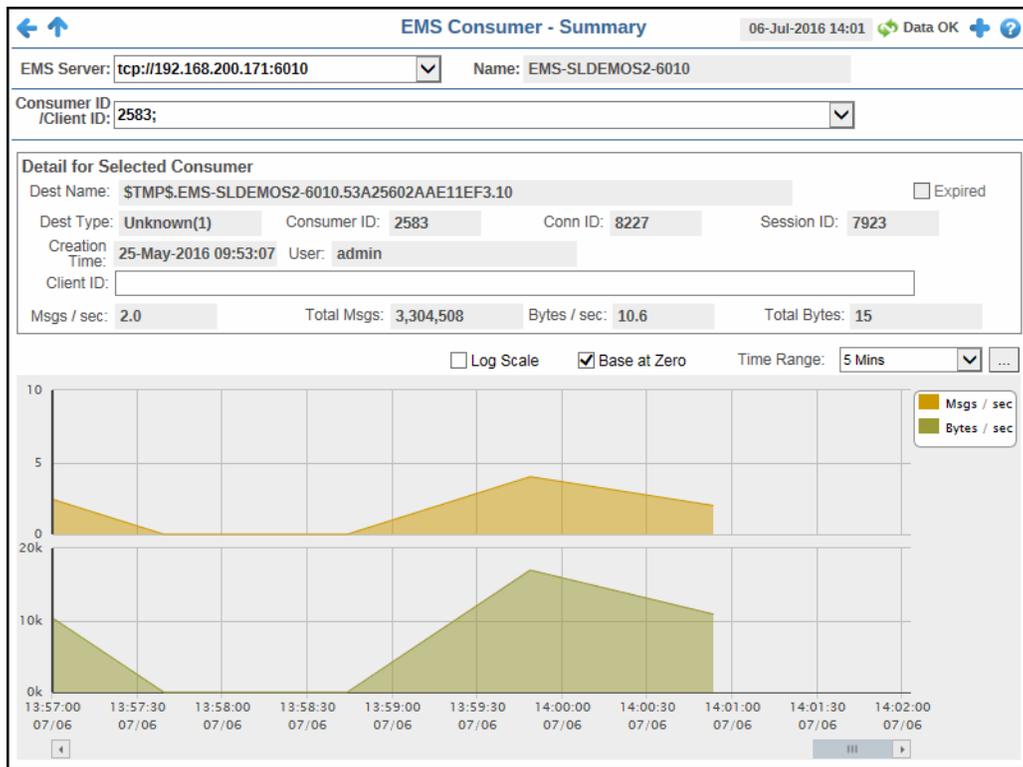
**Name** The name of the EMS Server selected from the EMS Server drop-down menu.

|                             |  |
|-----------------------------|--|
| <b>Consumers</b>            | The number of currently connected consumers on the server.   |
| <b>Client ID Filter</b>     | Filter field that allows you to filter the list of consumers by client ID. This filter works in conjunction with the <b>DestName Filter</b> to display the list of consumers.  |
| <b>DestName Filter</b>      | Filter field that allows you to filter the list of consumers by destination name. This filter works in conjunction with the <b>Client ID Filter</b> to display the list of consumers.  |
| <b>Show Active Only</b>     | Select this check box to display only active consumers.  |
| <b>Count</b>                | The number of currently connected consumers on the server.   |
| <b>Msgs / sec</b>           | The number of messages, per second, for the consumer.  |
| <b>Bytes / sec</b>          | The amount of messages, in bytes per second, for the consumer.   |
| <b>Total Msgs</b>           | The total number of messages for the consumer.   |
| <b>Total Bytes</b>          | The total size of messages, in bytes, for the consumer.  |
| <b>Table</b>                | This table shows metrics for each consumer on the selected server. Double-clicking on a row in the Consumers table displays details for the consumer in the <a href="#">"Consumer Summary"</a> drill-down display.   |
| <b>ID</b>                   | A unique string identifier assigned to each consumer.  |
| <b>Client ID</b>            | A unique string identifier assigned to each client.  |
| <b>Dest Name</b>            | The name of the destination.   |
| <b>Msgs / sec</b>           | The number of messages, per second, for the consumer.  |
| <b>Total Msgs</b>           | The total number of messages for the consumer.   |
| <b>Bytes / sec</b>          | The size of messages, in bytes per second, for the consumer.   |
| <b>Total Bytes</b>          | The total size of messages, in bytes, for the consumer.  |
| <b>User</b>                 | The user name.   |
| <b>Host</b>                 | The name of the host machine.  |
| <b>Session ID</b>           | A unique string identifier assigned to each session.   |
| <b>Conn ID</b>              | A unique string identifier assigned to each connection.  |
| <b>Curr Msg Sent Count</b>  | The number of messages sent to the consumer that were not yet acknowledged by the consumer's session.<br>The <b>sl.rtvew.jmsadm.queryCIDetails</b> property must be set to <b>true</b> in your <b>sample.properties</b> file to see this column.                               |
| <b>Curr Msg Sent Size</b>   | The combined size of messages sent to the consumer that were not yet acknowledged by the consumer's session.<br><b>Note:</b> The <b>sl.rtvew.jmsadm.queryCIDetails</b> property must be set to <b>true</b> in your <b>sample.properties</b> file to see this column.           |
| <b>Total Msg Ack Count</b>  | The total number of messages that have been sent to the consumer and have been acknowledged by the consumer's session.<br><b>Note:</b> The <b>sl.rtvew.jmsadm.queryCIDetails</b> property must be set to <b>true</b> in your <b>sample.properties</b> file to see this column. |
| <b>Total Msg Sent Count</b> | The total number of messages sent to the consumer since the consumer was created.<br><b>Note:</b> The <b>sl.rtvew.jmsadm.queryCIDetails</b> property must be set to <b>true</b> in your <b>sample.properties</b> file to see this column.                                      |

|                                |   |
|--------------------------------|---|
| <b>Elapsed Since Last Ack</b>  | The amount of time (in milliseconds) that has elapsed since the last time a message sent to the consumer was acknowledged by the consumer's session.<br><b>Note:</b> The <code>sl.rtvview.jmsadm.queryCIDetails</code> property must be set to <code>true</code> in your <code>sample.properties</code> file to see this column.  |
| <b>Elapsed Since Last Sent</b> | The amount of time (in milliseconds) that has elapsed since the last time the server sent a message to the consumer.<br><b>Note:</b> The <code>sl.rtvview.jmsadm.queryCIDetails</code> property must be set to <code>true</code> in your <code>sample.properties</code> file to see this column.  |
| <b>Destination Prefetch</b>    | The actual destination prefetch value used by the server at runtime.<br><b>Note:</b> The <code>sl.rtvview.jmsadm.queryCIDetails</code> property must be set to <code>true</code> in your <code>sample.properties</code> file to see this column.  |
| <b>Prefetch Deliv Count</b>    | The number of prefetch messages delivered to the consumer by the server. For consumers receiving messages on any destination with positive prefetch value, this value is never more than the prefetch value of the destination. This value cannot be used to identify the status of the consumer, but it can be used in conjunction with other consumer information values to identify consumers who stopped receiving messages due to application-specific problems.<br><b>Note:</b> The <code>sl.rtvview.jmsadm.queryCIDetails</code> property must be set to <code>true</code> in your <code>sample.properties</code> file to see this column. |
| <b>Durable Name</b>            | The name of the durable.  |
| <b>Route Name</b>              | The queue owner server name if the consumer if the consumer's destination is a routed queue.<br><b>Note:</b> The <code>sl.rtvview.jmsadm.queryCIDetails</code> property must be set to <code>true</code> in your <code>sample.properties</code> file to see this column.  |
| <b>Is Active</b>               | When checked, the consumer is active and can receive messages from the server.<br><b>Note:</b> The <code>sl.rtvview.jmsadm.queryCIDetails</code> property must be set to <code>true</code> in your <code>sample.properties</code> file to see this column.  |
| <b>Is System</b>               | This check box is checked if the consumer was automatically created by the system.<br><b>Note:</b> The <code>sl.rtvview.jmsadm.queryCIDetails</code> property must be set to <code>true</code> in your <code>sample.properties</code> file to see this column.  |
| <b>Session Ack Mode</b>        | Lists the consumer's session acknowledge mode as a constant defined in <code>TibjmsAdmin</code> .<br><b>Note:</b> The <code>sl.rtvview.jmsadm.queryCIDetails</code> property must be set to <code>true</code> in your <code>sample.properties</code> file to see this column.   |
| <b>Create Time</b>             | The amount of time, in milliseconds, since the consumer was created.  |
| <b>time_stamp</b>              | The date and time this row of data was last updated.  |
| <b>Expired</b>                 | When checked, performance data about a consumer has not been received for <b>45</b> seconds. After <b>3600</b> seconds it is deleted from the table.  |
| <b>Dest Type</b>               | The configured destination type.  |

## Consumer Summary

Displays details for an individual consumer. You can access this display by double-clicking on a producer in the "Consumers" display.



**Title Bar:** Indicators and functionality might include the following:



Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.



The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.



The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.



Open the **Alert Views - RTView Alerts Table** display.



Open an instance of this display in a new window.



Open the online help page for this display.

**Fields and Data**

This display includes:

- EMS Server** The selected EMS Server populates the Consumer ID/ Client ID drop-down menu with Consumer IDs/Client IDs belonging to this EMS Server. This drop down list defaults to the EMS Server that was selected on the previous display.
- Name** The name of the EMS Server selected from the **EMS Server** drop-down menu.
- Consumer ID/ Client ID** Drop-down menu containing the Consumer IDs/Client IDs. This drop down list defaults to the Consumer ID/Client ID that was selected on the previous display.
- Detail for Selected Consumer** Shows metrics for the consumer selected from the table.
  - Dest Name** The name of the destination.

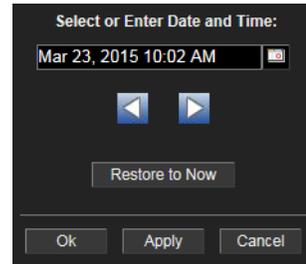
|                      |  |
|----------------------|--|
| <b>Expired</b>       | When checked, performance data about a consumer has not been received for 45 seconds. After 3600 seconds, the data is deleted from the table.  |
| <b>Dest Type</b>     | The configured destination type.   |
| <b>Consumer ID</b>   | A unique string identifier assigned to each consumer.  |
| <b>Conn ID</b>       | A unique string identifier assigned to each connection.  |
| <b>Session ID</b>    | A unique string identifier assigned to each session.   |
| <b>Creation Time</b> | The amount of time, in milliseconds, since the consumer was created.   |
| <b>User</b>          | The user name.   |
| <b>Client ID</b>     | A unique string identifier assigned to each client.  |
| <b>Msgs/sec</b>      | The number of messages, per second, for the consumer.  |
| <b>Total Msgs</b>    | The total number of messages for the consumer.   |
| <b>Bytes/sec</b>     | The size of messages, in bytes per second, for the consumer.   |
| <b>Total Bytes</b>   | The total size of messages, in bytes, for the consumer.  |
| <b>Trend Graphs</b>  | Shows message data for the selected producer.  |
|                      | <b>Msgs / sec</b> -- Traces the number of messages for the consumer, per second.   |
|                      | <b>Bytes / sec</b> -- Traces the size of messages for the consumer, in bytes.  |
| <b>Log Scale</b>     | This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option. |

**Base at Zero**

When this option is checked, zero is set as the Y axis minimum for all graph traces.

**Time Range**

Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click the  button.



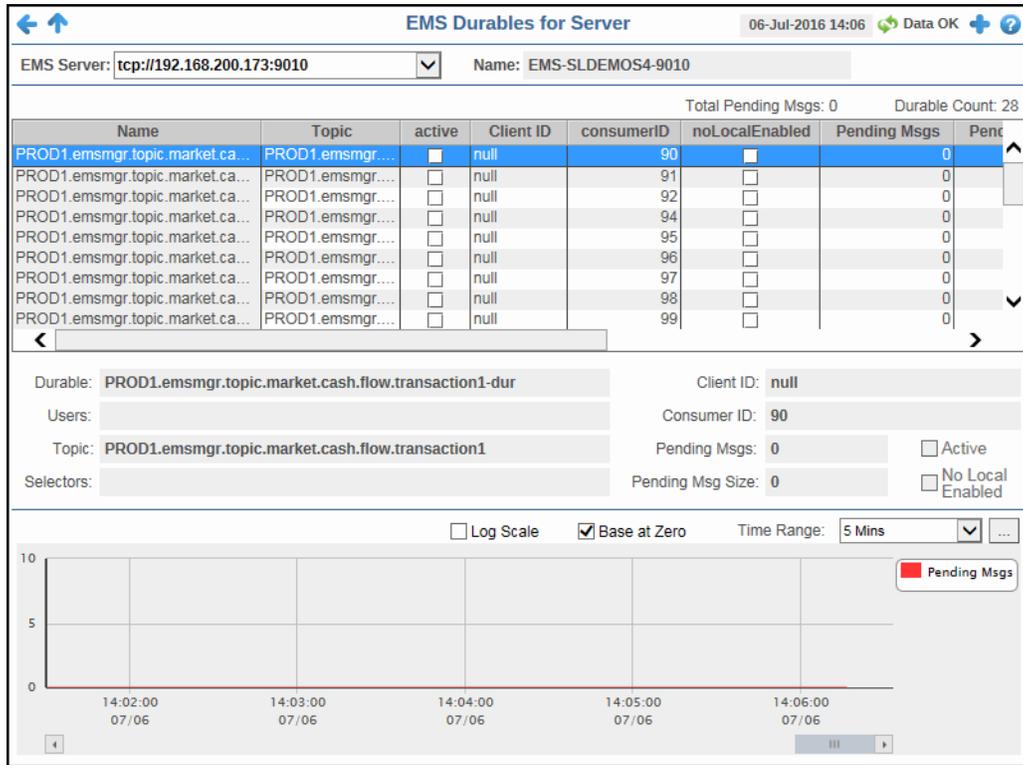
By default, the time range end point is the current time. To change the time range end point, click the  button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows  to move forward or backward one time period. **Note:** The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

## Durables

Track utilization metrics for durables on a single server.



**Title Bar:** Indicators and functionality might include the following:



Open the previous and upper display.

**Table** Navigate to displays commonly accessed from this display.

19-Feb-2014 16:50

The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.



**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.



Open the **Alert Views - RTView Alerts Table** display.



Open an instance of this display in a new window.



Open the online help page for this display.

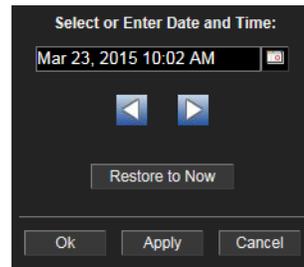
### Fields and Data

This display includes:

- EMS Server** The EMS Server selected from this drop-down menu populates all associated Durables data in this display.
- Name** The name of the EMS Server selected from the **EMS Server** drop-down menu.
- Total Pending Msgs** The total number of pending messages for the durable.
- Durable Count** The number of currently connected durables on the server.

|                         |  |
|-------------------------|--|
| <b>Table</b>            | This table shows metrics for each durable on the selected server.  |
| <b>Name</b>             | The name of the durable.   |
| <b>Topic</b>            | The name of the topic.   |
| <b>Active</b>           | Indicates whether the durable is active.   |
| <b>Client ID</b>        | A unique string identifier assigned to each client.  |
| <b>consumerID</b>       | A unique string identifier assigned to each consumer.  |
| <b>NoLocalEnabled</b>   | Indicates whether the subscriber receives messages from all connections its local connection.<br><b>Enabled</b> -- The subscriber does not receive messages sent from its local connection.<br><b>Disabled</b> -- The subscriber receives messages from all connections. |
| <b>Pending Msgs</b>     | The total number of pending messages for the selected durable.   |
| <b>Pending Size</b>     | The total amount of pending messages, in bytes, for the selected durable.  |
| <b>Selector</b>         | Indicates that the subscriber only receives messages that match this selector.   |
| <b>userName</b>         | The name of the user of this durable subscriber.   |
| <b>time_stamp</b>       | The date and time this row of data was last updated.   |
| <b>Durable</b>          | The name of the durable selected from the table.   |
| <b>Users</b>            | The names of the users of this durable subscriber.   |
| <b>Topic</b>            | The name of the topic.   |
| <b>Selectors</b>        | Indicates that the subscriber only receives messages that match this selector.   |
| <b>Client ID</b>        | A unique string identifier assigned to each client.  |
| <b>Consumer ID</b>      | A unique string identifier assigned to each consumer.  |
| <b>Pending Msgs</b>     | The total number of pending messages for the selected durable.   |
| <b>Pending Msg Size</b> | The total size of pending messages, in bytes, for the selected durable.  |
| <b>Active</b>           | Indicates whether the durable is active.   |
| <b>No Local</b>         | Indicates whether the subscriber receives messages from all connections its local connection.<br><b>Enabled</b> The subscriber does not receive messages sent from its local connection.<br><b>Disabled</b> The subscriber receives messages from all connections.       |
| <b>Trend Graphs</b>     | Shows message data for the selected consumer.<br><b>Pending Msgs</b> -- Traces the number of pending messages for the durable.   |

- Log Scale** This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option.
- Base at Zero** When this option is checked, zero is set as the Y axis minimum for all graph traces.
- Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click the  button.



By default, the time range end point is the current time. To change the time range end point, click the  button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. **Note:** The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

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## TIBCO Spotfire Reports

There are two TIBCO Spotfire reports that are provided with EMS Monitor, the **EMS Queue Message Metrics Report** and the **EMS Server Message Metrics Report**. Each of the reports can be configured using Oracle or MySQL. This section includes:

- ["System Requirements" on page 864](#)
- ["Configuring Spotfire Reports" on page 865](#)
- ["Reports" on page 877](#)

## System Requirements

This section describes the minimum system requirements necessary to use these reports.

## TIBCO Spotfire

Version 7.0 for Oracle and MySQL reports

### Clients

Microsoft Windows 64-bit

### Databases Supported

Oracle (version 11G) and MySQL (version 5.6)

## Configuring Spotfire Reports

Though similar, there are two slightly different flows for configuring the TIBCO Spotfire reports:

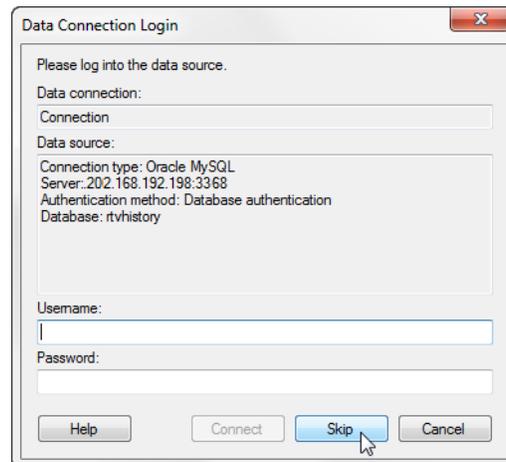
- “MySQL Report Configuration” on page 865
- “Oracle Report Configuration” on page 870.

## MySQL Report Configuration

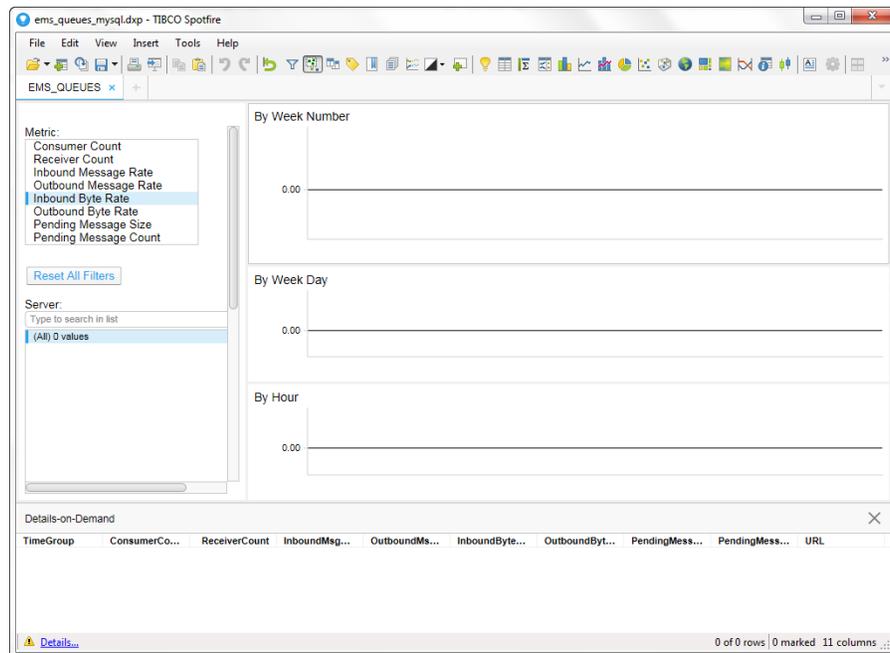
You can generate the following reports using Oracle MySQL: **EMS Server Message Metrics Report** (using **ems\_serverinfo\_mysql.dxp** and **ems\_serverinfo\_mysql.txt**) and **EMS Queue Message Metrics Report** (using **ems\_queues\_mysql.dxp** and **ems\_queues\_mysql.txt**).

1. Open the **ems\_queues\_mysql.dxp** Spotfire Analysis file in the **rtvapm/emsmon/projects/reports/Spotfire** directory that was created during the EMS Monitor installation.

The **Data Connection Login** window displays.

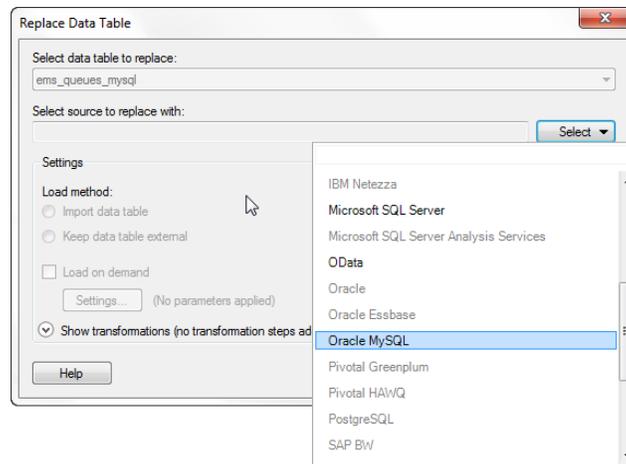


2. Click the **Skip** button (there is no need to log in at this point).  
The **TIBCO Spotfire** dashboard displays.



**3. Click File > Replace Data Table.**

The **Replace Data Table** window displays.



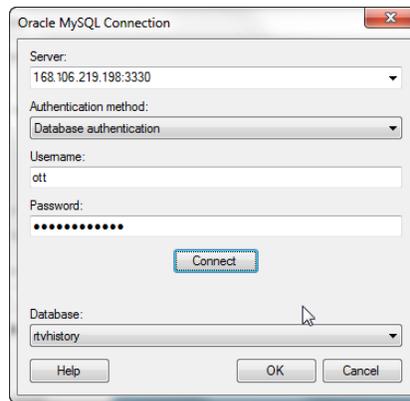

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**Note:** When connecting the **ems\_queues\_mysql** dashboard to your MySQL data, Spotfire's **Replace Data Table** functionality may run very slowly, or even time-out, if the dataset is too large.

---

**4. Click the Select button (associated with the Select source to replace with field) and select Oracle MySQL.**

The **Oracle MySQL Connection** window displays.

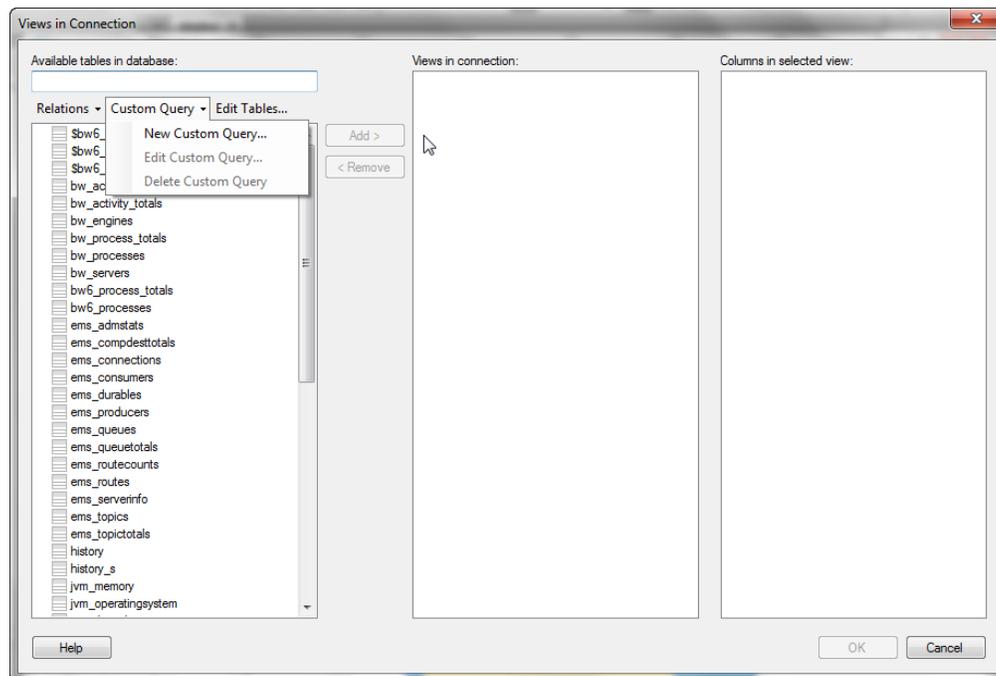


5. Enter the **Server**, **Username**, **Password**, select **Database authentication** as the **Authentication Method**, and click the **Connect** button.

The **Database** drop down should be populated.

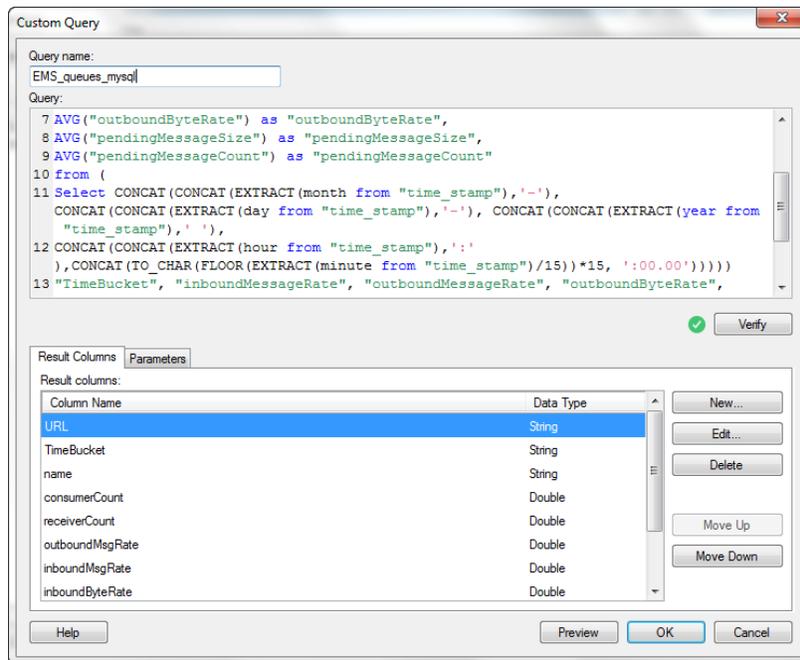
6. Select **rtvhistory** from the **Database** drop down and click the **OK** button.

The **Views in Connection** window displays.



7. Select the **Custom Query** drop down list and select **New Custom Query**.

The **Custom Query** window displays.



- Enter the desired name (whatever name is meaningful for you) into the **Query name** field, open the text file in your installation directory associated with your table (for example, if you are selected **ems\_queues\_mysql.dxp** initially, then open **ems\_queues\_mysql.txt**), copy and paste the SQL code in the file into the **Query** field on the **Custom Query** window, and click the **Verify** button.

---

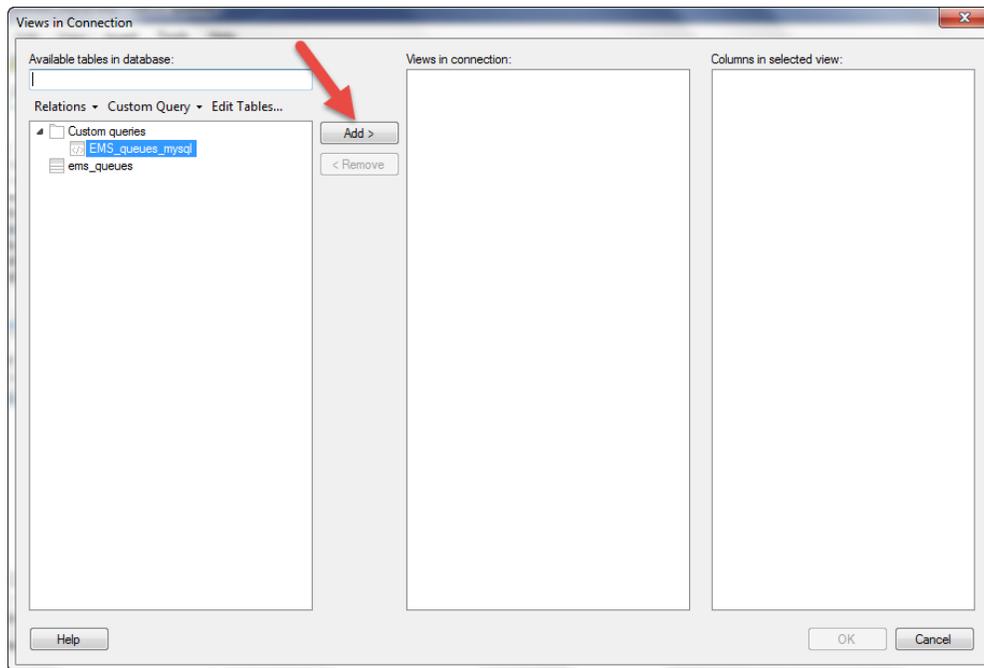
**Note:** This step is required because the database contains data that has been compacted as well as data that has not yet been compacted. The SQL code compacts the data that has not been compacted and adds the newly compacted data to the already compacted data so that all the "bucket" values are the same. For example, let's say the compacted data is compacted so that the oldest data is contained in 15 minute buckets, but the more recent data is contained in 5 or 10 minute buckets. The SQL code takes the data contained in the 5 and 10 minute buckets and compacts it into 15 minute buckets so that all the data is consistently bucketed.

---

Once the SQL has been verified, the column names display in the **Result Columns** tab.

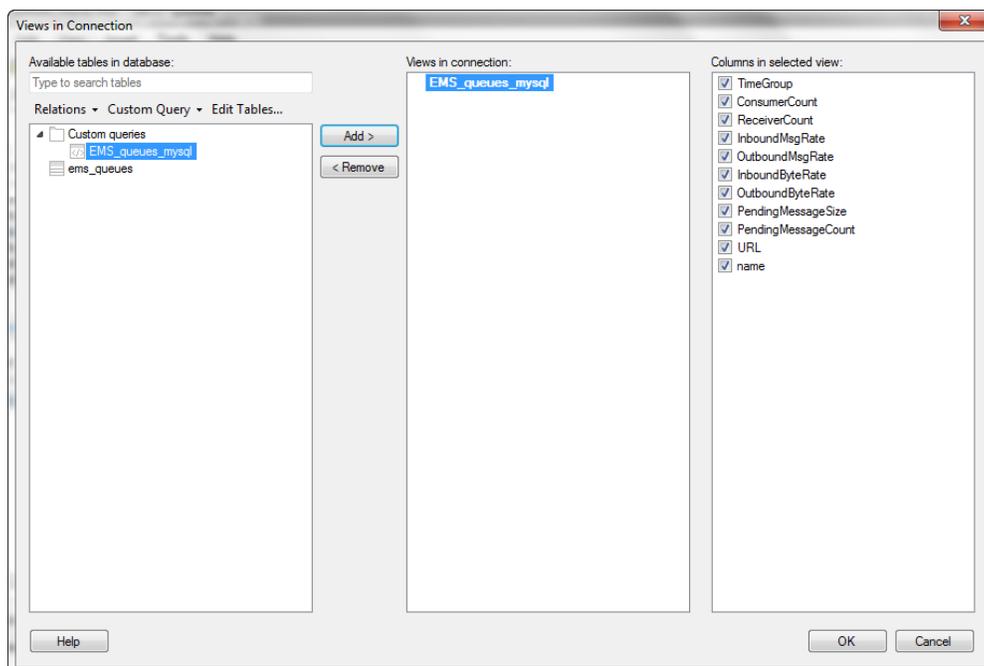
- Click the **OK** button on the **Custom Query** window.

The new query (for example, **EMS\_queues\_mysql**) should display in the list of **Custom queries** on the **Views in Connection** window.



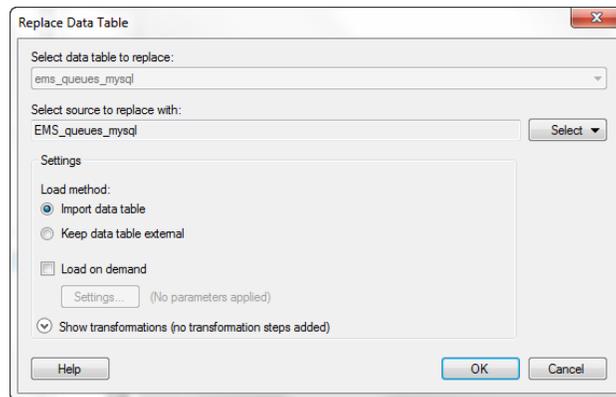
**10.** Select your new custom query and click the **Add** button.

Your new custom query should display in the **Views in connection** region and the query's associated columns should display in the **Columns in selected view** region.

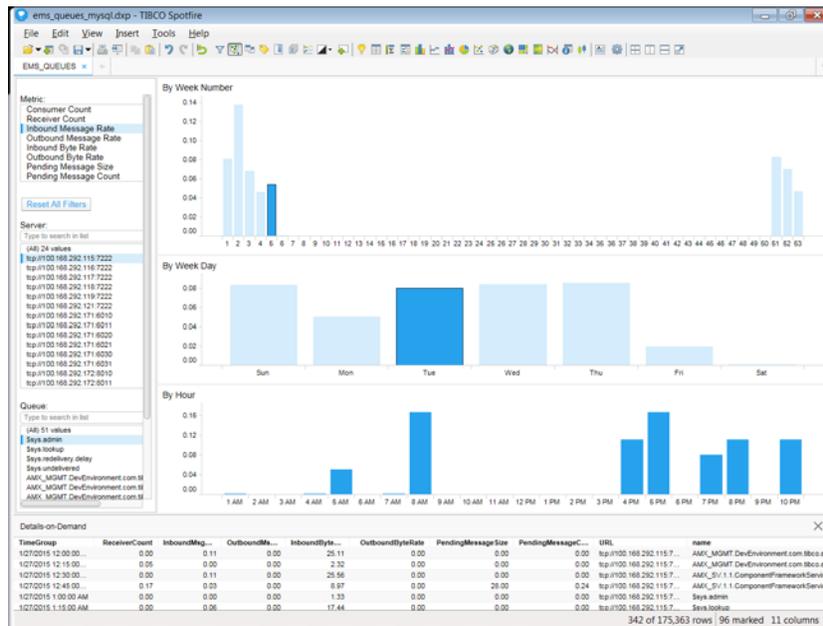


**11.** Click the **OK** button on the **Views in Connection** window.

The **Replace Data Table** window displays.



12. Select the **Import data table** radio button and click the **OK** button.  
Your data should display in TIBCO Spotfire.



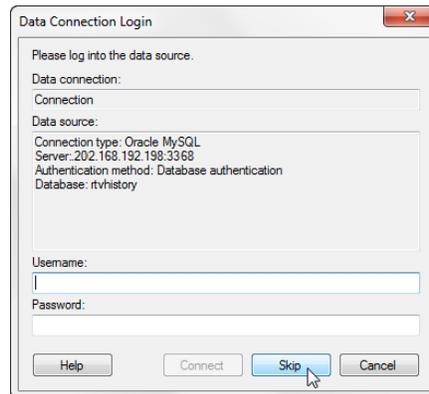
13. Repeat the same steps above for the **ems\_serverinfo\_mysql.dxp** Spotfire Analysis file and the **ems\_serverinfo\_mysql.txt** file to create the **EMS Server Message Metrics Report**.

## Oracle Report Configuration

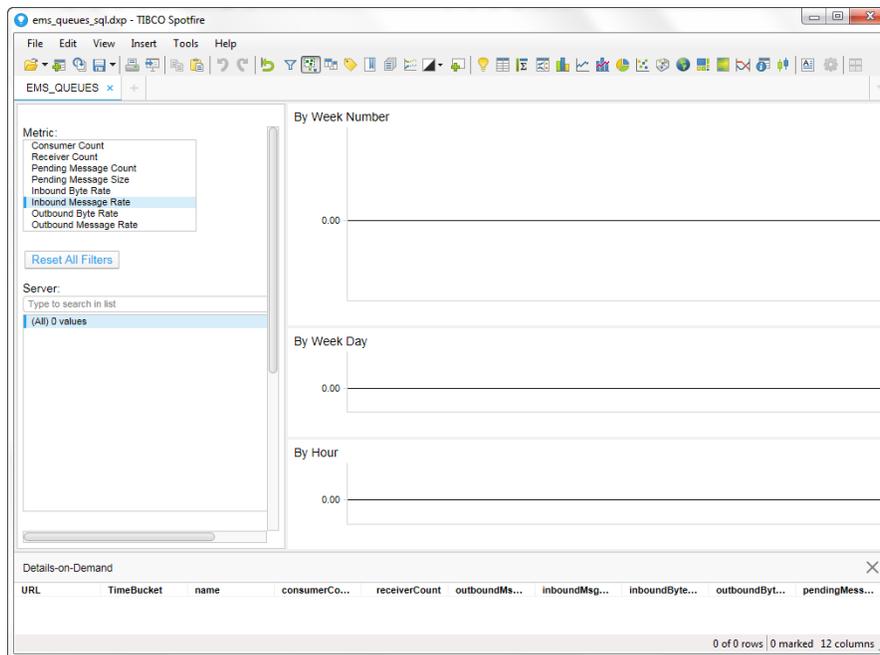
There are two different Oracle reports that can be generated: **EMS Server Message Metrics Report** (using **ems\_serverinfo\_sql.dxp** and **ems\_serverinfo\_sql.txt**) and **EMS Queue Message Metrics Report** (using **ems\_queues\_sql.dxp** and **ems\_queues\_sql.txt**).

1. Open the **ems\_queues\_sql.dxp** Spotfire Analysis file in the **rtvapl/emsmon/projects/reports/Spotfire** directory that was created during the EMS Monitor installation.

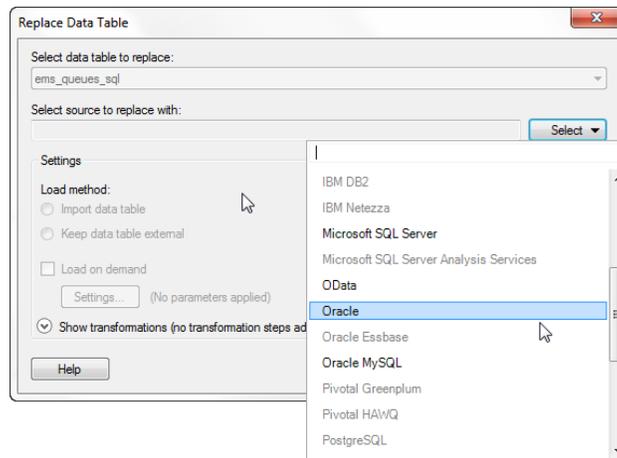
The **Data Connection Login** window displays.



2. Click the **Skip** button (there is no need to log in at this point).  
The **TIBCO Spotfire** dashboard displays.

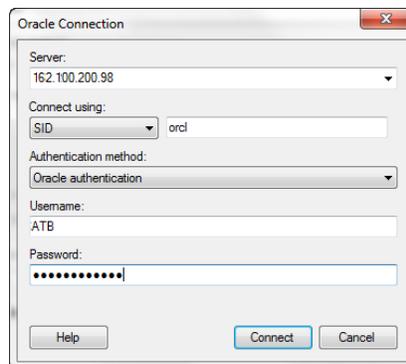


3. Click **File > Replace Data Table**.  
The **Replace Data Table** window displays.



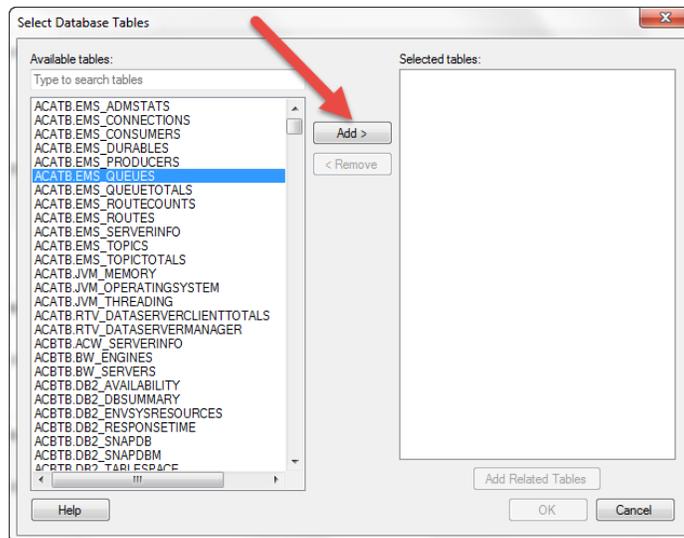
4. Click the **Select** button (associated with the **Select source to replace with** field) and select **Oracle**.

The **Oracle Connection** window displays.



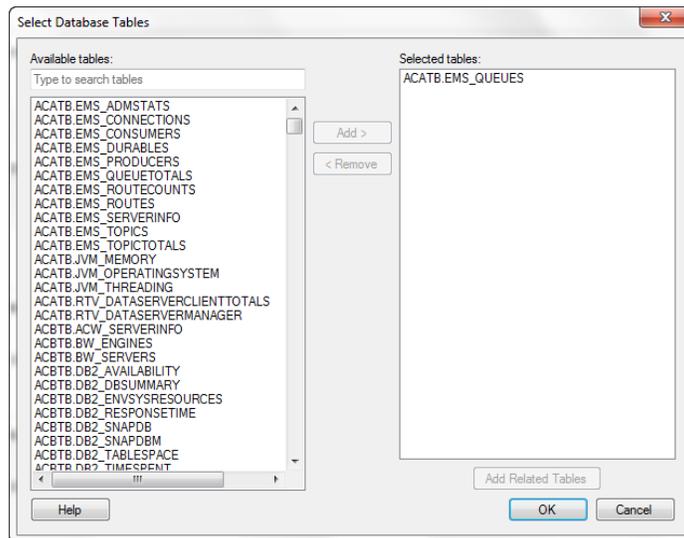
5. Enter the **Server**, select **SID** in the **Connect using** drop down (and enter **orcl** in the associated field if not defaulted), select **Oracle authentication** as the **Authentication Method**, enter the **Username** and **Password**, and click the **Connect** button.

The **Select Database Tables** window displays.



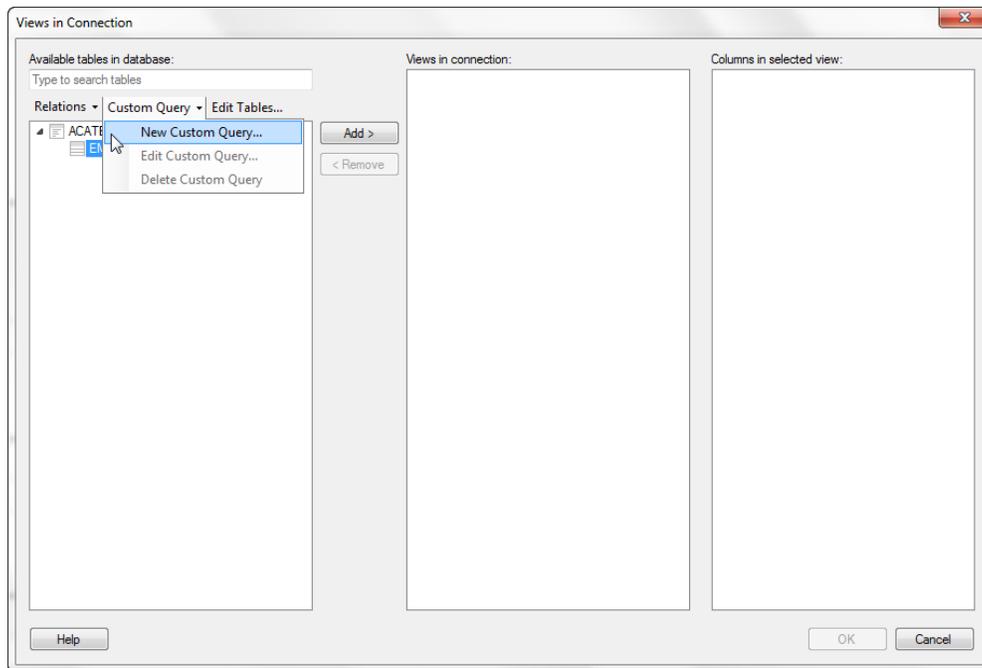
6. Select **ACATB.EMS\_QUEUES** from the **Available Tables** select list and click the **Add** button.

The table displays in the **Selected tables** region.

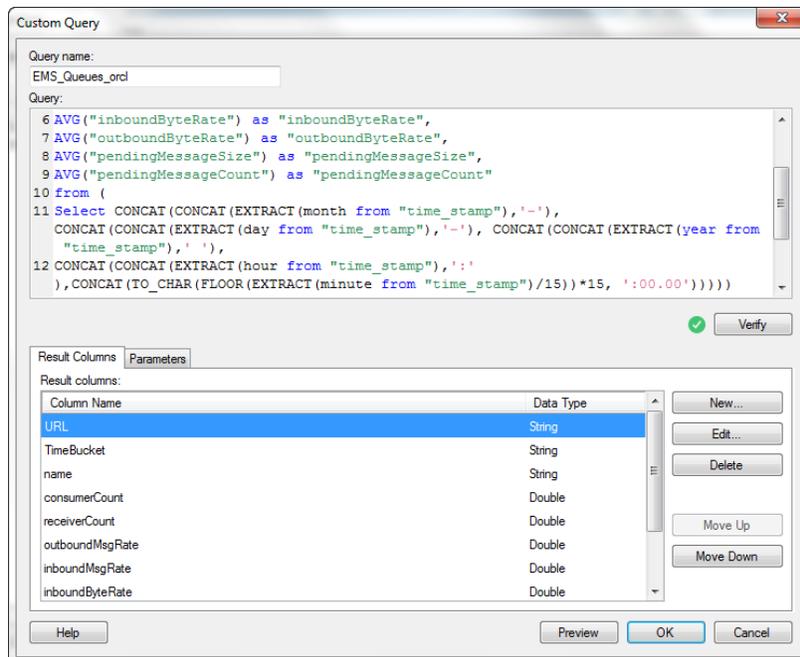


7. Click the **OK** button.

The **Views in Connection** window displays with the selected table listed in the **Available tables in the database** region.



8. Select the **EMS\_QUEUES** table from the list and click **Custom Query > New Query**. The **Custom Query** window displays.



9. Enter the desired name (whatever name is meaningful for you) into the **Query\_name** field, open the text file in your installation directory associated with your table (for example, if you selected **ems\_queues\_sql.dxp** initially, then open

**ems\_queues\_sql.txt**), copy and paste the SQL code in the file into the **Query** field on the **Custom Query** window, and click the **Verify** button.

---

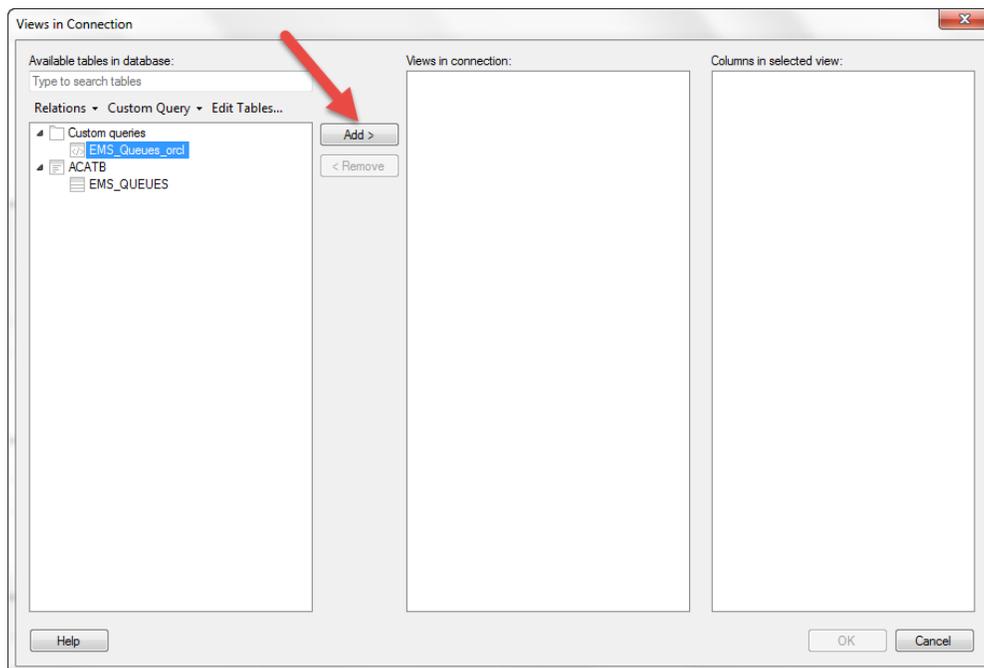
**Note:** This step is required because the database contains data that has been compacted as well as data that has not yet been compacted. The SQL code compacts the data that has not been compacted and adds the newly compacted data to the already compacted data so that all the “bucket” values are the same. For example, let’s say the compacted data is compacted so that the oldest data is contained in 15 minute buckets, but the more recent data is contained in 5 or 10 minute buckets. The SQL code takes the data contained in the 5 and 10 minute buckets and compacts it into 15 minute buckets so that all the data is consistently bucketed.

---

Once the SQL script has been verified, the column names display in the **Result Columns** tab.

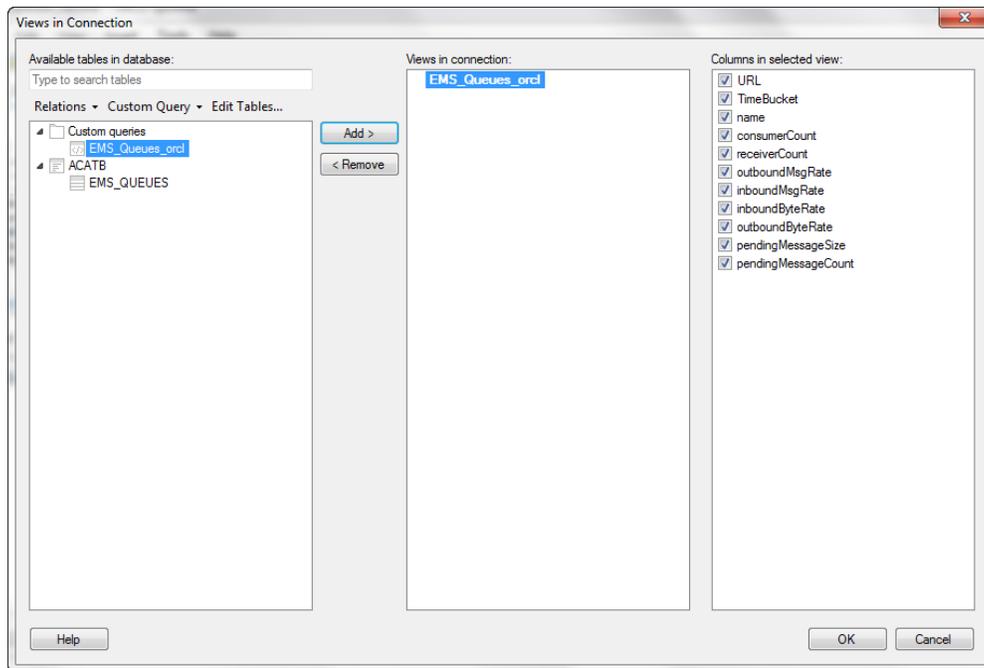
**10.** Click the **OK** button.

The new query displays under **Custom queries** in the **Available tables in database** list on the **Views in Connection** window.



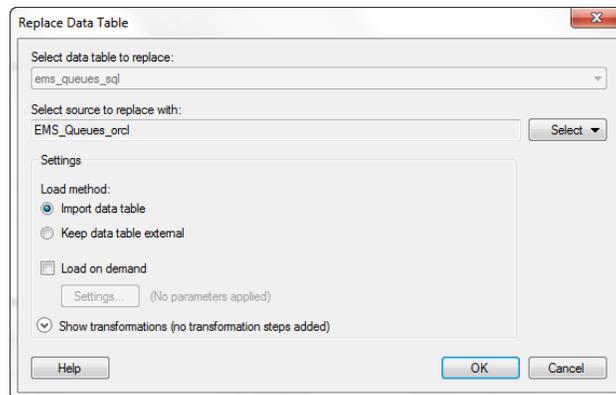
**11.** Select your newly added query/view and click the **Add** button.

The new query displays in the **Views in connection** list and the associated columns display in the **Columns in selected view** region.



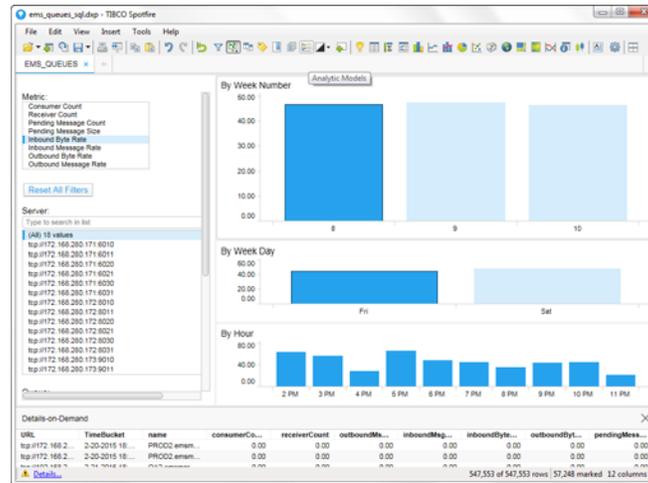
12. Click the **OK** button.

The **Replace Data Table** window displays.



13. Select **Import data table** as the **Load Method** and click **OK**.

Your report should display in the TIBCO Spotfire dashboard.



14. Repeat the above steps using the **ems\_serverinfo\_sql.dxp** Spotfire Analysis file and the **ems\_serverinfo\_sql.txt** files to create the **EMS Server Message Metrics** Report.

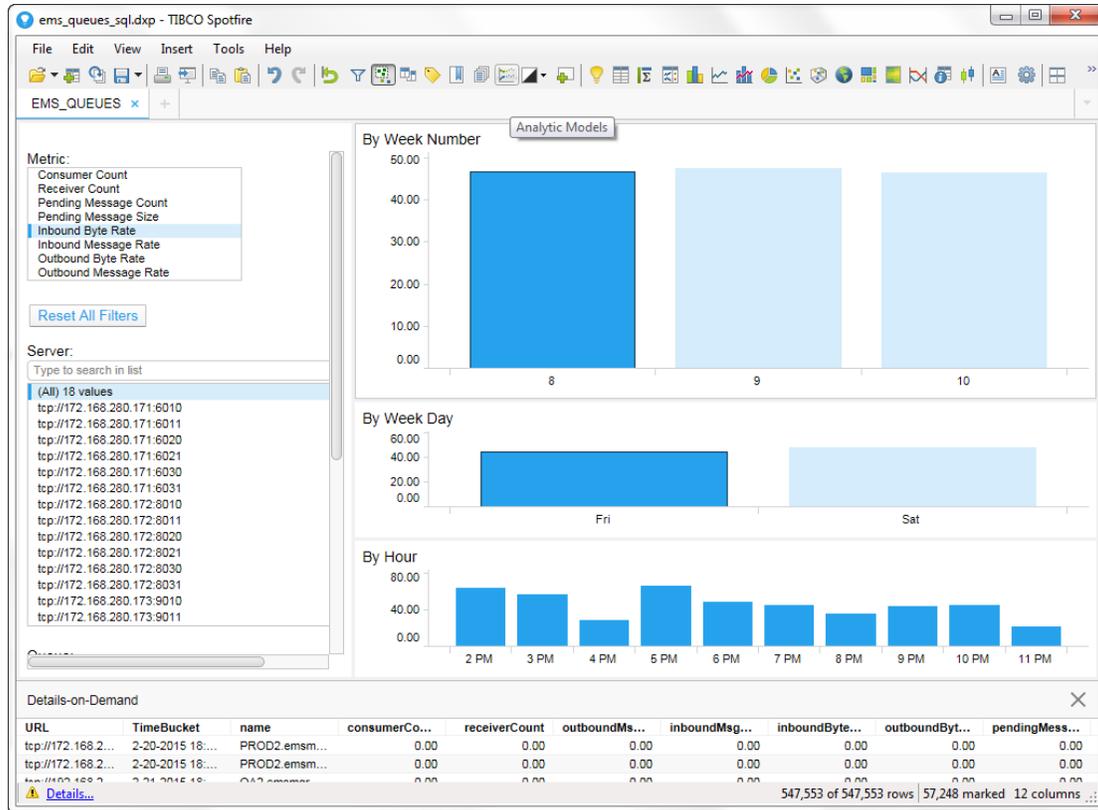
## Reports

The following reports are available:

- “EMS Queue Message Metrics Report” on page 878
- “EMS Server Message Metrics Report” on page 879

## EMS Queue Message Metrics Report

The **EMS Queue Message Metrics Report** allows you to details for various metrics for one or more selected servers.



### Metrics and Data

This report includes:

|                              |   |
|------------------------------|---|
| <b>Metric</b>                | Lists the metrics available for the report.                             |
| <b>Consumer Count</b>        | The total number of consumers.  |
| <b>Receiver Count</b>        | The number of active receivers on the queue                             |
| <b>Pending Message Count</b> | Number of currently pending messages on the server.                     |
| <b>Pending Message Size</b>  | Amount of space, in bytes, that the pending messages use on the server. |
| <b>Inbound Byte Rate</b>     | The rate of inbound bytes per second.                                   |
| <b>Inbound Msg Rate</b>      | The rate of inbound messages per second.                                |
| <b>Outbound Byte Rate</b>    | The rate of outbound bytes per second.                                  |

**Outbound Msg Rate** The rate of outbound messages per second.

**Reset All Filters**

Resets any defined filters from the report.

**Server**

Select the server or servers for which you want to view data in the report. You can use the **Search** field to find a particular server. Selecting a server or servers from this list automatically updates the list of available queues in the **Queues** select list.

**Queue**

Select the queue or queues for which you want to view data in the report. You can use the **Search** field to find a particular queue.

**By Week Number**

Displays the averages (for the Rate metrics) or sums (for the Count metrics) for the selected server(s) for each week. You can hover over each week to view the exact counts or rates for that week. Clicking on a particular week displays data for each day for that particular week in the **By Week Day** region.

**By Week Day**

Displays the averages (for the Rate metrics) or sums (for the Count metrics) for each day in the selected week. Hovering over a particular day displays the exact sum or average for that day. Clicking on a particular day populates data for each hour in the **By Hour** region.

**By Hour**

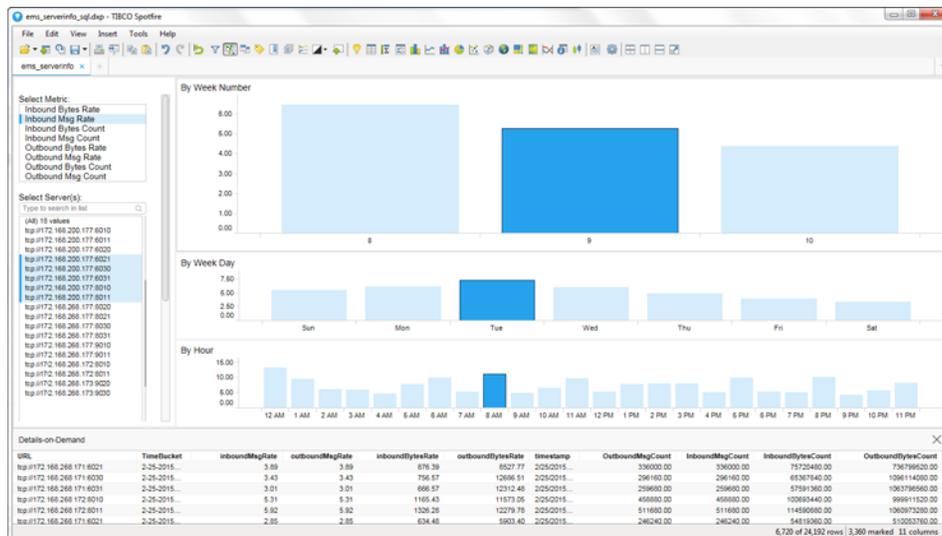
Displays the averages (for the Rate metrics) or sums (for the Count metrics) for each hour in the selected day. Hovering over a particular hour displays the exact sum or average for that hour. Clicking on a particular hour updates the **TimeBucket** information in the **Details-on-Demand** region.

**Details-on-Demand**

Shows all metrics (**Consumer Count**, **Receiver Count**, **Pending Message Count**, **Pending Size Count**, **Inbound Byte Rate**, **Inbound Msg Rate**, **Outbound Byte Rate**, and **Outbound Msg Rate**) for each selected server at a specific time (**TimeBucket** (24 hour clock) and **timestamp**) based on the object selected in the dashboard (**By Week Number**, **By Week Day**, and **By Hour**).

## EMS Server Message Metrics Report

This report displays the sum or average of the selected metric for a server or servers by week number, by week day, and by hour of a particular day. You can hover over the various objects in the report to view more detailed information, or look in the **Details-on-Demand** region to view data details for a specific time bucket.



**Metrics and Data**

This report includes:

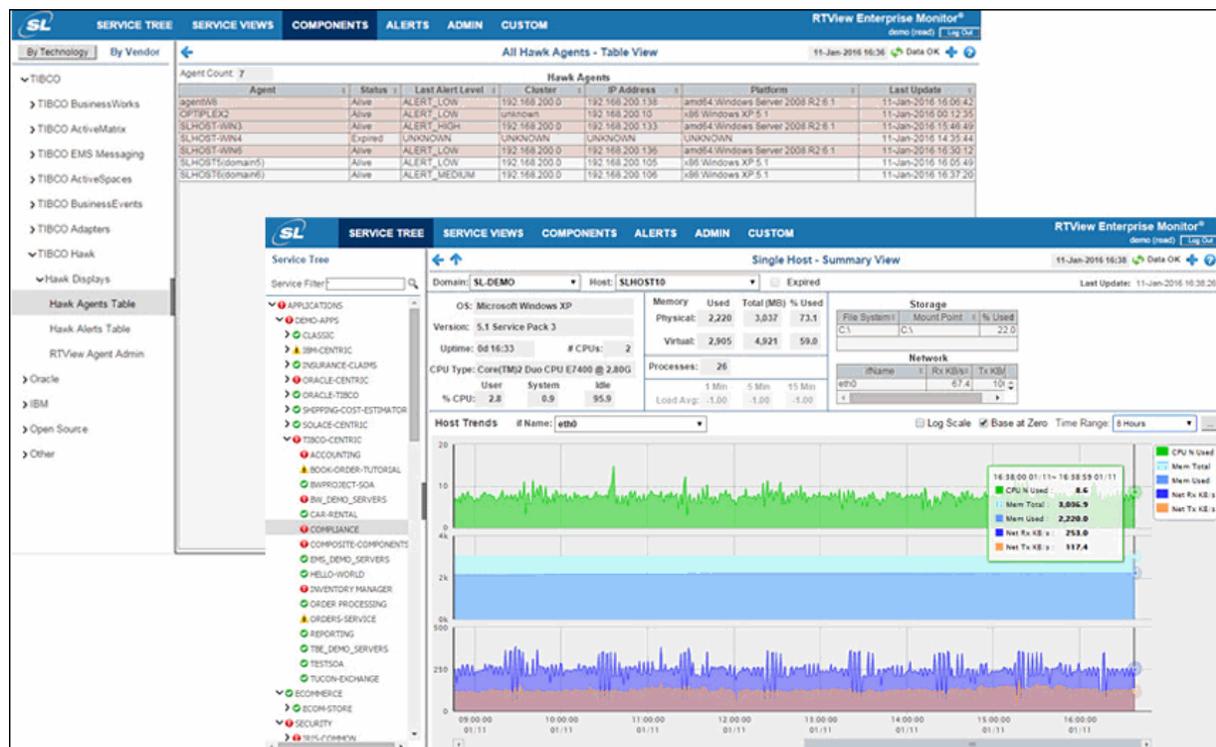
|                             |   |
|-----------------------------|---|
| <b>Select Metric</b>        | Lists the metrics available for the report.   |
| <b>Inbound Bytes Rate</b>   | The rate of inbound bytes per second.   |
| <b>Inbound Msg Rate</b>     | The rate of inbound messages per second.  |
| <b>Inbound Bytes Count</b>  | The number of inbound bytes received by the server since the server was started.  |
| <b>Inbound Msg Count</b>    | The number of inbound messages received by the server since the server was started.   |
| <b>Outbound Bytes Rate</b>  | The rate of outbound bytes per second.  |
| <b>Outbound Msg Rate</b>    | The rate of outbound messages per second.   |
| <b>Outbound Bytes Count</b> | The number of outbound bytes sent by the server since the server was started.   |
| <b>Outbound Msg Count</b>   | The number of outbound messages sent by the server since the server was started.  |
| <b>Select Server</b>        | Select the server or servers for which you want to view data in the report.   |
| <b>By Week Number</b>       | Displays the averages (for the Rate metrics) or sums (for the Count metrics) for the selected server(s) for each week. You can hover over each week to view the exact counts or rates for that week. Clicking on a particular week displays data for each day for that particular week in the <b>By Week Day</b> region.  |
| <b>By Week Day</b>          | Displays the averages (for the Rate metrics) or sums (for the Count metrics) for each day in the selected week. Hovering over a particular day displays the exact sum or average for that day. Clicking on a particular day populates data for each hour in the <b>By Hour</b> region.  |
| <b>By Hour</b>              | Displays the averages (for the Rate metrics) or sums (for the Count metrics) for each hour in the selected day. Hovering over a particular hour displays the exact sum or average for that hour. Clicking on a particular hour updates the <b>TimeBucket</b> information in the <b>Details-on-Demand</b> region.  |
| <b>Details-on-Demand</b>    | Shows all metrics ( <b>Inbound Bytes Rate</b> , <b>Inbound Msg Rate</b> , <b>Inbound Bytes Count</b> , <b>Inbound Msg Count</b> , <b>Outbound Bytes Rate</b> , <b>Outbound Msg Rate</b> , <b>Outbound Bytes Count</b> , <b>Outbound Msg Count</b> ) for each selected server at a specific time ( <b>TimeBucket</b> (24 hour clock) and <b>timestamp</b> ) based on the object selected in the dashboard ( <b>By Week Number</b> , <b>By Week Day</b> , and <b>By Hour</b> ). |

# CHAPTER 25 Solution Package for TIBCO Hawk

RTView uses Solution Packages to facilitate monitoring for a number of different technologies, including TIBCO Hawk.

With the Solution Package for TIBCO Hawk™ you can centralize alert events triggered by Hawk alert rule bases and performance data relevant to monitored hosts. This enables RTView to be the event correlation engine and event management system for alerts that are generated by:

- TIBCO Hawk
- RTView Enterprise Monitor, and
- Other monitoring tools such as Netcool and Oracle Enterprise Manager



## Single TIBCO Console

When combined with other Solution Packages for TIBCO technologies, performance metrics and alerts from TIBCO EMS, TIBCO ActiveMatrix, TIBCO BusinessWorks, and Solution Package for TIBCO BusinessEvents can all be aggregated into a single view. The correlation of this information among the TIBCO technologies further enables cross-technology analytics, speeding troubleshooting, assessment of business impact, and resolution of issues.

By combining these TIBCO monitoring solutions along with other solutions under the RTView Enterprise Monitor umbrella, users can go further in determining how their TIBCO EMS and BW instances are affecting the critical applications in their enterprise. They can consolidate metrics from existing monitoring solutions and tools in order to provide visibility across an entire application infrastructure, including TIBCO applications and other critical application components. Using RTView Enterprise Monitor's Service Model functionality, users are able to create service models that allow them to trace service impact and prioritize issues based on their potential affect on the business.

## Functionality

- Correlate available host resources with the associated Application or Service, as well as specific TIBCO components
- Identify hotspots and unavailable hosts across your infrastructure in real-time
- Understand when peak loads of host infrastructure occur or when resource usage trends are constantly growing through time-based historical analysis
- Enable individual groups to filter, correctly prioritize, and act on events of concern with an advanced event management system
- Enable users to set global thresholds and over-ride thresholds from one central console via advanced rule base control

See the **README.txt** file, located in the Solution Package root directory, for instructions about configuring the Solution Package.

See **README\_sysreq.txt** for the full system requirements for RTView®.

## TIBCO Hawk Displays/Views

- ["Hawk Agents Table" on page 883](#)
- ["Hawk Alerts Table" on page 884](#)
- ["RTView Agent Administration" on page 886](#)

## Hawk Agents Table

This table provides a list of agents as well as network connectivity details about each agent.

| Agent                | Status | Last Alert Level | Cluster       | IP Address      | Platform                        |
|----------------------|--------|------------------|---------------|-----------------|---------------------------------|
| agentW46             | Alive  | ALERT_LOW        | 192.168.200.0 | 192.168.200.146 | amd64:Windows Server 2008 R2    |
| SLHOST93             | Alive  | ALERT_HIGH       | 192.168.200.0 | 192.168.200.93  | amd64:Linux:2.6.32-358.11.1.el6 |
| WIN44                | Alive  | ALERT_HIGH       | 192.168.200.0 | 192.168.200.144 | amd64:Windows Server 2008 R2    |
| SLHOST21(dev)        | Alive  | ALERT_MEDIUM     | 192.168.200.0 | 192.168.200.121 | amd64:Windows 7.6.1             |
| SLHOST5(domain5)     | Alive  | ALERT_MEDIUM     | 192.168.200.0 | 192.168.200.105 | x86:Windows XP:5.1              |
| SLHOST6(domain6)     | Alive  | ALERT_MEDIUM     | 192.168.200.0 | 192.168.200.106 | x86:Windows XP:5.1              |
| SLHOST15(sl_amx)     | Alive  | ALERT_HIGH       | 192.168.200.0 | 192.168.200.115 | amd64:Windows 7.6.1             |
| SLHOST17(sl_amx)     | Alive  | ALERT_HIGH       | 192.168.200.0 | 192.168.200.117 | amd64:Windows 7.6.1             |
| SLHOST15(sl_qa_conn) | Alive  | NO_ALERT         | 127.0.0.0     | 192.168.200.115 | amd64:Windows 7.6.1             |
| SLHOST16(sl_qa_conn) | Alive  | ALERT_HIGH       | 192.168.200.0 | 192.168.200.116 | amd64:Windows 7.6.1             |
| SLHOST18(sl_qa_conn) | Alive  | NO_ALERT         | 192.168.200.0 | 192.168.200.118 | amd64:Windows 7.6.1             |

**Title Bar:** Indicators and functionality might include the following:

Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.  
 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

Open the **Alert Views - RTView Alerts Table** display.

Open an instance of this display in a new window.

Open the online help page for this display.

### Fields and Data:

**Agent Count:** The total number of agents in the table.

**Table:**  
Each row in the table is a different agent.

**Domain** The domain in which the host resides. Domain names are specified when your administrator configures your Data Server to collect Hawk data, and applies to all host data collected from Hawk by that Data Server.

**Agent** The name for the agent which is composed of the hostname and Hawk domain (in parenthesis). Agent names which do not contain an explicit Hawk domain are members of the "default" domain.

**Status** The agent status, either **Alive** or **Expired**.

**Last Alert Level** The most recent and most critical alert level.

**Cluster** The IP address of the cluster to which this agent belongs.

**IP Address** The IP subnet address for the group of machines to which this agent belongs.

**Platform** The physical CPU class and operating system version.

**Last Update** The date and time the row data was last updated.

## Hawk Alerts Table

Use this display to view all Hawk alerts that have occurred in the system.

Each row in the table is a different active alert. Use the drop-down menus to filter the alerts listed. Click a column heading to sort the table on that column data.

The row color indicates the following:

**Row Color Code:**

Tables with colored rows indicate the following:

- Red indicates that one or more alerts exceeded their ALARM LEVEL threshold in the table row.
- Yellow indicates that one or more alerts exceeded their WARNING LEVEL threshold in the table row.
- Green indicates that no alerts exceeded their WARNING or ALARM LEVEL threshold in the table row.

←
**Hawk Alerts Table**
26-Oct-2016 10:27 Data OK + ?

Agent Filter:  ▾

Alert Text Filter:

Rulebase Filter:    Show Cleared Alerts Alert Count:10

| Time                 | Agent                | Alert ID | Alert Level  | RuleBase        |                 |
|----------------------|----------------------|----------|--------------|-----------------|-----------------|
| 26-Oct-2016 10:27:33 | SLHOST6(domain6)     | 10       | ALERT_MEDIUM | TibRV_Alerts    | Received from   |
| 26-Oct-2016 10:27:19 | SLHOST5(domain5)     | 10       | ALERT_MEDIUM | TibRV_Alerts    | Received from   |
| 26-Oct-2016 10:26:59 | SLHOST5(domain5)     | 11       | ALERT_LOW    | System_Alerts   | Server Process  |
| 26-Oct-2016 10:17:32 | SLHOST17(sl_amx)     | 7        | ALERT_HIGH   | test            | Current Proces  |
| 26-Oct-2016 10:06:05 | SLHOST5(domain5)     | 13       | ALERT_LOW    | System_Alerts   | System Uptime   |
| 26-Oct-2016 10:02:46 | SLHOST16(sl_qa_conn) | 4        | ALERT_HIGH   | generate_Alerts | Current Proces  |
| 26-Oct-2016 10:01:26 | SLHOST6(domain6)     | 13       | ALERT_LOW    | System_Alerts   | System Uptime   |
| 26-Oct-2016 00:26:52 | SLHOST6(domain6)     | 11       | ALERT_LOW    | System_Alerts   | Server Process  |
| 26-Oct-2016 00:20:33 | SLHOST5(domain5)     | 12       | ALERT_LOW    | System_Alerts   | Service Print S |
| 26-Oct-2016 00:16:21 | SLHOST6(domain6)     | 12       | ALERT_LOW    | System_Alerts   | Service Print S |

**Title Bar:** Indicators and functionality might include the following:

  Open the previous and upper display.  
 Navigate to displays commonly accessed from this display.

 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

|                            |  |
|----------------------------|--|
| <b>Agent Filter</b>        | Choose one or <b>All Agents</b> .  |
| <b>Alert Text Filter</b>   | Enter a string to filter alerts listed.<br><b>Clear</b> to remove this filter.   |
| <b>Rulebase Filter</b>     | Enter a rule to filter alerts listed.<br><b>Clear</b> to remove this filter.   |
| <b>Show Cleared Alerts</b> | When checked, cleared alerts are included in the table.  |
| <b>Alert Count</b>         | The number of alerts in the table.   |
| <b>Time</b>                | The date and time the alert occurred.  |
| <b>Agent</b>               | The name of the agent associated with the alert.   |
| <b>Alert ID</b>            | The unique string identifier for the alert.  |
| <b>Alert Level</b>         |  ALERT_HIGH indicates that one or more alerts exceeded their ALARM LEVEL threshold in the table row.<br> ALERT_MEDIUM indicates that one or more alerts exceeded their WARNING LEVEL threshold in the table row.<br>ALERT_LOW indicates that no alerts exceeded their WARNING or ALARM LEVEL threshold in the table row. |
| <b>RuleBase</b>            |  |
| <b>Alert Text</b>          | Descriptive text about the alert.  |
| <b>Cleared</b>             | When checked, the alert has been cleared.  |

## RTView Agent Administration

Verify when agent metrics were last queried by the Monitor. The data in this display is predominantly used for debugging by Technical Support.

| AgentName | AgentClass       | Client ID | Total Rows Rcvd | Delta Rows rcvd | Rows Rcvd / sec | Last Receive Time    |
|-----------|------------------|-----------|-----------------|-----------------|-----------------|----------------------|
| slapm     | SL-RTVMGR-Agent  | 30002     | 43,412          | 0               | 0.0             | 10-Nov-2014 16:31:42 |
| slapm     | SL-HOSTMON-Agent | 30017     | 53,750          | 35              | 8.6             | 10-Nov-2014 16:31:43 |
| slapm     | SL-BWMON-Agent   | 30018     | 423,741         | 8               | 4.0             | 10-Nov-2014 16:31:43 |
| slel4-64  | SL-HOSTMON-Agent | 30005     | 68,536          | 0               | 0.0             | 10-Nov-2014 16:31:37 |
| slel4-64  | SL-BWMON-Agent   | 30006     | 91,694          | 0               | 0.0             | 10-Nov-2014 16:31:35 |
| slel4-64  | SL-RTVMGR-Agent  | 30003     | 41,913          | 4               | 1.9             | 10-Nov-2014 16:31:43 |
| slhost6   | SL-HOSTMON-Agent | 30026     | 23,418          | 0               | 0.0             | 10-Nov-2014 16:31:40 |
| slhost6   | SL-RTVMGR-Agent  | 30027     | 26,933          | 4               | 2.0             | 10-Nov-2014 16:31:42 |
| slhost6   | SL-BWMON-Agent   | 30032     | 26,321          | 14              | 2.3             | 10-Nov-2014 16:31:44 |
| slhpux11  | SL-BWMON-Agent   | 30012     | 34,363          | 0               | 0.0             | 10-Nov-2014 16:31:42 |
| slhpux11  | SL-HOSTMON-Agent | 30010     | 64,394          | 0               | 0.0             | 10-Nov-2014 16:31:42 |
| slhpux11  | SL-RTVMGR-Agent  | 30011     | 41,820          | 64              | 15.4            | 10-Nov-2014 16:31:44 |
| slvmrh2   | SL-BWMON-Agent   | 30004     | 7,874           | 0               | 0.0             | 10-Nov-2014 16:31:38 |
| slvmrh2   | SL-RTVMGR-Agent  | 30001     | 45,352          | 0               | 0.0             | 10-Nov-2014 16:31:40 |
| slvmrh2   | SL-HOSTMON-Agent | 30009     | 46,787          | 1               | 0.2             | 10-Nov-2014 16:31:44 |
| slvmware  | SL-BWMON-Agent   | 30013     | 6,085           | 0               | 0.0             | 10-Nov-2014 16:31:31 |
| slvmware  | SL-RTVMGR-Agent  | 30016     | 43,399          | 2               | 1.0             | 10-Nov-2014 16:31:43 |
| slvmware  | SL-HOSTMON-Agent | 30015     | 33,434          | 0               | 0.0             | 10-Nov-2014 16:31:31 |

**Title Bar:** Indicators and functionality might include the following:



Open the previous and upper display.



Navigate to displays commonly accessed from this display.



The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.



The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.



Open the **Alert Views - RTView Alerts Table** display.



Open an instance of this display in a new window.



Open the online help page for this display.

### Data Received from Remote Agents Table

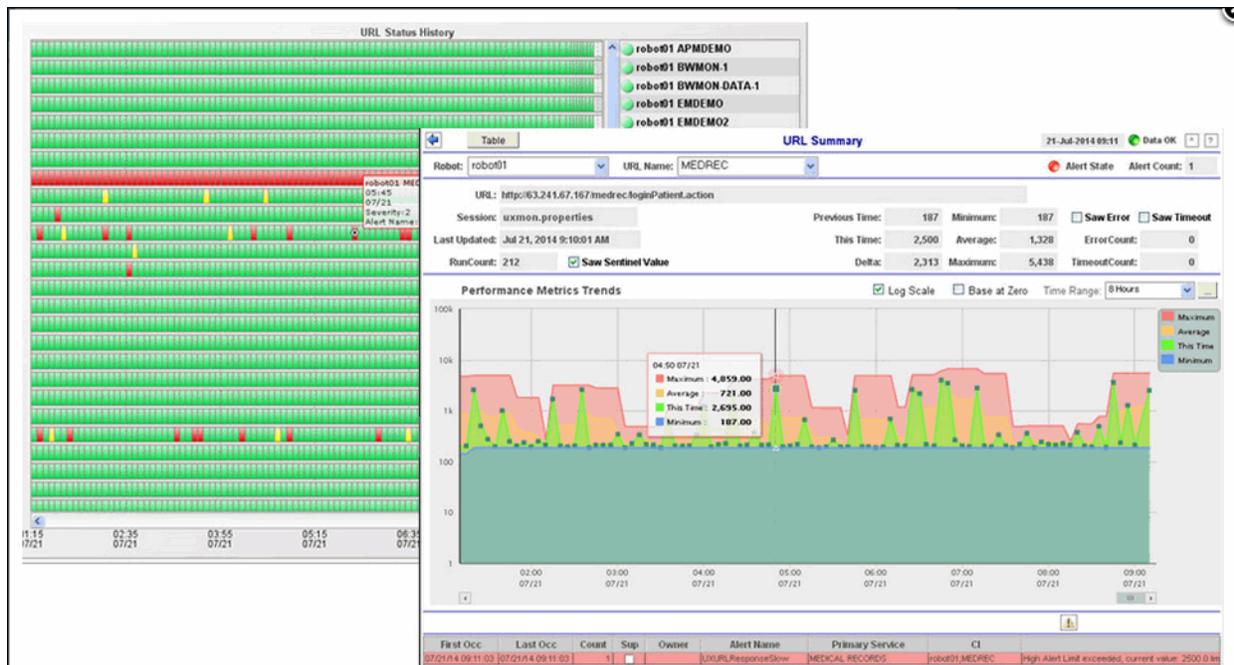
|                          |   |
|--------------------------|---|
| <b>AgentName</b>         | Name of the agent.                          |
| <b>AgentClass</b>        | Class of the agent.                         |
| <b>Client ID</b>         | Unique client identifier.                   |
| <b>Total Rows Rcvd</b>   | Total number of rows of data received.      |
| <b>Rows Rcvd/sec</b>     | Number of rows of data received per second. |
| <b>Last Receive Time</b> | Last time data was received from the agent. |

## CHAPTER 26 Solution Package for UX

The UX Monitor provides end-user monitoring for web applications. It does so by performing simulated transactions as if a real user is accessing a URL. When these simulated transactions are performed, information about the transaction such as the performance of the transaction, whether any errors were produced by the transaction or if the transaction produces invalid data are captured.

By including the UX Monitor package in the RTView Enterprise Monitor® platform, you can be notified if any web application might be operating in one of these states:

- Unresponsive
- Performing slowly
- Generating errors
- Returning invalid information



The Monitor provides these features using UX Robots which are a set of robot Java applications. UX Robots read configuration files that designate the URLs to monitor, optional login details and an optional search string to validate. The UX Robots periodically query the URLs at configured interval periods and report the elapsed response time and any errors to the RTView Enterprise Monitor platform. If the search string is not found an error is reported. Preconfigured alerts are available with settings for thresholds to indicate if the response time was slow, the search string was not found, a timeout occurred, a URL error occurred or an error with the UX Robot.

When an error condition is reported, Monitor uses built-in displays that show the historical performance of all configured URLs and the status of the deployed UX Robots. This information can then be used to analyze when the problem occurred, whether performance has been degrading over a period of time, and allows users to correlate other errors reported from the RTView Enterprise Monitor which can indicate why the web application was having problems during that time period.

This section describes how to install, configure and start the Solution Package for UX Monitor. See **README\_sysreq.txt** for the full system requirements.

For Linux, these instructions require a Bourne-compatible shell.

This section includes:

- [“Getting Started”](#)
- [“UX Monitor Configuration Files”](#)
- [“UX Monitor Displays”](#): Describes the displays that come with Solution Package for UX Monitor.
- [“Advanced UX Robot Configuration”](#): This configuration is optional.

---

## Getting Started

Perform these instructions if you downloaded, installed and configured the *standard* RTView Enterprise Monitor (**rtvapm\_std\_<version>.zip**), rather than the *full* RTView Enterprise Monitor, and now wish to install the Solution Package for Solace.

**Note:** If you downloaded and installed the *full* RTView Enterprise Monitor (**rtvapm\_full\_<version>.zip**), refer to [Chapter 2, “Configuration and Deployment”](#) .

This section includes:

- [“Install and Setup”](#)
- [“Configure UX”](#)
- [“Start the Monitor”](#)
- [“Stop the Monitor”](#)

## Install and Setup

This section describes how to install the Solution Package for UX Monitor. You install the Solution Package for UX Monitor in the RTView Enterprise Monitor® **rtview\rtvapm** home directory. This document assumes you already installed RTView Enterprise Monitor, which by default is installed in the **rtview\rtvapm** directory.

To properly install the Solution Package for UX Monitor you install two components, the UX Monitor and the UX Robot. The components are available at the SL Download Center as two **.zip** files.

This section includes:

- [“Install Monitor”](#)
- [“Install UX Robot”](#)

## Install Monitor

Download the **rtvapm\_uxmon\_<version>.zip** file from the SL Download Center and extract the file into your RTView EM home directory. The Solution Package for UX Monitor will reside in a separate directory in the RTView Enterprise Monitor home directory: **rtview/rtvapm/uxmon**.

## Install UX Robot

1. Copy the file **rtview\rtvapm\uxmon\agents\UXRobot\_VERSION.zip** to the system(s) where you wish to simulate user traffic.
2. If you have any previous versions of the UX Robot, rename the existing directory.
3. Unzip the robot to a location of your choosing, where it creates a directory called **UXRobot**. After you extract the UX Robot, you have the following directory structure:
  - **UXRobot**: This is the UX Robot home directory which contains UX Robot configuration files and run scripts.
  - **UXRobot \lib**: This directory contains **.jar** files for the UX Robot.

### File Extraction Considerations

On Windows systems, using the extraction wizard of some compression utilities might result in an extra top-level directory level based on the name of the **.zip** file. The additional directory is not needed because the **.zip** files already contain the **rtvapm** top-level directory. This extra directory must be removed before clicking the **Next** button that performs the final decompression.

On UNIX/Linux systems, use the **-a** option to properly extract text files.

Proceed to ["Configure UX"](#).

## Configure UX

This section describes how to configure the UX Monitor and the UX Robot. This section includes:

Perform the following configurations in the order provided to configure the UX Monitor and the UX Robot:

- ["Overview" on page 890](#)
- ["UX Robot Process Summary" on page 890](#)
- ["Configure UX Monitor" on page 891](#): This configuration is required.
- ["Configure UX Robot" on page 891](#): This configuration is required.

## Overview

To configure the Solution Package for UX Monitor you edit configuration files for two components, the UX Monitor and the UX Robot. Configuration files define a series of actions (a run) you want your UX Robot to simulate. For example, you specify which browser the Robot uses, the web page or pages it navigates to, the buttons it chooses and text entries it makes on that web page. Configuration files also define how often the Robot executes the series of actions--once, a specific number of times or indefinitely until manually stopped. The UX Robot records the amount of time to execute and complete each action in the run, as well as the amount of time to complete the entire run, and sends this data to the Monitor.

Typically, you only need to configure the **uxmon.properties** file to use the URLs that make sense for your Robot to contact and to give the UX Robot a name for this file. A

**uxmon.properties** file is typically only used for a single UX Robot, although each UX Robot might use a similar list of UX Robots.

You only need to configure and use the **uxmon.sql.properties** file if you prefer to obtain the same information that normally goes in a **uxmon.properties** file from a SQL database so that it can be maintained centrally.

---

**Note:** You can also define your URLs in a SQL database record.

---

## UX Robot Process Summary

The following summarizes the UX Robot process.

1. The UX Robot reads the **uxmon.properties** configuration file and sets the defined configuration. If the file defines a SQL configuration the UX Robot reads the **uxmon.sql.properties** file rather than the **uxmon.properties** configuration file.
2. The UX Robot reads the URL list and sorts the list as defined by the **sortIndex** property.
3. The UX Robot starts the first run by requesting a response from the first URL in the **sortIndex**-defined order.
4. The UX Robot waits for the response from the URL and then reports the timing data to Monitor.
5. The UX Robot picks the next URL and repeats from Step 4 until the last URL in the list.
6. After the defined pause, the UX Robot repeats the run as defined by the **repeatCount** property. For example, if **repeatCount=7** and **repeatType=times** the run occurs 7 times and stops.
7. The session completes and the UX Robot application exits.

## Assumptions

This document assumes that:

- you use the configuration files provided and retain their file names. If you change the **uxmon.properties** file name, you must specify the name on the UX Robot command line. For example, as **-urlproperties:myfavoriteurls.properties**.
- you already installed and configured RTView EM as described in the *RTView Enterprise Monitor® User's Guide*
- your RTView EM home directory is **rtview\rtvapm**.
- you used a copy of the RTView EM **emsample** directory to create a RTView EM project directory named **rtvapm\_projects**, which is parallel to the **rtvapm** directory.

---

**Note:** The reason for having a copy of **emsample** parallel to the RTView EM home directory is to avoid overwriting your configuration when you upgrade RTView EM. If you follow the instructions for configuring your system, upgrading will just be dropping the new deliverables of RTView EM and the Solution Packages you need in your RTView EM home directory.

---

Proceed to [“Configure UX Monitor” on page 891](#).

## Configure UX Monitor

Refer to the *RTView Enterprise Monitor User's Guide* located in the root directory of the UX Monitor installation directory. This step is required.

## Configure UX Robot

This section describes how to configure the UX Robot. This step is required. You configure the UX Robot by modifying configuration (**.properties**) files. You perform these configuration steps in the **UXRobot** directory.

Perform these configurations on each host computer that you want to run an instance of the UX Robot.

### To configure the UX Robot

1. Open the **uxmon.properties** file, located in your UX Robot home directory.
2. Locate the URL Configuration Line. The URL Configuration Line starts with the prefix **sl.rtvapm.uxmon.urlrobot.url=**. In the following example, note that there is no space between the prefix and the first element, and no word-wrapping:

```
sl.rtvapm.uxmon.urlrobot.url=name='EMSMON-1' sortIndex=1 url=http://12.237.62.101/emsmon/
agent=robot01 user=demo pass=demo secure=false searchType=simple searchString='SL RTView - TIBCO
EMS Monitor' searchHTML=false useHTMLForm=true formNameParameter=loginform
formNameParameterType=id userInputElementName=user userInputElementType=id
passwordInputElementName=pwd passwordInputElementType=id buttonInputElementName='OK'
buttonInputElementType=value useCookies=true javascript=false
```

3. Make the following edits to the URL Configuration Line:
  - Change **name='EMSMON-1'** to **name='<myurl>'** where **<myurl>** is the name of the URL you want to monitor.
  - Change **url=http://12.237.62.101/emsmon/** to **url=http://<myurladdress>** where **<myurladdress>** is the address of the URL you want to monitor.
  - Change **searchString='SL RTView - TIBCO EMS Monitor'** to **searchString='<myurlsearchstring>'** where **'<myurlsearchstring>'** is the search string of the URL you want to monitor.
  - Change **agent=robot01** to **agent=<myrobot>** where **<myrobot>** is a descriptive name for the Robot so that you can identify the Robot, among your other Robots, after deployment.

For each URL you wish to monitor, copy/paste the URL Configuration Line and edit as needed. There is no limit on the number of URLs in the file.

For details about the URL Configuration Line, see [“URL Configuration Line” on page 43 in Appendix A, “UX Monitor Configuration Files”](#).

4. Locate the Robot Configuration Line. The Robot Configuration Line starts with the prefix **sl.rtvapm.uxmon.urlrobot.config=**. Make appropriate changes to the UX Robot behavior. For details about the Robot Configuration Line, see [“Robot Configuration Line” on page 39 in Appendix A, “UX Monitor Configuration Files”](#).
5. Locate the App Configuration Line. The App Configuration Line starts with the prefix **sl.rtvapm.uxmon.app.config=**. Make appropriate changes to the UX Robot behavior. For details about the App Configuration Line, see [“App Configuration Line” on page 38 in Appendix A, “UX Monitor Configuration Files”](#).
6. Locate the Browser Configuration Line. The Browser Configuration Line starts with the prefix **sl.rtvapm.uxmon.urlrobot.browser=**. Make appropriate changes to the UX Robot behavior. For details about the Browser Configuration Line, see [“Browser Configuration Line” on page 42 in Appendix A, “UX Monitor Configuration Files”](#).
7. Save the **uxmon.properties** file. If you change the **uxmon.properties** file name, you must specify the file name on the UX Robot command line with the following command line option: **-urlproperties:<myfavoriteurls.properties>**

Proceed to [“Start the Monitor”](#).

## Start the Monitor

1. Start the UX Robot by going to your UX Robot installation directory and typing:

**Windows**

**start run\_ux\_robot**

**UNIX**

**./run\_ux\_robot.sh**

If you changed the name of the **uxmon.properties** file, type:

**Windows**

**start run\_ux\_robot -urlproperties:<myfavoriteurls.properties>**

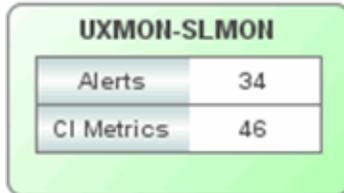
**UNIX**

```
./run_ux_robot.sh -urlproperties:<myfavoriteurls.properties>
```

where **<myfavoriteurls.properties>** is the name of your properties file.

2. Verify data is being sent to the RTView Enterprise Monitor.

In the RTView Enterprise Monitor, open the **Architecture - System Overview** display and verify the Monitor object shows Monitor data.



| UXMON-SLMOH |    |
|-------------|----|
| Alerts      | 34 |
| CI Metrics  | 46 |

3. After you start all your UX Robots, open the UX Monitor displays and verify they show data collected by your UX Robots.

You have finished configuring the UX Robot.

## Stop the Monitor

## troubleshoot

---

## UX Monitor Configuration Files

This section describes the **uxmon.properties** and **uxmon.sql.properties** template configuration files that define UX Robot behavior. This section includes:

- [“uxmon.properties File” on page 894](#): This section describes the configuration file you edit to configure the UX Robot, name the URLs you want to monitor, and adjust all UX Robot behavior such as frequency, logging and conditions for timeouts.
- [“uxmon.sql.properties File” on page 901](#): This section describes the configuration file you edit to configure the UX Robot connection to a SQL database.

## uxmon.properties File

By default, the UX Robot reads the **uxmon.properties** file. The **uxmon.properties** file is typically installed in the **C:\UXRobot** directory, and defines the UX Robot configuration and behavior, including the URLs to be monitored. The **uxmon.properties** file is organized into configuration areas or *Lines*. Each Line configures a different aspect of the UX Robot. This section includes (and is organized by the configuration Line order):

- [“App Configuration Line” on page 894](#): Defines the basic Robot properties such as the Robot name, host name, port number and the amount of time between runs.
- [“Robot Configuration Line” on page 895](#): Defines how many times the Robot runs (for example, forever), and response wait time before declaring a timeout and the subsequent behavior.
- [“Robot Logging Configuration Line” on page 897](#)
- [“Browser Configuration Line” on page 897](#): Defines you chosen browser and its behavior for transfer to the underlying HTMLUnit library. For details about the HTMLUnit library, see HTMLUnit Browser Variables JavaDoc.
- [“URL Configuration Line” on page 898](#): Defines all URLs you want to monitor and the sort order (**sortIndex**).
- [“Sample uxmon.properties File” on page 900](#): Defines all URLs you want to monitor and the sort order (**sortIndex**).

### App Configuration Line

This section describes how to define application behavior using the **sl.rtvapm.uxmon.app.config=** prefix. Do not edit or move the prefix.

In your **uxmon.properties** file, locate the App Configuration Line. In the following example, note that there is no space between the prefix and the first element, and no word-wrapping:

```
sl.rtvapm.uxmon.app.config=robotmode=URL agentname=robot01 agentupdateperiod=1000
agentconnect=localhost:4072
```

Use the **sl.rtvapm.uxmon.app.config=** prefix to define App Configuration Line elements described in the following table.

|                          |  |
|--------------------------|--|
| <b>robotmode</b>         | Specifies the mode that the UX Robot operates in. The default is <b>URL</b> . Do not modify this setting.<br><b>Note:</b> Currently URL is the only option. Leave the default setting.<br>Example:<br><b>robotmode=URL</b> |
| <b>agentname</b>         | Specify a name of your choosing for the UX Robot. The default is <b>robot01</b> .<br>Example:<br><b>agentname=robot01</b>  |
| <b>agentupdateperiod</b> | Specify the amount of time for the UX Robot Agent, in milliseconds, between UX Robot URL runs. The default is <b>1000</b> .<br>Example:<br><b>agentupdateperiod=1000</b>   |
| <b>agentconnect</b>      | Specify the hostname and port number for the UX Robot Agent. The default is <b>localhost:4072</b> .<br>Example:<br><b>agentconnect=localhost:4072</b>  |

## Robot Configuration Line

You define Robot behavior using the **sl.rtvapm.uxmon.urlrobot.config=** prefix. Do not edit or move the prefix.

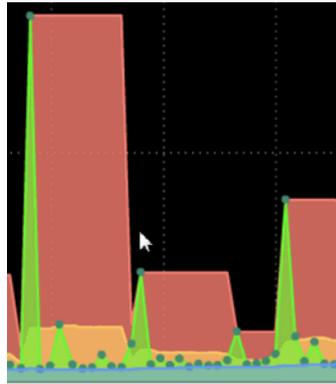
In your **uxmon.properties** file, locate the Robot Configuration Line. In the following example, note that there is no space between the prefix and the first element, and no word-wrapping:

```
sl.rtvapm.uxmon.urlrobot.config=repeatType=forever timeoutType=abortRun repeatCount=2
unitsCount=1 simPeriod=minute pausePeriod=minute pauseCount=1 maxTimeoutMS=60000
javaScriptTimeoutMS=10000 sampleBufferSize=10
```

Use the **sl.rtvapm.uxmon.urlrobot.config=** prefix to define Robot Configuration Line elements described in the following table.

| Element            | Description   |
|--------------------|---|
| <b>repeatType</b>  | <p>Specifies the type of interval for this Robot to repeat runs. The default is <b>times</b>.</p> <ul style="list-style-type: none"> <li>• <b>times</b>: Specifies the number of times the UX Robot repeats the run and to do so as defined by the <b>repeatCount</b> property.</li> <li>• <b>unit</b>: Specifies the UX Robot repeat the run as defined by the <b>repeatCount</b> property.</li> <li>• <b>forever</b>: Specifies the UX Robot to repeat without end. If <b>repeatType</b> is <b>forever</b> the <b>repeatType</b> property is not used.</li> </ul> <p>For example, if <b>repeatCount</b> is <b>7</b> and unit is <b>second</b>, then <b>repeatType=second</b> and <b>repeatCount=7</b> sets the Run to repeat every 7 seconds.</p> <p>Example:<br/><b>repeatType=forever</b></p> |
| <b>timeoutType</b> | <p>Specifies Robot behavior if a timeout occurs during a request for response from a URL. The default is <b>abortRun</b>.</p> <ul style="list-style-type: none"> <li>■ <b>abortSession</b>: Specifies to end the session as if the session completed if a timeout occurs.</li> <li>■ <b>abortRun</b>: Specifies to end the run as if the run completed if a timeout occurs.</li> <li>■ <b>ignoreTimeout</b>: Specifies to ignore a timeout and resume requests for response from the next URL on the URL list.</li> </ul> <p>NOTE: The <b>maxTimeoutMS</b> property specifies the amount of time the Robot waits before declaring a timeout.</p> <p>Example:<br/><b>timeoutType=abortRun</b></p>  |
| <b>repeatCount</b> | <p>When <b>repeatType=times</b>, specifies the number of times to repeat the Robot. When <b>repeatType=units</b>, specifies the number of units for the repeat. The default is <b>1</b>.</p> <p>Example:<br/><b>repeatCount=2</b></p>   |
| <b>unitsCount</b>  | <p>When <b>repeatType=units</b>, specifies the number of units for the repeat. The default is <b>5</b>.</p> <p>Example:<br/><b>unitsCount=10</b></p>  |
| <b>simPeriod</b>   | <p>When <b>repeatType=units</b>, specifies the time unit to use for repeats. There is no default setting. Valid values are <b>second</b>, <b>minute</b>, <b>hour</b>, <b>day</b>, <b>week</b>, <b>month</b> and <b>year</b>.</p> <p>Example:<br/><b>simPeriod=minute</b></p>  |

|                            |   |
|----------------------------|---|
| <b>pausePeriod</b>         | <p>Used in conjunction with <b>pauseCount</b>, specifies the time unit to use for pauses between UX Robot runs. There is no default setting. Valid values are <b>second, minute, hour, day, week, month</b> and <b>year</b>. For example, if <b>pausePeriod</b> is set to <b>minutes</b> and <b>pauseCount</b> is set to <b>10</b> the pause between UX Robot runs is 10 minutes.</p> <p>Example:<br/><b>pausePeriod=minute</b></p>     |
| <b>pauseCount</b>          | <p>Used in conjunction with <b>pausePeriod</b>, specifies the number of units to pause between UX Robot runs. There is no default setting. The default is <b>5</b>. For example, if <b>pausePeriod</b> is set to <b>minutes</b> and <b>pauseCount</b> is set to <b>10</b> the pause between UX Robot runs is 10 minutes.</p> <p>Example:<br/><b>pauseCount=5</b></p>  |
| <b>maxTimeoutMS</b>        | <p>Specifies the amount of time to wait, in milliseconds, before declaring a timeout. The default is <b>5</b>.</p> <p>Example:<br/><b>maxTimeoutMS=60000</b></p>  |
| <b>javaScriptTimeoutMS</b> | <p>Specifies the amount of time to wait, in milliseconds, before the javascript declares a timeout. The default is <b>120000</b>.</p> <p>Example:<br/><b>javaScriptTimeoutMS=10000</b></p>  |
| <b>sampleBufferSize</b>    | <p>Specifies the number of data points to show in a display object after which the display object resets. This feature enables you to see typical data points as well as outlier data points. The default is <b>60</b>. This property is useful, for example, with trend graphs. The following figure illustrates <b>sampleBufferSize=10</b>, which specifies to reset the trend graph after 10 data points are shown in the graph.</p> |



The data points in the figure are shown with blue dots. The cursor points to the trend graph reset point (after ten data points). In this example, if **sampleBufferSize** is not specified, the maximum data point trace (the highest point just before the reset) remains drawn high. Let us say you have a URL that typically has data points clustered around 1000-1100. Then the URL spikes to 2197, as illustrated in the figure. The atypical data spike visually overwhelms the typical data points in the graph - the typical data is shown as a tiny sliver at the bottom of the graph.

Example:  
**sampleBufferSize=10**

## Robot Logging Configuration Line

This section describes how to set the logging output level for specific UX Robot processes. You define Robot behavior using the **sl.rtvapm.uxmon.logging.config=** prefix. Do not edit or move the prefix. There are several functional areas for which logging output can be defined independently. By default, the value is **1** for all functional areas. Valid values are:

- **0** = off (no logging)
- **1** = basic
- **2** = verbose
- **3** = garrulous

In your **uxmon.properties** file, locate the Robot Logging Configuration Line. In the following example, note that there is no space between the prefix and the first element, and no word-wrapping:

```
sl.rtvapm.uxmon.logging.config=log4j=robot.log4j.properties uxlog_level=1 uxlog_initialize=1
uxlog_rtvagent=1 uxlog_shutdown=1 uxlog_document=1 uxlog_quitport=1 uxlog_errorsimulate=1
uxlog_capture=1 uxlog_simulate=1 uxlog_useraction=1 uxlog_jmx=1
```

Use the following Robot Logging Configuration Line elements with the **sl.rtvapm.uxmon.logging.config=** prefix to define Robot logging:

|                              |   |
|------------------------------|---|
| <b>log4j</b>                 | Specifies the log4j configuration file.   |
| <b>uxlog_capture</b>         | Specifies the logging level during Capture.   |
| <b>uxlog_document</b>        | Specifies the logging level about the loaded uxmon.properties file.   |
| <b>uxlog_errorsimulate</b>   | Specifies the logging level for generated errors for Capture Robot testing.   |
| <b>uxlog_initialize</b>      | Specifies the logging level for the startup of the UX Robot.  |
| <b>uxlog_jmx</b>             | Specifies the logging level for the UXMJmxAgent, which allows changing of log levels after the UX Robot has started.  |
| <b>uxlog_level</b>           | Specifies the global logging level for all functional areas. If it is set to zero ( <b>0</b> = off), then ALL logging levels on ALL the different settings are turned OFF. The <b>uxlog_level</b> seen as the lowest logging level for all functional areas. Therefore, if <b>uxlog_level= 1</b> but <b>uxlog_simulate=2</b> , the logging level for all functional areas is set to <b>1</b> except <b>uxlog_simulate</b> , which is overridden to level <b>2</b> . |
| <b>uxlog_quitport</b>        | Specifies the logging level of Quit Port for Capture Robot.   |
| <b>uxlog_rtvagent</b>        | Specifies the logging level about the RTVAgent starting and stopping stages of the UX Robot.  |
| <b>uxlog_shutdown</b>        | Specifies the logging level during the UX Robot shutdown. The following are obsolete and will not take any effect.  |
| <b>uxlog_simulate</b>        | Specifies the logging level about the UX Robot behavior at runtime.   |
| <b>uxlog_userinteraction</b> | Specifies the logging level during User Action.   |

## Browser Configuration Line

This section describes how to define the browser to be emulated using the **sl.rtvapm.uxmon.urlrobot.browser=** prefix. The Browser Configuration Line transfers the behavior settings of your chosen browser to the underlying HTMLUnit library Browser. For details about the HTMLUnit library, see HTMLUnit Browser Variables JavaDoc. Do not edit or move the prefix.

Go to <http://whatsmyuseragent.com/> to get information you need about your current browser settings. In your **uxmon.properties** file, locate the Browser Configuration Line. In the following example, note that there is no space between the prefix and the first element, and no word-wrapping:

```
sl.rtvapm.uxmon.urlrobot.browser=applicationName=Netscape applicationVersion='5.0
(Windows) '
userAgent='Mozilla/5.0 (Windows NT 6.1; WOW64; rv:13.0) Gecko/20100101 Firefox/13.0.1'
browserVersionNumeric=1.2
```

Use the **sl.rtvapm.uxmon.urlrobot.browser=** prefix to define Browser Configuration Line elements described in the following table.

NOTE: Also see <http://whatsmyuseragent.com/CommonUserAgents.asp> for a list of common userAgents.

|                              |   |
|------------------------------|---|
| <b>applicationName</b>       | Specifies the name of the browser to emulate. Valid values are <b>Netscape</b> , <b>'Microsoft Internet Explorer'</b> and <b>Chrome</b> . The default is <b>Netscape</b> .<br>Example:<br><b>applicationName=Netscape</b> |
| <b>applicationVersion</b>    | Specifies the browser version number. Valid values are <b>Netscape</b> , <b>'Microsoft Internet Explorer'</b> and <b>Chrome</b> .<br>Example:<br><b>applicationVersion='5.0 (Windows)'</b>                                |
| <b>userAgent</b>             | Specifies the string for the browser. Valid values vary among browsers.<br>Example:<br><b>userAgent='Mozilla/5.0 (Windows NT 6.1; WOW64; rv:24.0) Gecko/20100101 Firefox/24.0'</b>  |
| <b>browserVersionNumeric</b> | Specifies the specific URL address to contact. Valid values vary among browsers.<br>Example:<br><b>browserVersionNumeric=1.2'</b>   |

## URL Configuration Line

This section describes how to define the URLs to be monitored using the **sl.rtvapm.uxmon.urlrobot.url=** prefix. Do not edit or move the prefix.

In your **uxmon.properties** file, locate the URL Configuration Line. In the following example, note that there is no space between the prefix and the first element, and no word-wrapping:

```
sl.rtvapm.uxmon.urlrobot.url=name='EMSMON-1' sortIndex=1 url=http://12.237.62.101/emsmon/
agent=robot01 user=admin pass=admin secure=false searchType=simple searchString='SL RTView - TIBCO
EMS Monitor' searchHTML=false useHTMLForm=true formNameParameter=loginform
formNameParameterType=id userInputElementName=user userInputElementType=id
passwordInputElementName=pwd passwordInputElementType=id buttonInputElementName='OK'
buttonInputElementType=value useCookies=true javascript=false
```

Use the **sl.rtvapm.uxmon.urlrobot.url=** prefix to define Robot Configuration Line elements described in the following table.

|                  |   |
|------------------|---|
| <b>name</b>      | Specifies the name of this URL to be displayed in the Monitor. The default is <b>URL</b> . Choose a recognizable name. Enclose the name with single quotes.<br>Example:<br><b>name='EMSMON-1'</b> |
| <b>sortIndex</b> | Specifies the sort order of this URL. The default is <b>0</b> .<br>Example:<br><b>sortIndex=11</b>  |

|                              |   |
|------------------------------|---|
| <b>url</b>                   | Specifies this URL address. There is no default setting.<br>Example:<br><b>url=http://12.237.62.101/myocm/</b>  |
| <b>agent</b>                 | Specifies the name of the Robot Agent that sends this URL data. There is no default setting.<br>Example:<br><b>agent=robot01</b>  |
| <b>user</b>                  | Specifies the user name for a user logging in while <b>useHTMLForm=true</b> . There is no default setting.<br>Example:<br><b>user=demo</b>  |
| <b>pass</b>                  | Specifies the password for a user logging in while <b>useHTMLForm=true</b> . There is no default setting.<br>Example:<br><b>pass=demo</b>   |
| <b>secure</b>                | This element is not currently supported.  |
| <b>searchType</b>            | Specifies the type of search string. There is no default setting. Valid values are: <ul style="list-style-type: none"> <li>• <b>none</b>: Specifies no search.</li> <li>• <b>simple</b>: Specifies a simple string search.</li> <li>• <b>regular</b>: Specifies a regular expression search.</li> </ul> Example:<br><b>searchType=simple</b>  |
| <b>searchString</b>          | Specifies the string to search for. There is no default setting. Use enclosed single quotes.<br>Example:<br><b>searchString=searchString='SL RTView for Oracle Coherence - Oracle Coherence Monitor'</b>  |
| <b>searchHTML</b>            | Specifies whether to search the HTML returned from the URL or the text after it is converted from HTML/XML. There is no default setting. Valid values are: <ul style="list-style-type: none"> <li>• <b>true</b>: Specifies to search page text before conversion from HTML/XML.</li> <li>• <b>false</b>: Specifies to search page text after conversion from HTML/XML.</li> </ul> Example:<br><b>searchHTML=false</b> |
| <b>useHTMLForm</b>           | Specifies whether to login to the site for this URL using standard HTML encodings. The default is <b>false</b> . This element must be <b>true</b> to <a href="#">"Configure User Login Simulation"</a> .<br>Example:<br><b>useHTMLForm=true</b>   |
| <b>formNameParameter</b>     | If <b>useHTMLForm=true</b> , specifies the name of the login form in the HTML. The default is <b>false</b> .<br>Example:<br><b>formNameParameter=loginform</b>  |
| <b>formNameParameterType</b> | If <b>useHTMLForm=true</b> , specifies the type of form subelement that is used. There is no default setting. Typically, your Web Server returns <b>id</b> , <b>name</b> or <b>value</b> HTML types.<br>Example:<br><b>formNameParameterType=id</b>   |
| <b>userInputElementName</b>  | If <b>useHTMLForm=true</b> , specifies the name of the user element in the HTML. There is no default setting.<br>Example:<br><b>userInputElementName=user</b>   |

|                                 |  |
|---------------------------------|--|
| <b>userInputElementType</b>     | If <b>useHTMLForm=true</b> , specifies the type of user input subelement that is used. There is no default setting. Typically, your Web Server returns <b>id</b> , <b>name</b> or <b>value</b> HTML types.<br>Example:<br><b>userInputElementType=id</b>   |
| <b>passwordInputElementName</b> | If <b>useHTMLForm=true</b> , specifies name of the password element in the HTML. There is no default setting.<br>Example:<br><b>passwordInputElementName=pwd</b>   |
| <b>passwordInputElementType</b> | If <b>useHTMLForm=true</b> , specifies the type of password subelement that is used. There is no default setting. Typically, your Web Server returns <b>id</b> , <b>name</b> or <b>value</b> HTML types.<br>Example:<br><b>passwordInputElementType=id</b> |
| <b>buttonInputElementName</b>   | If <b>useHTMLForm=true</b> , specifies the name of the button subelement in the HTML. There is no default setting. Enclose value in single quotes.<br>Example:<br><b>buttonInputElementName='OK'</b>   |
| <b>buttonInputElementType</b>   | If <b>useHTMLForm=true</b> , specifies the type of button subelement that is used. There is no default setting. Typically, your Web Server returns <b>id</b> , <b>name</b> or <b>value</b> HTML types.<br>Example:<br><b>buttonInputElementType=value</b>  |
| <b>javascript</b>               | Specifies whether to enable Java script for the URL. The default is <b>true</b> . Note: Enabling this can cause URLs to load more slowly.<br>Example:<br><b>javascript=true</b>  |
| <b>useCookies</b>               | Specifies whether to show cookies for the URL in the log file. The default is <b>true</b> .<br>Example:<br><b>useCookies=true</b>  |

## Sample uxmon.properties File

```
#####UX Robot Configuration Sample File #####
# robotmode controls how the app runs: robotmode=URL means run as a URL Robot
#robotmode=OFF and robotmode=CAPTURE are now obsolete.
sl.rtvapm.uxmon.app.config=robotmode=URL agentname=robot01
agentupdateperiod=1000 agentconnect=localhost:4072
#####URL Robot Configuration #####
sl.rtvapm.uxmon.urlrobot.config=repeatType=forever timeoutType=abortRun
repeatCount=2 unitsCount=1 simPeriod=minute pausePeriod=minute pauseCount=1
maxTimeoutMS=60000 javaScriptTimeoutMS=10000 sampleBufferSize=10
#####Logging Configuration #####
# 0 = off, 1 = basic, 2 = verbose, 3 = garrulous
sl.rtvapm.uxmon.logging.config=log4j=robot.log4j.properties uxlog_level=1
uxlog_initialize=1 uxlog_rtvagent=1 uxlog_shutdown=1 uxlog_document=1
uxlog_quitport=1 uxlog_errorsimulate=1 uxlog_capture=1 uxlog_simulate=1
uxlog_useraction=1 uxlog_jmx=1
#####Browser Emulation #####
```

# The best way to use this line is to get the string to send by visiting: <http://whatsmyuseragent.com/> This will show you the userAgent being used by your current browser. Don't miss <http://whatsmyuseragent.com/CommonUserAgents.asp> to see common userAgents.

```
#sl.rtvapm.uxmon.urlrobot.browser=applicationName=Netscape applicationVersion='5.0
(Windows)' userAgent='Mozilla/5.0 (Windows NT 6.1; WOW64; rv:13.0) Gecko/20100101
Firefox/13.0.1' browserVersionNumeric=1.2
```

```
sl.rtvapm.uxmon.urlrobot.browser=applicationName=Netscape applicationVersion='5.0
(Windows)' userAgent='Mozilla/5.0 (Windows NT 6.1; WOW64; rv:24.0) Gecko/20100101
Firefox/24.0' browserVersionNumeric=24.0
```

```
#sl.rtvapm.uxmon.urlrobot.browser=applicationName=Netscape
applicationVersion='Mozilla/5.0 (Windows NT 6.1; WOW64) AppleWebKit/537.36 (KHTML, like
Gecko) Chrome/30.0.1599.69 Safari/537.36' browserVersionNumeric=537.36
```

```
#sl.rtvapm.uxmon.urlrobot.browser=applicationName='Microsoft Internet Explorer'
applicationVersion='Mozilla/5.0 (compatible; MSIE 10.0; Windows NT 6.1; WOW64; Trident/
6.0)' browserVersionNumeric=10.0
```

```
#####URLS #####
```

# The best way to use this file is as a sample to get the UX Robot running. The first URL hits the SL web site and the second show how you might configure a secure URL protected by a user and password login. Simple un-commenting URL "FOO" will result in an error. The URL must be edited to point at a real URL. See the Read Me documents for details.

```
sl.rtvapm.uxmon.urlrobot.url=name='SL' sortIndex=1 url=http://www.sl.com
agent=robot01 searchType=simple searchString='SL Corporation' searchHTML=false
useHTMLForm=false useCookies=true javascript=false
```

```
#sl.rtvapm.uxmon.urlrobot.url=name='FOO' sortIndex=11 url=http://1.2.3.4/foo/
agent=robot01 user=demo pass=demo secure=false searchType=simple searchString='A
phrase on the page' searchHTML=false useHTMLForm=true formNameParameter=loginform
formNameParameterType=id userInputElementName=user userInputElementType=id
passwordInputElementName=pwd passwordInputElementType=id
buttonInputElementName='OK' buttonInputElementType=value useCookies=true
javascript=true
```

## uxmon.sql.properties File

This section describes the database connection properties you configure for the UX Robot in the **uxmon.sql.properties** file. The **uxmon.sql.properties** file is typically located in the **C:\UXRobot** directory.

By default, the UX Robot reads the **uxmon.properties** file. The **uxmon.sql.properties** file defines the UX Robot database connection. This section includes :

- ["Sample uxmon.sql.properties File" on page 903](#): Defines the basic Robot properties such as the Robot name, host name, port number and the amount of time between runs.

Open the file in a text editor and locate the **Database Properties Configuration** section, where the database connection properties reside. Use the **sl.rtview.properties.** prefix to specify database connection properties described in the following table. Note that there is no space between the prefix and the first element, and no word-wrapping. For example:

**sl.rtview.properties.databaseConnectMode=direct**

|                            |   |
|----------------------------|---|
| <b>databaseConnectMode</b> | <p>Specifies the database connection mode. The default is <b>none</b>. Valid values are:</p> <ul style="list-style-type: none"> <li><b>none</b>: Specifies no connection.</li> <li><b>direct</b>: Specifies a direct connection.</li> <li><b>dataserver</b>: Specifies connection via Data Server.</li> </ul> <p><b>Example:</b><br/><b>sl.rtview.properties.databaseConnectMode:direct</b></p>   |
| <b>databaseTable</b>       | <p>Specifies the name of the database table containing the properties. The default is <b>PROP_TABLE</b>.</p> <p><b>Example:</b><br/><b>sl.rtview.properties.databaseTable:mypropertytable</b></p>   |
| <b>dataserver</b>          | <p>Specifies one or more connection strings for connecting the Data Server that is connected to the properties database. Value can be a single connection string or a comma delimited list of connection strings. Connection attempts are made in the order listed until successfully connected.</p> <p><b>Note:</b> The Monitor Data Server port property is specified in the <b>rtview.properties</b> file. For details about the <b>rtview.properties</b> file, see the <i>RTView Enterprise Monitor® User's Guide</i>.</p> <p><b>Format:</b><br/><b>host:port</b> or <b>host:URL</b> (for RTView Data Server). The default is <b>localhost:4078</b>.</p> <p><b>Example:</b><br/><b>dataclient.sl.rtview.dataserver=//localhost:4078</b><br/><b>server.sl.rtview.properties.dataserver=localhost:4078</b></p> <p><b>Example:</b><br/><b>dataserver:localhost:3278,otherhost:3278,http://localhost:8068/rtvdata</b></p> |
| <b>databaseName</b>        | <p>Specifies the name of the database in the Data Server. The default is <b>SAMPLE</b>. The Monitor Data Server port is specified in the <b>rtview.properties</b> file. For details about the <b>rtview.properties</b> file, see the <i>RTView Enterprise Monitor® User's Guide</i>. When <b>sl.rtview.properties.dbConnectionMode</b> is set to <b>database</b>:</p> <p><b>sl.rtview.properties.databaseUser=m</b><br/><b>sl.rtview.properties.databasePassword=foobar</b></p> <p>NOTE: The jar containing this class must be included in the RTV_USERPATH environment variable.</p> <p><b>Example:</b><br/><b>sl.rtview.properties.databaseName:SAMPLE</b></p>  |
| <b>queryTimeOut</b>        | <p>Specifies the number of seconds to wait for the properties query to return. The default is <b>5</b>.</p> <p><b>Example:</b><br/><b>sl.rtview.properties.queryTimeOut=10</b></p>  |
| <b>databaseDriver</b>      | <p>Specifies the fully qualified name of the Java class driver for connecting to the database. The default is <b>org.hsqldb.jdbcDriver</b>.</p> <p>When the <b>sl.rtview.properties.dbConnectionMode</b> property is set to <b>database</b>, the default is <b>com.ibm.db2.jcc.DB2Driver</b>.</p> <p><b>Example:</b><br/><b>sl.rtview.properties.databaseDriver=com.ibm.db2.jcc.DB2Driver</b></p>   |

|                         |   |
|-------------------------|---|
| <b>databaseUrl</b>      | <p>Specifies the URL for connecting to the database. The default is <b>jdbc:hsqldb:hsq://localhost:3390/props;user=SA;password=</b>.</p> <p>When the <b>sl.rtvview.properties.dbConnectionMode</b> property is set to <b>database</b>, the default is <b>jdbc:db2://localhost:50000/SAMPLE</b>.</p> <p><b>Example:</b><br/><b>sl.rtvview.properties.databaseUrl=jdbc:db2://localhost:50000/SAMPLE</b></p>             |
| <b>databaseUser</b>     | <p>Specifies the username for connecting to the database. The default is <b>admin</b>.</p> <p><b>Example:</b><br/><b>sl.rtvview.properties.databaseUser=admin</b></p> <p>When the <b>sl.rtvview.properties.dbConnectionMode</b> property is set to <b>database</b>, the default is <b>m</b>.</p> <p><b>Example:</b><br/><b>sl.rtvview.properties.databaseUser:m</b></p>   |
| <b>databasePassword</b> | <p>Specifies the password for connecting to the database. The password can be encoded. The default is <b>mypass</b>.</p> <p><b>Example:</b><br/><b>sl.rtvview.properties.databasePassword:password</b></p> <p>When the <b>sl.rtvview.properties.dbConnectionMode</b> property is set to <b>database</b>, the default is <b>m</b>.</p> <p><b>Example:</b><br/><b>sl.rtvview.properties.databasePassword:foobar</b></p> |

## Sample uxmon.sql.properties File

```
#####UX Robot Configuration with SQL DB configuration at the end.#####
```

```
# robotmode controls how the app runs: robotmode=URL means run as a URL Robot
#robotmode=OFF and robotmode=CAPTURE are now obsolete.
```

```
sl.rtvapm.uxmon.app.config=robotmode=URL agentname=robot01
agentupdateperiod=1000 agentconnect=localhost:4072
```

```
#####URL Robot Configuration #####
```

```
sl.rtvapm.uxmon.urlrobot.config=repeatType=forever timeoutType=abortRun
repeatCount=2 unitsCount=1 simPeriod=minute pausePeriod=minute pauseCount=1
maxTimeoutMS=60000 javascriptTimeoutMS=10000 sampleBufferSize=10
```

```
#####Logging Configuration #####
```

```
# 0 = off, 1 = basic, 2 = verbose, 3 = garrulous
```

```
sl.rtvapm.uxmon.logging.config=log4j=robot.log4j.properties uxlog_level=1
uxlog_initialize=1 uxlog_rtvagent=1 uxlog_shutdown=1 uxlog_document=1
uxlog_quitport=1 uxlog_errorsimulate=1 uxlog_capture=1 uxlog_simulate=1
uxlog_useraction=1 uxlog_jmx=1
```

```
#####Browser Emulation #####
```

```
#sl.rtvapm.uxmon.urlrobot.browser=applicationName='Microsoft Internet Explorer'
applicationVersion='4.0 (compatible; MSIE 7.0; Windows NT 5.1)' userAgent='Mozilla/4.0
(compatible; MSIE 7.0; Windows NT 5.1)' browserVersionNumeric=7.0
```

```
sl.rtvapm.uxmon.urlrobot.browser=applicationName=Netscape applicationVersion='5.0
(Windows)' userAgent='Mozilla/5.0 (Windows NT 6.1; WOW64; rv:13.0) Gecko/20100101
Firefox/13.0.1' browserVersionNumeric=1.2
```

```
#sl.rtvapm.uxmon.urlrobot.browser=applicationName='Microsoft Internet Explorer'
applicationVersion='5.0 (compatible; MSIE 9.0; Windows NT 6.1; Win64; x64; Trident/5.0;
.NET CLR 2.0.50727; SLCC2; .NET CLR 3.5.30729; .NET CLR 3.0.30729; Media Center PC 6.0;
.NET4.0C; .NET4.0E)' userAgent='Mozilla/5.0 (compatible; MSIE 9.0; Windows NT 6.1;
Win64; x64; Trident/5.0)' browserVersionNumeric=1.2
```

```
#sl.rtvapm.uxmon.urlrobot.browser=applicationName='Microsoft Internet Explorer',
applicationVersion='5.0 (compatible; MSIE 9.0; Windows NT 6.1; WOW64; Trident/5.0;
SLCC2; .NET CLR 2.0.50727; .NET CLR 3.5.30729; .NET CLR 3.0.30729; Media Center PC 6.0;
.NET4.0C; .NET4.0E; BRI/2; InfoPath.2)' userAgent='Mozilla/5.0 (compatible; MSIE 9.0;
Windows NT 6.1; Win64; x64; Trident/5.0)' browserVersionNumeric=1.2
```

```
#####URLS #####
```

# The best way to use this file is as a sample to get the UX Robot running. The first URL hits the SL web site and the second show how you might configure a secure URL protected by a user and password login. Simple un-commenting URL "FOO" will result in an error. The URL must be edited to point at a real URL. See the Read Me documents for details.

```
sl.rtvapm.uxmon.urlrobot.url=name='SL' sortIndex=1 url=http://www.sl.com
agent=robot01 searchType=simple searchString='SL Corporation' searchHTML=false
useHTMLForm=false useCookies=true javascript=false
```

```
#sl.rtvapm.uxmon.urlrobot.url=name='FOO' sortIndex=11 url=http://1.2.3.4/foo/
agent=robot01 user=demo pass=demo secure=false searchType=simple searchString='A
phrase on the page' searchHTML=false useHTMLForm=true formNameParameter=loginform
formNameParameterType=id userInputElementName=user userInputElementType=id
passwordInputElementName=pwd passwordInputElementType=id
buttonInputElementName='OK' buttonInputElementType=value useCookies=true
javascript=true
```

```
#####Database Properties Configuration #####
```

#Connection mode for database properties. This must be one of the following:

# none (don't connect to database)

# direct (connect directly)

# dataserver (connect via Data Server)

```
#sl.rtvapm.uxmon.urlrobot.urlrobot.properties.databaseConnectMode=dataserver
```

```
sl.rtvapm.uxmon.urlrobot.urlrobot.properties.databaseConnectMode=direct
```

```
# The name of the database table containing the properties.
```

```
sl.rtvview.properties.databaseTable=PROP_TABLE
```

```
#####
```

```
#Data Server Connection Properties
```

```
# These properties are used when the sl.rtvview.properties.dbConnectionMode is set to database.
```

```
# One or more connection strings to use to connect to the data server that is connected to the properties
```

```
# database. This can be a single connection or a comma delimited list of connection strings in either
```

```
# the form host:port or URL for rtvdata server. The connections will be tried in order until one succeeds.
```

```
# For example
```

```
#sl.rtvview.properties.dataserver=localhost:3278,otherhost:3278,http://localhost:8068/rtvdata
```

```
sl.rtvview.properties.dataserver=localhost:3278
```

```
# The name of the database connection in the data server.
```

```
sl.rtvview.properties.databaseName=SAMPLE
```

```
# The number of seconds to wait for the properties query to return. It may return faster.
```

```
sl.rtvview.properties.queryTimeOut=10
```

```
#####
```

```
#Direct Connection Properties
```

```
# These properties are used when the sl.rtvview.properties.dbConnectionMode is set to database.
```

```
# The fully qualified name of the driver class to use to connect to the database. Note that
```

```
# the jar containing this class must be included in the RTV_USERPATH environment variable.
```

```
#sl.rtvview.properties.databaseDriver=org.hsqldb.jdbcDriver
```

```
sl.rtvview.properties.databaseDriver=com.ibm.db2.jcc.DB2Driver
```

```
# The URL for connecting to the database.
```

```
#sl.rtvview.properties.databaseUrl=jdbc:hsqldb:hsqldb://localhost:3390/props;user=SA;password=
```

```
sl.rtvew.properties.databaseUrl=jdbc:db2://localhost:50000/SAMPLE
```

```
# The username for connecting to the database.
```

```
sl.rtvew.properties.databaseUser=m
```

```
# The password for connecting to the database.
```

```
#sl.rtvew.properties.databasePassword=013370134501349013420129101291013310134201342
```

```
sl.rtvew.properties.databasePassword=gosl99all
```

---

## UX Monitor Displays

The following Solution Package for UX Monitor. This section includes:

- [“All URLs Table” on page 906](#)
- [“All URLs Monitor” on page 909](#)
- [“URL Summary” on page 911](#)
- [“All Robots Table” on page 915](#)
- [“All Robots Monitor” on page 918](#)
- [“Robot Summary” on page 920](#)

### All URLs Table

View the most up-to-date performance data for all URLs under a single Robot or all Robots in a tabular format. Each row in the table is a different URL. Use this display to quickly identify alerts for any URL in your system, get an overview of how the URLs are performing and compare URL performance between UX Robot runs.

**Row Color Code:**

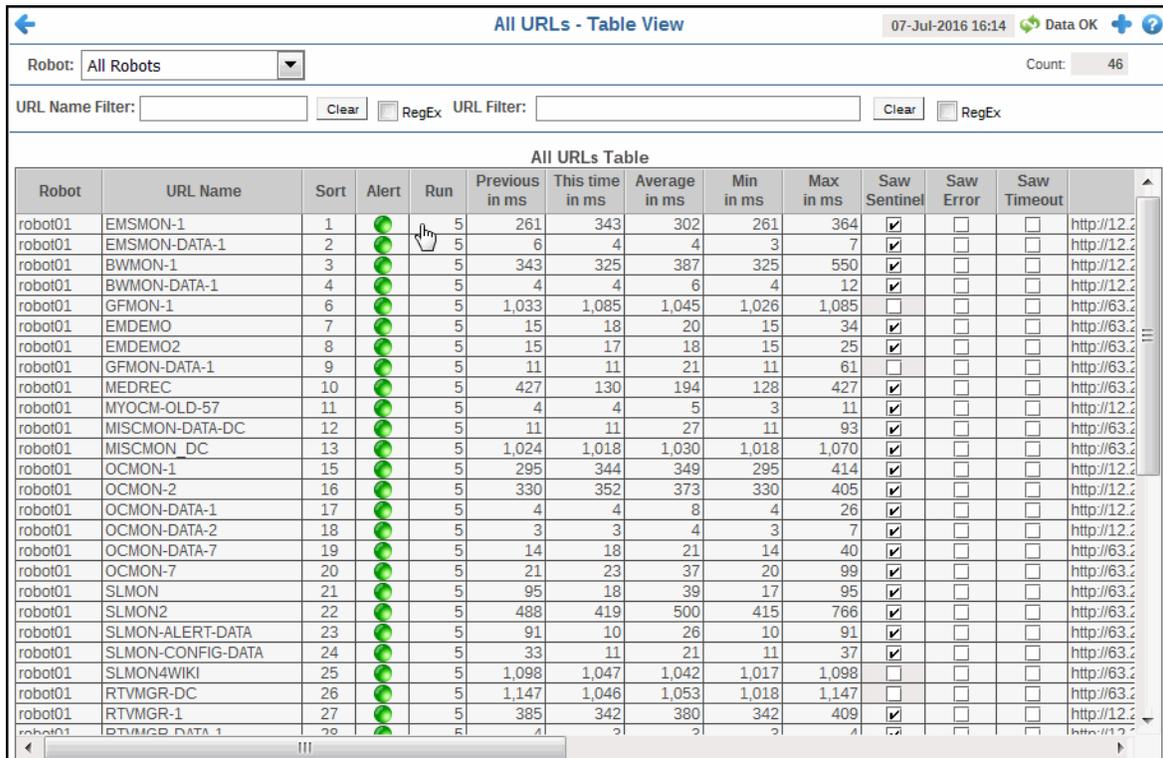
Tables with colored rows indicate the following:

-  Red indicates that one or more alerts exceeded their ALARM LEVEL threshold in the table row.
-  Yellow indicates that one or more alerts exceeded their WARNING LEVEL threshold in the table row.
-  Green indicates that no alerts exceeded their WARNING or ALARM LEVEL threshold in the table row.

Consider keeping this display open to monitor your URLs in general. For example, you can sort the **Alert** column so that all URLs with at least one Alarm Level (red) alert are in the top rows. Also use this to compare UX Robot performance between runs.

For a historical view of all URLs over time, refer to the **All URLs History** display. For a historical view of a single URL over time, refer to the **URL Summary** display.

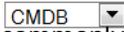
Choose a UX Robot from the **Robot** drop-down menu. Enter a search string in the **URL Filter** field to filter data shown in the table. Use the sort  button to order column data. Drill-down and investigate by clicking a row to view details in the **URL Summary** display.



| Robot   | URL Name          | Sort | Alert | Run | Previous in ms | This time in ms | Average in ms | Min in ms | Max in ms | Saw Sentinel                        | Saw Error                | Saw Timeout              |             |
|---------|-------------------|------|-------|-----|----------------|-----------------|---------------|-----------|-----------|-------------------------------------|--------------------------|--------------------------|-------------|
| robot01 | EMSMON-1          | 1    |       | 5   | 261            | 343             | 302           | 261       | 364       | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | http://12.2 |
| robot01 | EMSMON-DATA-1     | 2    |       | 5   | 6              | 4               | 4             | 3         | 7         | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | http://12.2 |
| robot01 | BWMON-1           | 3    |       | 5   | 343            | 325             | 387           | 325       | 550       | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | http://12.2 |
| robot01 | BWMON-DATA-1      | 4    |       | 5   | 4              | 4               | 6             | 4         | 12        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | http://12.2 |
| robot01 | GFMON-1           | 6    |       | 5   | 1,033          | 1,085           | 1,045         | 1,026     | 1,085     | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | http://63.2 |
| robot01 | EMDEMO            | 7    |       | 5   | 15             | 18              | 20            | 15        | 34        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | http://63.2 |
| robot01 | EMDEMO2           | 8    |       | 5   | 15             | 17              | 18            | 15        | 25        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | http://63.2 |
| robot01 | GFMON-DATA-1      | 9    |       | 5   | 11             | 11              | 21            | 11        | 61        | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | http://63.2 |
| robot01 | MEDREC            | 10   |       | 5   | 427            | 130             | 194           | 128       | 427       | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | http://63.2 |
| robot01 | MYOCM-OLD-57      | 11   |       | 5   | 4              | 4               | 5             | 3         | 11        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | http://12.2 |
| robot01 | MISCMON-DATA-DC   | 12   |       | 5   | 11             | 11              | 27            | 11        | 93        | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | http://63.2 |
| robot01 | MISCMON_DC        | 13   |       | 5   | 1,024          | 1,018           | 1,030         | 1,018     | 1,070     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | http://63.2 |
| robot01 | OCMON-1           | 15   |       | 5   | 295            | 344             | 349           | 295       | 414       | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | http://12.2 |
| robot01 | OCMON-2           | 16   |       | 5   | 330            | 352             | 373           | 330       | 405       | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | http://12.2 |
| robot01 | OCMON-DATA-1      | 17   |       | 5   | 4              | 4               | 8             | 4         | 26        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | http://12.2 |
| robot01 | OCMON-DATA-2      | 18   |       | 5   | 3              | 3               | 4             | 3         | 7         | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | http://12.2 |
| robot01 | OCMON-DATA-7      | 19   |       | 5   | 14             | 18              | 21            | 14        | 40        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | http://63.2 |
| robot01 | OCMON-7           | 20   |       | 5   | 21             | 23              | 37            | 20        | 99        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | http://63.2 |
| robot01 | SLMON             | 21   |       | 5   | 95             | 18              | 39            | 17        | 95        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | http://63.2 |
| robot01 | SLMON2            | 22   |       | 5   | 488            | 419             | 500           | 415       | 766       | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | http://63.2 |
| robot01 | SLMON-ALERT-DATA  | 23   |       | 5   | 91             | 10              | 26            | 10        | 91        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | http://63.2 |
| robot01 | SLMON-CONFIG-DATA | 24   |       | 5   | 33             | 11              | 21            | 11        | 37        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | http://63.2 |
| robot01 | SLMON4WIKI        | 25   |       | 5   | 1,098          | 1,047           | 1,042         | 1,017     | 1,098     | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | http://63.2 |
| robot01 | RTVMGR-DC         | 26   |       | 5   | 1,147          | 1,046           | 1,053         | 1,018     | 1,147     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | http://63.2 |
| robot01 | RTVMGR-1          | 27   |       | 5   | 385            | 342             | 380           | 342       | 409       | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | http://12.2 |
| robot01 | RTVMGR-DATA-1     | 28   |       | 5   | 4              | 4               | 5             | 3         | 11        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | http://12.2 |

**Title Bar:**

Indicators and functionality might include the following:

  Open the previous and upper display.  
 and  navigate to displays commonly accessed from this display.

 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 Cts: 3,047 The number of items in the display.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

**Filter By:**

The display might include these filtering options:

**Robot** Choose a Robot to see metrics for.

**URL Name Filter:** Enter a (case-sensitive) string to search for.

**Clear** Clears the **Filter** text entry and filtered search results in the table.

**Regex** Check to toggle the **Filter** field to accept Regular Expressions for filtering.

|                    |  |
|--------------------|--|
| <b>URL Filter:</b> | Enter a (case-sensitive) string to search for.                                       |
| <b>Clear</b>       | Clears the <b>Filter</b> text entry and filtered search results in the table.        |
| <b>Regex</b>       | Check to toggle the <b>Filter</b> field to accept Regular Expressions for filtering. |

### Fields and Data

This display includes:

|                        |  |
|------------------------|--|
| <b>Count</b>           | The number of rows currently in the table.   |
| <b>URL Name Filter</b> | Enter a string to search in the <b>URL Name</b> table column, then click <b>Enter</b> . Only rows with <b>URL Name</b> columns containing the matching search string are shown in the table. |
| <b>Clear</b>           | Removes entries in the <b>URL Name Filter</b> field and filter results in the table.   |
| <b>Regex</b>           | Check to toggle the <b>Filter</b> field to accept Regular Expressions for filtering.   |
| <b>URL Filter</b>      | Enter a string to search in the <b>URL</b> table column, then click <b>Enter</b> . Only rows with <b>URL</b> columns containing the matching search string are shown in the table.           |
| <b>Clear</b>           | Removes entries in the <b>URL Filter</b> field and filter results in the table.  |
| <b>Regex</b>           | Check to toggle the <b>Filter</b> field to accept Regular Expressions for filtering.   |

### All URLs Table

Each row in the table is a different URL. Data in the row columns describe the run for the URL.

|                        |  |
|------------------------|--|
| <b>Robot</b>           | The name of the UX Robot that is sending these statistics. (For details, see <b>agentname</b> in the <b>uxmon.properties</b> file.)  |
| <b>URL Name</b>        | The nickname of the URL where the alert data originated.   |
| <b>Sort</b>            | This is the <b>sortIndex</b> column in the URL Configuration Line and can be used to by the administrator to define the sort order for URLs in the URL Configuration Line (of the configuration file). This is useful when you do NOT want the sort order defined by the alphabetical sort or the Alert Severity sort. The table sorted in this way is closest to the order in the <b>uxmon.properties</b> file."  |
| <b>Alert</b>           | The severity level of any open alert. Values range from <b>0</b> to <b>2</b> , where <b>2</b> is the greatest Severity:<br> One or more alerts exceeded their ALARM LEVEL threshold for the URL.<br> One or more alerts exceeded their WARNING LEVEL threshold for the URL.<br> No alert thresholds have been exceeded for the URL. |
| <b>Run</b>             | The count number of the Robot run in the sequence. The Robot runs in a loop that is controlled by the <b>repeatType</b> property. If the Robot is set to repeat then each time it begins with the first URL and the run count is incremented.  |
| <b>Previous in ms</b>  | The amount of time, in milliseconds, for the last completed URL connection. A Robot process can include connecting to one or more URLs, logging on to a web page and performing a search using a specified search string.  |
| <b>This time in ms</b> | The amount of time, in milliseconds, for the most recently completed URL connection. A Robot process can include connecting to one or more URLs, logging on to a web page and performing a search using a specified search string.   |
| <b>Average in ms</b>   | The average amount of time in this session of Robot runs, in milliseconds, for the URL to complete the process specified by the UX Robot.  |
| <b>Min in ms</b>       | The least amount of time in this session of Robot runs, in milliseconds, for the URL to complete the process specified by the UX Robot.  |
| <b>Max in ms</b>       | The most amount of time in this session of Robot runs, in milliseconds, for the URL to complete the process specified by the UX Robot.   |

|                          |  |
|--------------------------|--|
| <b>Saw Sentinel</b>      | When checked ( <b>true</b> ), the Robot found the specified search string (the sentinel, which is specified in the configuration file) after contact with the specified URL (and logging in to the page if log in is also specified in the configuration file). Searching for a Search String or Sentinel is optional. You configure this option in the <b>uxmon.properties</b> file by setting <b>searchType=simple</b> or <b>searchType=regular</b> . No search occurs if <b>searchType=none</b> . |
| <b>Saw Error</b>         | When checked ( <b>true</b> ), the Robot encountered one or more errors while engaged with the URL. Errors can be of many different types ranging from lack of response to the attempt to contact the URL to server error.  |
| <b>Saw Timeout</b>       | When checked ( <b>true</b> ), the Robot encountered a connection timeout while engaged with the URL. Note that your administrator can adjust the amount of time for the timeout.   |
| <b>URL</b>               | The fully qualified address for the URL the Robot is testing.  |
| <b>Response End Time</b> | The exact time that the URL finished responding.   |
| <b>Expired</b>           | When checked ( <b>true</b> ), the Robot has not received a response from the URL for the amount of time specified. (The <b>\$uxRowExpirationTime</b> property specifies the time and is set in the <b>rtvapm.uxmon.properties</b> file.)   |
| <b>Time Stamp</b>        | The time the last data was delivered.  |

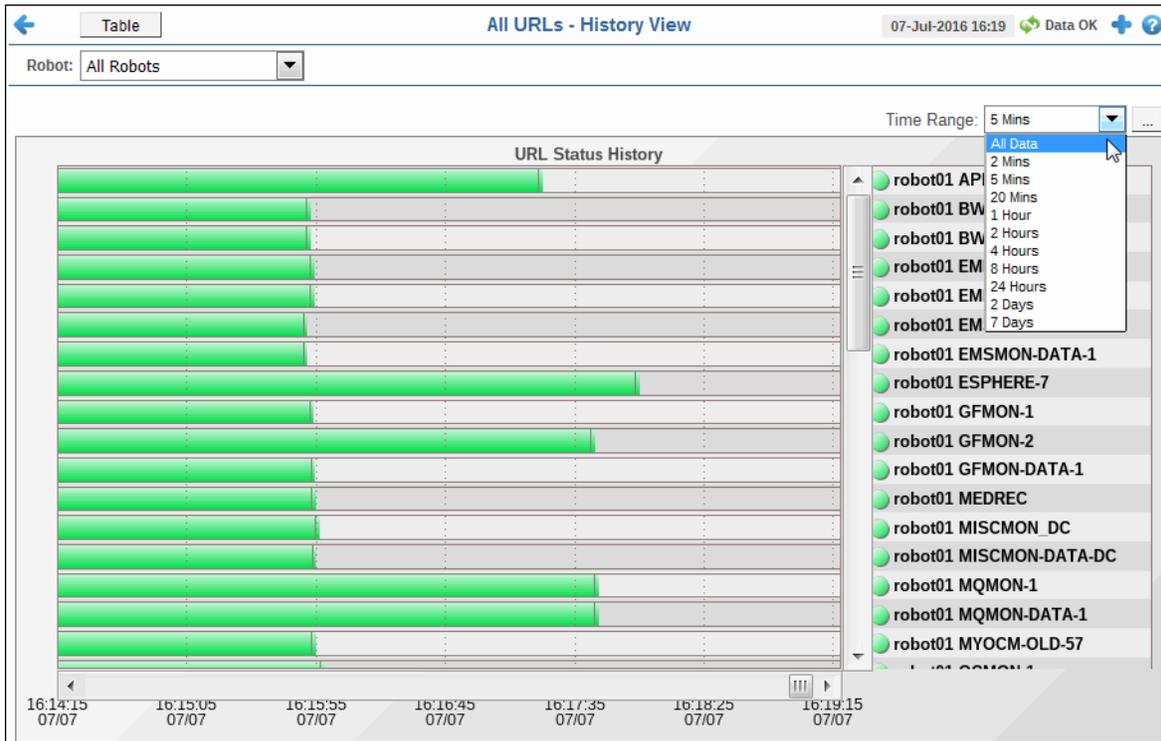
## All URLs Monitor

View historical performance data over time for all URLs in one or all Robots in a status history object. This display also shows the current and historical alert status of the URLs. Each row in the status history object is a different URL. Each column represents a time period. A darker color indicates heavier usage, a lighter color indicates lighter usage.

Use this display to monitor URL performance and determine whether URLs encounter alerts during certain periods of time. Observe utilization trends for your entire system. Analyze load distribution, check for bottlenecks and identify URLs with high usage. You can also answer questions such as, Is the web page using what I expect? Is the system using it across URLs in a uniform scale? If there is an issue, mouse-over the heatmap to see when the issue started, what behavior preceded it, and the name of the resource.

Choose one or **All Robots** from the **Robot** drop-down menu to filter display data. Change the **Time Range** to "zoom in" on the graph and see more detail or "zoom out" from the graph to see larger trends over time. To change the time range click Open Calendar , choose the date and time, then click **OK**.

Drill-down and investigate by clicking a row in the table to view details for the URL in the **URL Summary** display.



**Title Bar:**

Indicators and functionality might include the following:

- Open the previous and upper display.
- and navigate to displays commonly accessed from this display.
- The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
- The number of items in the display.

- The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- Open the **Alert Views - RTView Alerts Table** display.
- Open an instance of this display in a new window.
- Open the online help page for this display.

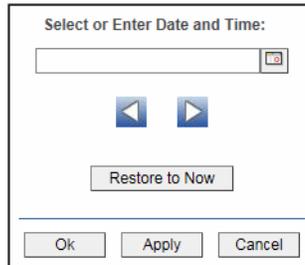
**Color Code:**

Row color indicates the following:

- Red indicates that one or more alerts exceeded their ALARM LEVEL threshold in the row.
- Yellow indicates that one or more alerts exceeded their WARNING LEVEL threshold in the row.
- Green indicates that no alerts exceeded their WARNING or ALARM LEVEL threshold in the row.

**Time Range**

Select a time range from the drop down menu varying from 2 Minutes to Last 7 Days, or display All Data. By default, the time range end point is the current time.



To change the time range for the graph, click Open Calendar , choose the date and time, then click **OK**. Or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the Time Range drop-down menu.

Click Restore to Now to reset the time range end point to the current time.

**URL Summary**

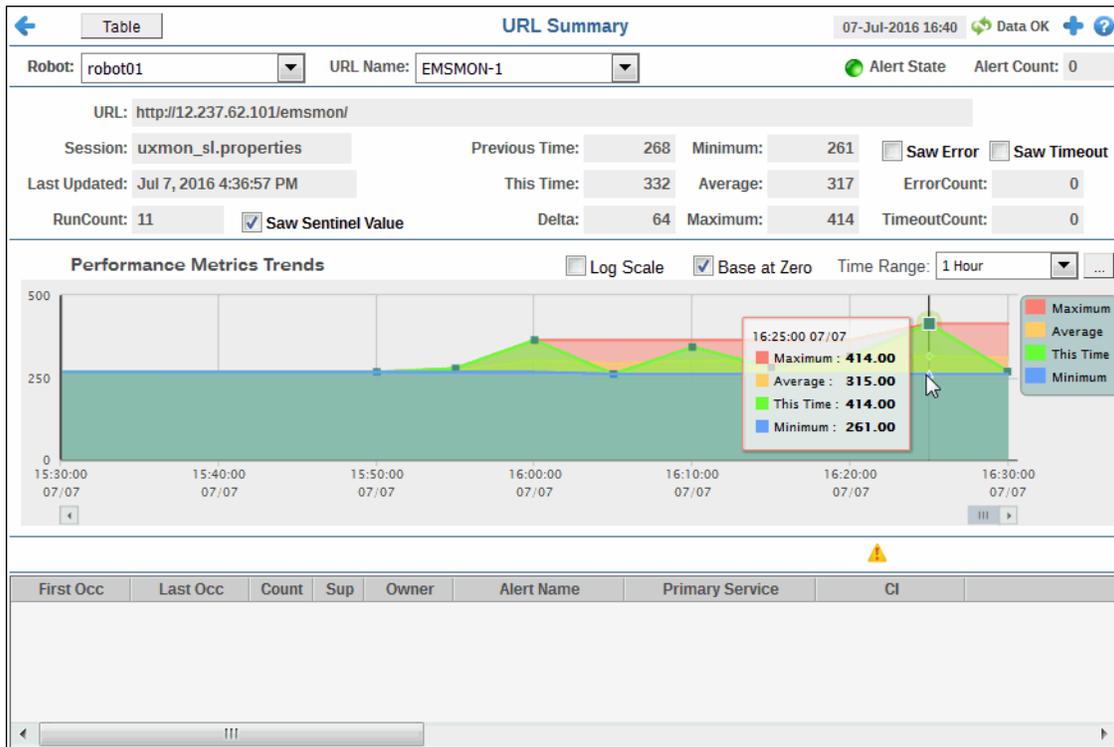
View historical and current performance and alert data, over time, for a single URL in a trend graph. This display shows all the current and historical alerts for the URL. Each trace in the trend graph is a different measurement of the UX Robot results for the URL - the **Maximum**, **Average, This Time** and **Minimum**. This display shows the data for the selected URL that is shown in the **All URLs** display table.

Use this display to monitor the performance of a URL and see details about the alerts it encounters.

Choose a **UX Robot** and a **URL Name** from the drop-down menus to filter display data. Move the bar at the base of the graph to time to see values for specific times. Change the **Time Range** to "zoom in" on the graph and see more detail or "zoom out" from the graph to see larger trends over time. To change the time range click Open Calendar , choose the date and time, then click **OK**.

For a historical view of all URLs over time, refer to the **All URLs History** display.

Use the sort  button to order column data.



**Title Bar:**

Indicators and functionality might include the following:

-   Open the previous and upper display.  and  navigate to displays commonly accessed from this display.
-  The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
-  The number of items in the display.

-  **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
-  Open the **Alert Views - RTView Alerts Table** display.
-  Open an instance of this display in a new window.
-  Open the online help page for this display.

**Fields and Data**

This display includes:

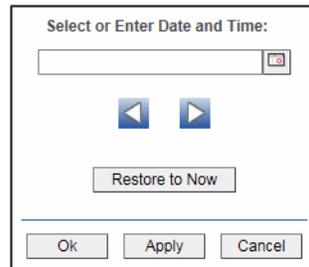
- Alert State** Indicates the greatest severity level of all open alerts for this URL:
  -  Red indicates that one or more alerts exceeded their ALARM LEVEL threshold.
  -  Yellow indicates that one or more alerts exceeded their WARNING LEVEL threshold.
  -  Green indicates that no alerts exceeded their WARNING or ALARM LEVEL threshold.
  -  Gray indicates that the alert engine that is hosting the alert is not connected, not enabled or not initialized. When you select a gray row the **Own**, **Suppress**, **Unsuppress**, **Close**, **Annotate**, **Options** and **Details** buttons are disabled.
- Alert Count** The number of open alerts for the selected URL.
- URL** The URL address.

|                           |  |
|---------------------------|--|
| <b>Session</b>            | The filename from which the Robot started.   |
| <b>Last Updated</b>       | The date and time that the Robot last sent data.   |
| <b>RunCount</b>           | The number of runs made by the UX Robot since it started.  |
| <b>Saw Sentinel Value</b> | When checked ( <b>true</b> ), the Robot found the specified search string (the sentinel, which is specified in the configuration file) after contact with the specified URL (and logging in to the page if log in is also specified in the configuration file). It might also optionally look for a search string called a Sentinel. |
| <b>Previous Time</b>      | The amount of time, in milliseconds, for the last completed Robot run to complete the Robot process specified. A Robot process can include connecting to one or more URLs, logging on to a web page and performing a search using a specified search string.   |
| <b>This Time</b>          | The amount of time, in milliseconds, for the most recently completed Robot run to complete the Robot process specified. A Robot process can include connecting to one or more URLs, logging on to a web page and performing a search using a specified search string.  |
| <b>Delta</b>              | The time difference, in milliseconds, between the latest and previous Robt runs.   |
| <b>Minimum</b>            | The least amount of time in this session of Robot runs, in milliseconds, for the URL to complete the process specified by the UX Robot.  |
| <b>Average</b>            | The average amount of time in this session of Robot runs, in milliseconds, for the URL to complete the process specified by the UX Robot.  |
| <b>Maximum</b>            | The most amount of time in this session of Robot runs, in milliseconds, for the URL to complete the process specified by the UX Robot.   |
| <b>Saw Error</b>          | When checked ( <b>true</b> ), the Robot encountered one or more errors while engaged with the URL. Errors can be of many different types ranging from lack of response to the attempt to contact the URL to server error.  |
| <b>Saw Timeout</b>        | When checked ( <b>true</b> ), the Robot encountered a connection timeout while engaged with the URL. Note that your administrator can adjust the amount of time for the timeout.   |
| <b>Error Count</b>        | Indicates whether the Robot encountered an error:<br><b>0</b> = No error encountered.<br><b>1</b> = Error encountered.   |
| <b>Timeout Count</b>      | Indicates whether the Robot encountered a timeout error:<br><b>0</b> = No timeout error encountered.<br><b>1</b> = Error encountered.  |

### Performance Metrics Trends

|                     |  |
|---------------------|--|
| <b>Log Scale</b>    | Select to enable a logarithmic scale. Use Log Scale to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. Log Scale makes data on both scales visible by applying logarithmic values rather than actual values to the data. |
| <b>Base At Zero</b> | Select to use zero as the Y axis minimum for all graph traces.   |
| <b>Time Range</b>   |  |

Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

### Performance Metrics Trends

|                  |  |
|------------------|--|
| <b>Maximum</b>   | Traces the most amount of time in this session of Robot runs, in milliseconds, for the URL to complete the process specified by the UX Robot.  |
| <b>Average</b>   | Traces the average amount of time in this session of Robot runs, in milliseconds, for the URL to complete the process specified by the UX Robot.   |
| <b>This Time</b> | Traces the amount of time, in milliseconds, for the most recently completed Robot run to complete the Robot process specified. A Robot process can include connecting to one or more URLs, logging on to a web page and performing a search using a specified search string. |
| <b>Minimum</b>   | Traces the least amount of time in this session of Robot runs, in milliseconds, for the URL to complete the process specified by the UX Robot.   |

### Alerts Table

This table lists all open, unsuppressed alerts associated with the selection in the display. Each row in the table is a different active alert. Use the sort  button to order column data. The row color indicates the following:

-  Red indicates that one or more alerts exceeded their ALARM LEVEL threshold in the table row.
-  Yellow indicates that one or more alerts exceeded their WARNING LEVEL threshold in the table row.
-  Green indicates that no alerts exceeded their WARNING or ALARM LEVEL threshold in the table row.
-  Gray indicates that the alert engine that is hosting the alert is not connected, not enabled or not initialized.

 Opens the **Alerts Table** display in a new window.

|                        |   |
|------------------------|---|
| <b>First Occ</b>       | The date and time the alert first occurred.   |
| <b>Last Occ</b>        | The date and time the alert last occurred.  |
| <b>Count</b>           | The number of times the alert was generated.  |
| <b>Sup</b>             | When checked, the alert has been suppressed by a user.                                  |
| <b>Owner</b>           | The named owner assigned by the administrator.  |
| <b>Alert Name</b>      | The name of the alert.  |
| <b>Primary Service</b> | The name of the Service with which the alert is associated.                             |
| <b>CI</b>              | The CI alert source.  |
| <b>Alert Text</b>      | Description of the alert.   |
| <b>AlertClass</b>      | An optional alert field which can be used when integrating with other alerting systems. |
| <b>CompID</b>          | An optional alert field which can be used when integrating with other alerting systems. |
| <b>TicketID</b>        | An optional alert field which can be used when integrating with other alerting systems. |
| <b>TicketGroup</b>     | An optional alert field which can be used when integrating with other alerting systems. |

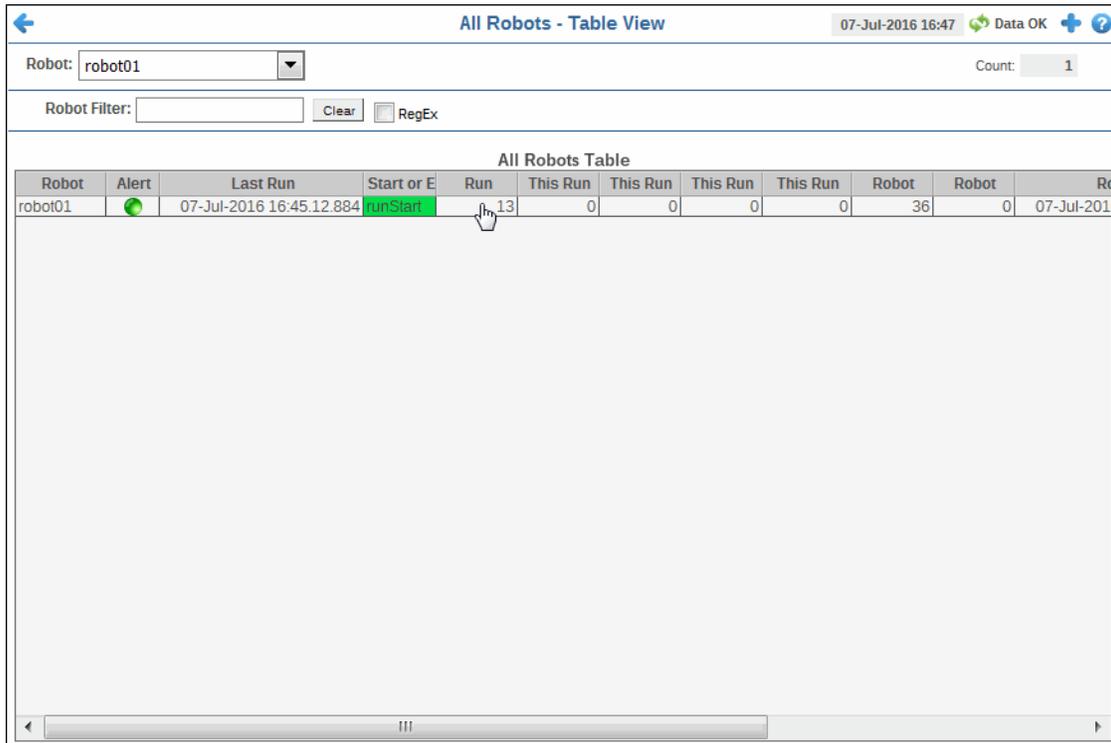
## All Robots Table

View the most up-to-date performance data for one or all Robots in a tabular format. Each row in the table is a different Robot. Use this display to quickly identify alerts for any Robot in your system, get an overview of how the Robots are performing and compare Robot performance between UX Robot runs.

Consider keeping this display open to monitor your Robots in general. For example, you can sort the **Alert** column so that all URLs with at least one Alarm Level (red) alert are in the top rows. Also use this to compare Robot performance between runs.

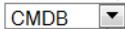
For a historical view of Robots over time, refer to the **All Robots History** display. For a historical view of a single URL over time, refer to the **Robot Summary** display.

Choose a UX Robot from the **Robot** drop-down menu. Enter a search string in the **Robot Filter** field to filter data shown in the table. Use the sort  button to order column data. Drill-down and investigate by clicking a row to view details in the **All Robots Monitor** display.



**Title Bar:**

Indicators and functionality might include the following:

  Open the previous and upper display.  
 and  navigate to displays commonly accessed from this display.

 **19-Feb-2014 16:50** The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

 **Cts: 3,047** The number of items in the display.

 **Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

 Open the **Alert Views - RTView Alerts Table** display.

 Open an instance of this display in a new window.

 Open the online help page for this display.

**Row Color Code:**

Tables with colored rows indicate the following:

-  Red indicates that one or more alerts exceeded their ALARM LEVEL threshold in the table row.
-  Yellow indicates that one or more alerts exceeded their WARNING LEVEL threshold in the table row.
-  Green indicates that no alerts exceeded their WARNING or ALARM LEVEL threshold in the table row.

**Filter By:**

The display might include these filtering options:

**Robot** Choose a robot to see metrics for.

|                      |  |
|----------------------|--|
| <b>Robot Filter:</b> | Enter a (case-sensitive) string to search for.                                       |
| <b>Clear</b>         | Clears the <b>Filter</b> text entry and filtered search results in the table.        |
| <b>Regex</b>         | Check to toggle the <b>Filter</b> field to accept Regular Expressions for filtering. |

### Fields and Data

This display includes:

|              |  |
|--------------|--|
| <b>Count</b> | The number of rows currently in the table.   |
| <b>Regex</b> | Check to toggle the <b>Filter</b> field to accept Regular Expressions for filtering. |

### All Robots Table

|   |   |
|---|---|
| <b>Robot</b>                            | The name of the UX Robot that is sending these statistics. (For details, see <b>agentname</b> in the <b>uxmon.properties</b> file.)   |
| <b>Alert</b>                            | Indicates the greatest severity level of all open alerts for this Robot: <ul style="list-style-type: none"> <li><span style="color: red;">●</span> Red indicates that one or more alerts exceeded their ALARM LEVEL threshold.</li> <li><span style="color: yellow;">●</span> Yellow indicates that one or more alerts exceeded their WARNING LEVEL threshold.</li> <li><span style="color: green;">●</span> Green indicates that no alerts exceeded their WARNING or ALARM LEVEL threshold.</li> <li><span style="color: gray;">●</span> Gray indicates that the alert engine that is hosting the alert is not connected, not enabled or not initialized.</li> </ul> Start or End of Run |
| <b>Last Run</b>                         | The time, in Java format, the last run started.   |
| <b>Start or End of Run</b>              | Indicates whether a Robot is in progress or paused. This column name is <b>runStart</b> if a run is in progress and <b>runEnd</b> if the last run ended and the UX Robot is pausing before beginning the next run.  |
| <b>Run</b>                              | The number of the Robot run that was performed last.  |
| <b>This Run Total MS</b>                | If the Robot is in progress ( <b>runStart</b> ), the amount of time, in milliseconds, for all URLs to complete their specified process during this run. If the Robot is paused ( <b>runEnd</b> ) the value is zero ( <b>0</b> ). While in the middle of the run, no count is possible.  |
| <b>This Run</b>                         | The total number of errors seen for all URLs during this run or zero (0) if <b>runStart</b> . A count occurs only after a run completes.  |
| <b>This Run Timeouts</b>                | The total number of timeouts the Robot encountered for all URLs during this run. If the Robot is in progress ( <b>runStart</b> ) the value is zero ( <b>0</b> ). While in the middle of the run, no count is possible.  |
| <b>This Run Missed Search Sentinels</b> | The total number of Missed Search Sentinels the Robot encountered for all URLs during this run. If the Robot is in progress ( <b>runStart</b> ) the value is zero ( <b>0</b> ). While in the middle of the run, no count is possible.   |
| <b>Robot</b>                            | The total number of errors seen for all URLs for all runs so far this session.  |
| <b>Robot Overall Errors</b>             | The total number of timeouts the Robot encountered for all URLs during this session. If the Robot is in progress ( <b>runStart</b> ) the value is zero ( <b>0</b> ).  |
| <b>Robot Overall Start Time</b>         | The time the Robot session started.   |
| <b>Expired</b>                          | When checked ( <b>true</b> ), the Robot encountered a connection timeout while engaged with the URL. Note that your administrator can adjust the amount of time for the timeout (see the <b>\$uxRowExpirationTime</b> property in the <b>rtvapm.uxmon.properties</b> file).   |
| <b>Time Stamp</b>                       | The time the last data was delivered for either <b>runStart</b> or <b>runEnd</b> .  |

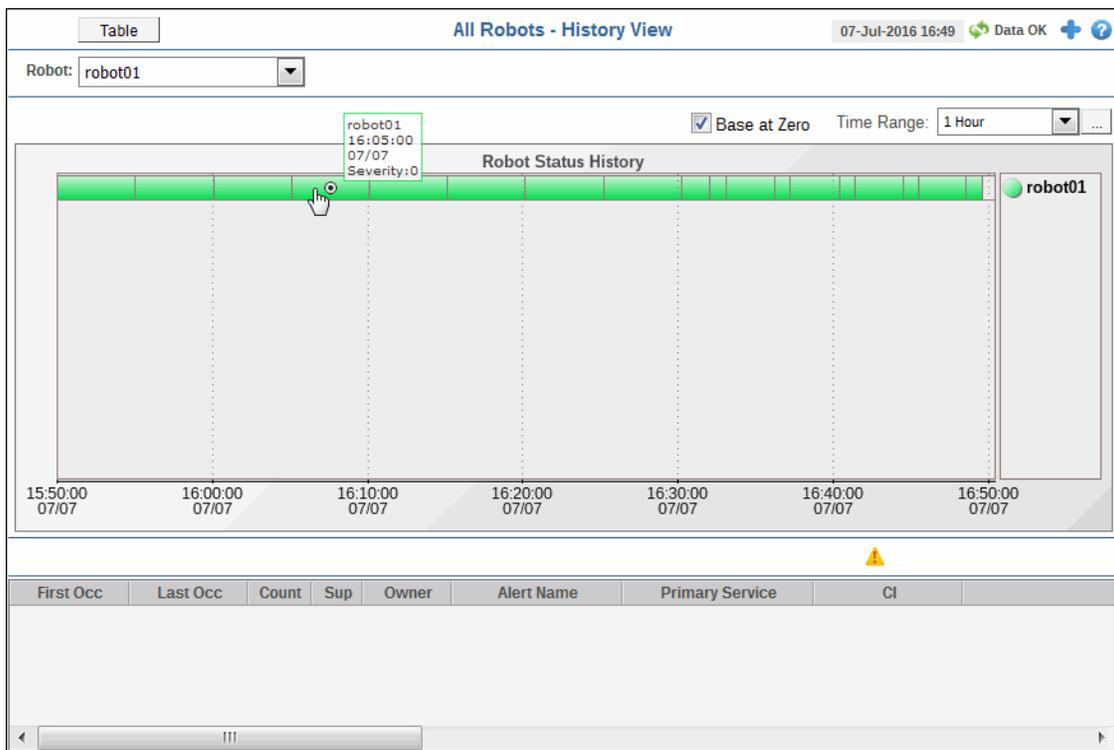
## All Robots Monitor

View historical performance data over time for one or all Robots in a status history object. This display also shows the current and historical alert status of the Robots. Each row in the status history object is a different Robot. Each column represents a time period. A darker color indicates heavier usage, a lighter color indicates lighter usage.

Use this display to monitor Robot performance identify whether Robots encounter alerts during certain periods of time. Observe utilization trends for your entire system. Analyze load distribution, check for bottlenecks and identify URLs with high usage. You can also answer questions such as, Is the web page using what I expect? Is the system using it across URLs in a uniform scale? If there is an issue, mouse-over the heatmap to see when the issue started, what behavior preceded it, and the name of the resource.

Choose one or **All Robots** from the **Robot** drop-down menu to filter display data. Change the **Time Range** to “zoom in” on the graph and see more detail or “zoom out” from the graph to see larger trends over time. To change the time range click Open Calendar , choose the date and time, then click **OK**. Drill-down and investigate by clicking a row to view details in the **Robot Summary** display.

Enter a (case-sensitive) string in the **Robot Filter** to perform search. Click **Clear** to clear the **Robot Filter** string and filtered search results in the table.



**Title Bar:**

Indicators and functionality might include the following:



Open the previous and upper display. **CMDB** and **Table** navigate to displays commonly accessed from this display.

19-Feb-2014 16:50

The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Cls: 3,047

The number of items in the display.



**Data OK** The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.



Open the **Alert Views - RTView Alerts Table** display.



Open an instance of this display in a new window.



Open the online help page for this display.

**Color Code:**

Row color indicates the following:



Red indicates that one or more alerts exceeded their ALARM LEVEL threshold in the row.



Yellow indicates that one or more alerts exceeded their WARNING LEVEL threshold in the row.



Green indicates that no alerts exceeded their WARNING or ALARM LEVEL threshold in the row.

**Fields and Data**

This display includes:

**Base At Zero**

Select to use zero as the Y axis minimum for all graph traces.

**Time Range**

Select a time range from the drop down menu varying from 2 Minutes to Last 7 Days, or display All Data. By default, the time range end point is the current time.

To change the time range for the graph, click Open Calendar , choose the date and time, then click **OK**. Or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the Time Range drop-down menu.

Click Restore to Now to reset the time range end point to the current time.

### Alerts Table

This table lists all open, unsuppressed alerts associated with the selection in the display. Each row in the table is a different active alert. Use the sort  button to order column data. The row color indicates the following:

-  Red indicates that one or more alerts exceeded their ALARM LEVEL threshold in the table row.
-  Yellow indicates that one or more alerts exceeded their WARNING LEVEL threshold in the table row.
-  Green indicates that no alerts exceeded their WARNING or ALARM LEVEL threshold in the table row.
-  Gray indicates that the alert engine that is hosting the alert is not connected, not enabled or not initialized.

 Opens the **Alerts Table** display in a new window.

|                        |   |
|------------------------|---|
| <b>First Occ</b>       | The date and time the alert first occurred.   |
| <b>Last Occ</b>        | The date and time the alert last occurred.  |
| <b>Count</b>           | The number of times the alert was generated.  |
| <b>Sup</b>             | When checked, the alert has been suppressed by a user.                                  |
| <b>Owner</b>           | The named owner assigned by the administrator.  |
| <b>Alert Name</b>      | The name of the alert.  |
| <b>Primary Service</b> | The name of the Service with which the alert is associated.                             |
| <b>CI</b>              | The CI alert source.  |
| <b>Alert Text</b>      | Description of the alert.   |
| <b>AlertClass</b>      | An optional alert field which can be used when integrating with other alerting systems. |
| <b>CompID</b>          | An optional alert field which can be used when integrating with other alerting systems. |
| <b>TicketID</b>        | An optional alert field which can be used when integrating with other alerting systems. |
| <b>TicketGroup</b>     | An optional alert field which can be used when integrating with other alerting systems. |

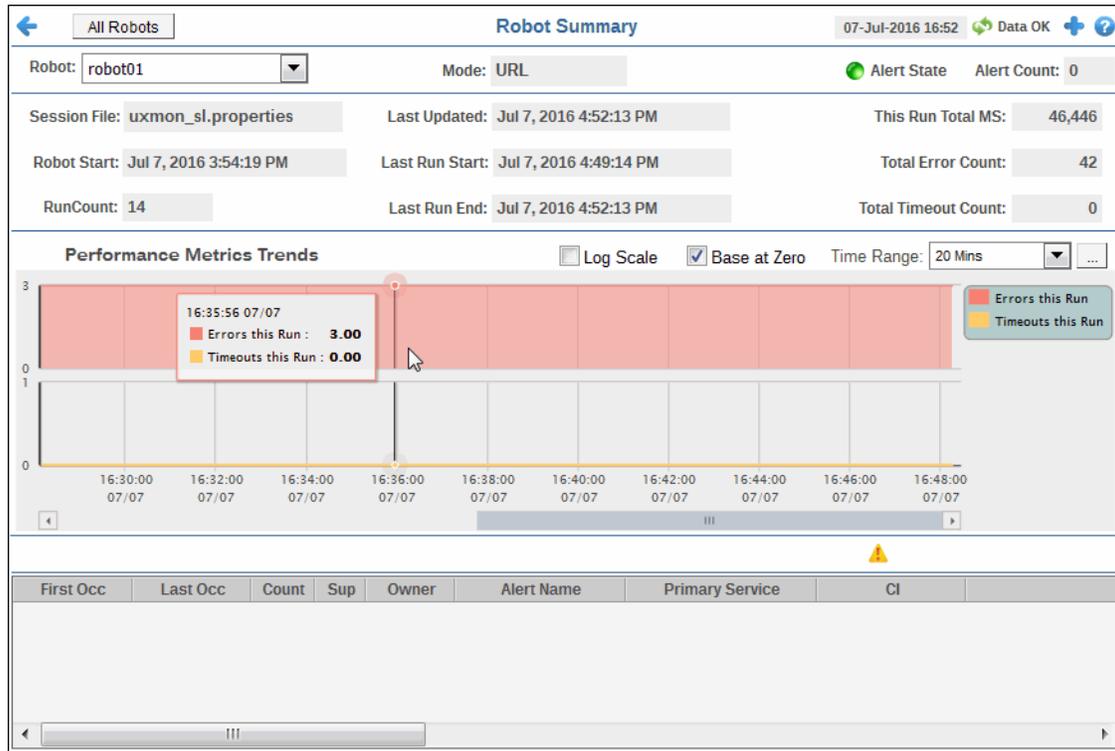
### Robot Summary

View historical and current performance and alert data, over time, for a single Robot in a trend graph. This display shows all the current and historical alerts for the Robot. Each trace in the trend graph is a different measurement of the UX Robot results for the Robot - the **Errors this Run** and **Timeouts this Run**. This display shows the data for the selected Robot that is shown in the **All Robots Table** display.

Use this display to monitor the performance of a Robot and see details about the alerts it encounters.

Choose a UX Robot from the **Robot** drop-down menus to filter display data. Move the bar at the base of the graph to time to see values for specific times. Change the **Time Range** to “zoom in” on the graph and see more detail or “zoom out” from the graph to see larger trends over time. To change the time range click Open Calendar , choose the date and time, then click **OK**.

For a historical view of all Robots over time, refer to the **All Robots History** display.



**Title Bar:**

Indicators and functionality might include the following:

- ← ↑ Open the previous and upper display.
- CMDB and Table navigate to displays commonly accessed from this display.
- 19-Feb-2014 16:50 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.
- Cls: 3,047 The number of items in the display.

- Data OK The data connection state. Red indicates the data source is disconnected (for example, the Data Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.
- ⚠ Open the **Alert Views - RTView Alerts Table** display.
- + Open an instance of this display in a new window.
- ? Open the online help page for this display.

**Fields and Data**

This display includes:

- Mode:** The mode that the UX Robot operates in. The default is **URL**. (Do not modify this setting.)
- Alert State** Indicates the greatest severity level of all open alerts for this Robot:
  - Red indicates that one or more alerts exceeded their ALARM LEVEL threshold.
  - Yellow indicates that one or more alerts exceeded their WARNING LEVEL threshold.
  - Green indicates that no alerts exceeded their WARNING or ALARM LEVEL threshold.
  - Gray indicates that the alert engine that is hosting the alert is not connected, not enabled or not initialized. When you select a gray row the **Own**, **Suppress**, **Unsuppress**, **Close**, **Annotate**, **Options** and **Details** buttons are disabled.
- Alert Count** The number of open alerts for the selected Robot.

|                            |   |
|----------------------------|---|
| <b>Session File</b>        | The name of the properties file that this UX Robot is running from. |
| <b>Robot Start</b>         | The time the this Robot session started.                            |
| <b>RunCount</b>            | The number of runs made in this Robot session.                      |
| <b>Last Updated</b>        | The time when the Robot data was last updated.                      |
| <b>Last Run Start</b>      | The time when the last run started for this UX Robot.               |
| <b>Last Run End</b>        | The time when the last run ended for this UX Robot.                 |
| <b>This Run Total MS</b>   | Total MS in response times for all of the URLs in this run.         |
| <b>Total Error Count</b>   | The total number of errors for all of the URLs in this run.         |
| <b>Total Timeout Count</b> | The total number of timeouts for all of the URLs in this run.       |

### Performance Metrics Trends

|                     |  |
|---------------------|--|
| <b>Log Scale</b>    | Select to enable a logarithmic scale. Use Log Scale to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. Log Scale makes data on both scales visible by applying logarithmic values rather than actual values to the data. |
| <b>Base At Zero</b> | Select to use zero as the Y axis minimum for all graph traces.   |

### Time Range

Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .

By default, the time range end point is the current time. To change the time range end point, click Calendar  and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows   to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

Click **Restore to Now** to reset the time range end point to the current time.

|                          |   |
|--------------------------|---|
| <b>Errors this Run</b>   | The total number of errors this Robot encountered for ALL URLs the Robot is connecting to on the current run.   |
| <b>Timeouts this Run</b> | The total number of timeouts this Robot encountered for ALL URLs the Robot is connecting to on the current run. |

### Alerts Table

This table lists all open, unsuppressed alerts associated with the selection in the upper table. Each row in the table is a different active alert. Select one or more rows, right-click to open the **Alert** popup menu and choose an action to perform on the alert(s): **Details**, **Own**, **Suppress**, **Close**, **Annotate** or **Options**. Use the sort  button to order column data. The row color indicates the following:

-  Red indicates that one or more alerts exceeded their ALARM LEVEL threshold in the table row.
-  Yellow indicates that one or more alerts exceeded their WARNING LEVEL threshold in the table row.
-  Green indicates that no alerts exceeded their WARNING or ALARM LEVEL threshold in the table row.
-  Gray indicates that the alert engine that is hosting the alert is not connected, not enabled or not initialized. When you select a gray row the **Own**, **Suppress**, **Unsuppress**, **Close**, **Annotate**, **Options** and **Details** buttons are disabled.

 Opens the **Alerts Table** display in a new window.

|                        |   |
|------------------------|---|
| <b>Own</b>             | Click to assign an Owner for the selected alert(s). This button is only visible to users with Administrator privileges. This button is disabled when you select a gray row.                   |
| <b>Suppress</b>        | Click to suppress the selected alert(s). This button is only visible to users with Administrator privileges. This button is disabled when you select a gray row.                              |
| <b>Close</b>           | Click to close the selected alert(s). This button is only visible to users with Administrator privileges. This button is disabled when you select a gray row.                                 |
| <b>Details</b>         | Select an alert, right-click and choose <b>Alert/Details</b> to open the <b>Alert Detail</b> window and view alert details. Or, double-click an alert to open the <b>Alert Detail</b> window. |
| <b>Annotate</b>        | Select one or more alerts, right-click and choose <b>Alert/Annotate</b> to open the <b>Set Owner and Comments</b> dialog and enter comments or change alert owner.                            |
| <b>Options</b>         | Select an alert, right-click and choose <b>Alert/Options</b> to open the <b>Alert Options</b> dialog. This dialog is provided for customizing your own alert options.                         |
| <b>First Occ</b>       | The date and time the alert first occurred.   |
| <b>Last Occ</b>        | The date and time the alert last occurred.  |
| <b>Count</b>           | The number of times the alert was generated.  |
| <b>Sup</b>             | When checked, the alert has been suppressed by a user.  |
| <b>Owner</b>           | The named owner assigned by the administrator.  |
| <b>Alert Name</b>      | The name of the alert.  |
| <b>Primary Service</b> | The name of the Service with which the alert is associated.   |
| <b>CI</b>              | The CI alert source.  |
| <b>Alert Text</b>      | Description of the alert.   |
| <b>AlertClass</b>      | An optional alert field which can be used when integrating with other alerting systems.   |
| <b>CompID</b>          | An optional alert field which can be used when integrating with other alerting systems.   |
| <b>TicketID</b>        | An optional alert field which can be used when integrating with other alerting systems.   |
| <b>TicketGroup</b>     | An optional alert field which can be used when integrating with other alerting systems.   |

---

## Advanced UX Robot Configuration

This section describes how to configure the UX Robot via configuration database and user login simulation. These steps are optional.

This section includes:

- [“UX Robot Configuration Via Configuration Database” on page 924](#): This configuration is intended for deployments with a large number of monitored URLs or a large number of Robot configurations. This option centralizes the configuration and management of the monitored URLs and Robot data.
- [“Configure User Login Simulation” on page 925](#): This configuration sets the Robot to simulate the user log in process.

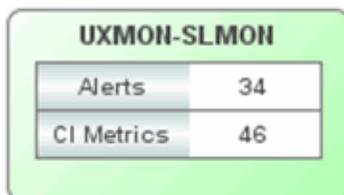
### UX Robot Configuration Via Configuration Database

This section describes how to set the UX Robot to fetch properties from a SQL database, which enables you to configure your UX Robots by editing a database, presumably from a central location. Consider using this option if you have a large number of UX Robots in many different locations.

This configuration option requires that you use the **uxmon.sql.properties** file instead of the **uxmon.properties** file. To set the UX Robot to fetch properties from a SQL database you edit the **uxmon.sql.properties** template configuration file.

#### To configure the UX Robot to fetch properties from a SQL database

1. Open the **uxmon.sql.properties** file, located in your UX Robot home directory, in a text editor.
2. Locate the Database Properties Configuration section. Note that there is no space between the prefix and the first element, and no word-wrapping.
3. Edit the settings for the **sl.rtview.properties.** prefix to specify database connection properties. Do not edit or move the prefix.
4. Save the **uxmon.sql.properties** file. Do not change the file name.
5. Edit the batch file **run\_ux\_robot.bat** to read **-urlproperties:uxmon.sql.properties** instead of the default **uxmon.properties** and start the Robot.
6. After the **uxmon.sql.properties** file is installed, open the RTView EM **Architecture - System Overview** display and verify the Monitor object shows Monitor data.



| UXMON-SLMON |    |
|-------------|----|
| Alerts      | 34 |
| CI Metrics  | 46 |

For details about the Database Properties Configuration, see [“Sample uxmon.sql.properties File” in Appendix A, “UX Monitor Configuration Files”](#).

## Configure User Login Simulation

This section describes how to configure the UX Robot to simulate the user log in process. This step is optional. This section includes:

- “Setup HTML Login URL Form” on page 927

To configure the UX Robot to simulate the user log in process you add an App Configuration Line, a Robot Configuration Line and a Browser Configuration Line to the **uxmon.properties** configuration file and edit as appropriate.

---

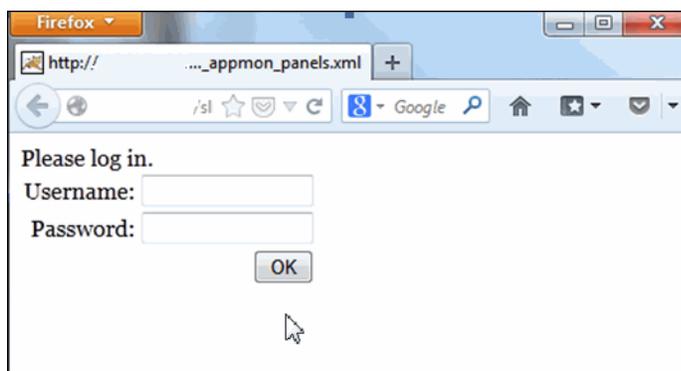
**Note:** Before you begin, consider performing the user log in your browser to see the process the UX Robot is to simulate.

---

1. Open the **uxmon.properties** file in a text editor.
2. Open a browser and navigate to the web page you want to monitor.
3. Copy and paste your browser URL address to the **sl.rtvapm.uxmon.urlrobot.url** Configuration Line **url=** property.
4. **Save** the file.

If the web page you want to monitor requires user/password authentication, proceed to the next step. If not, you have completed configuring Monitor.

5. In your web page, note the text entry field labels (typically they are **User** and **Password**), as well as any button labels (typically **OK** or **Go**) and their spelling.
6. Enter your user name and password and verify that you login successfully.
7. In the web page that opens, note and record a unique set of words (which you subsequently use to relocate the page).
8. In the **uxmon.properties** file, copy and paste an App Configuration Line, a Robot Configuration Line and a Browser Configuration Line and edit as appropriate.
9. Logout and open the log in page again. In the Browser right-click in the white space below the **OK** button and choose **View Page Source**.



The web page source HTML code is shown.

```

105 }
106 </script>
107
108 <body onload="setupLogin('start')">
109 <div class="loginmsg" id="msgdiv">Please log in</div>
110
111 <form method=post action="login2.jsp?" autocomplete=off id="loginform" onsubmit="return
112 <table border="0" cellpadding="2" cellspacing="0">
113 <tr>
114 <td align="right" nowrap>Username:</td>
115 <td align="right"><input id="user" style="width:120px" value=""></td>
116 </tr>
117 <tr>
118 <td align="right" nowrap>Password:</td>
119 <td align="right"><input type="password" id="pwd" style="width:120px" value=""></td>
120 </tr>
121 <tr>
122 <td colspan="2" align="right"><input type="submit" value="OK"></td>
123 </tr>
124 </table>
125 </form>
126 <select id="rolecombo" onchange="pickRole(this.value)"></select>
127 <button id="roleok" onclick="pickRole(rolecombo.value)">OK</button>
128 <iframe id="upd_iframe" name="upd_iframe" style="width:0px; height:0px; border:0px"></iframe>
129 </body>
130 </html>
131

```

10. Scroll to the bottom of the HTML code, locate the lines between the **<body>** and **<\body>** tags and find the following information defined in the HTML code. We use the SLMon demo page (above) to illustrate.

- **url=**: The URL address for the page. For our example, **url=http://63.241.67.163/slmon/**. Note that there is no space after "**sl.rtvapm.uxmon.urlrobot.url=**".
- **name=**: The name you use to refer to this URL. For our example, **name=SLMON**.
- **user=**: The user name for the UX Robot to use for login. For our example, **user=demo**.
- **pass=**: The password for the UX Robot to use for login. For our example, **pass=demo**.
- **sortIndex=**: Controls where the URL line appears in the final list of URLs. Choose a low number to start with. Indexes can be repeated. For our example, **sortIndex=21**.
- **agent=**: URLs are grouped by agent name and **agent=** is the group the URL belongs to. For our example, **agent=robot01**.
- **secure=**: The keyword secure is currently not used.
- **searchType=**: Controls whether and how the **searchString** is performed in the returned HTML the UX Robot receives from the URL after login.
  - **simple**: A simple text search is performed for the search string given by **searchString**.
  - **regular**: A regular expression text search is performed for the search string given by **searchString**.
  - **none**: No search is performed. This is the default setting.
- **searchString=**: Specifies the search string. Use single quotation marks. In our example, **searchString='SL RTView - Enterprise Monitor'**
- **useHTMLForm=**: Specifies whether the UX Robot attempt log in before performing a search.
  - **false**: Specifies that the UX Robot *not* attempt log in and to either search the page as HTML (if **searchHTML=true**) or as XML (if **searchHTML=false**).

- **true**: Specifies that the UX Robot attempt log in to the URL and use the HTML form to search. For details about using the HTML form, see [“Setup HTML Login URL Form” on page 927](#).
- **javascript=**: Specifies whether the URL needs JavaScript.
  - **true**: If the URL does *not* need JavaScript.
  - **false**: Speeds up URL processing by avoiding the loading of the JavaScript interpreter in HTMLUnit on every access of the URL.

If you want to use an HTML login URL form for user/password authentication, proceed to the next section. If not, you have completed configuring the UX Robot to simulate the user log in process.

## Setup HTML Login URL Form

This section describes how to setup the UX Robot log in to the URL and perform searches using the HTML form. The `useHTMLForm` element must be **true** to use configure this feature. You reference the HTML code from your URL log in page and the `sl.rtvapm.uxmon.urlrobot.url=` prefix to create a URL Configuration Line for your environment.

The following illustrates a fully built URL Configuration Line.

```
sl.rtvapm.uxmon.urlrobot.url=name='SLMON' sortIndex=21 url=http://63.241.67.163/slmon/agent=robot01 user=demo pass=demo secure=false searchType=simple searchString='SL RTView - Enterprise Monitor' searchHTML=false useHTMLForm=true formNameParameter=loginform formNameParameterType=id userInputElementName=user userInputElementType=id passwordInputElementName=pwd passwordInputElementType=id buttonInputElementName='OK' buttonInputElementType=value javascript=true
```

1. Locate the section between the `<body>` and `<\body>` tags. To illustrate, we use the SLMon demo page to illustrate: . For example:

```
<body onload="setupLogin('start')">
<div class="loginmsg" id="msgdiv">Please log in</div>

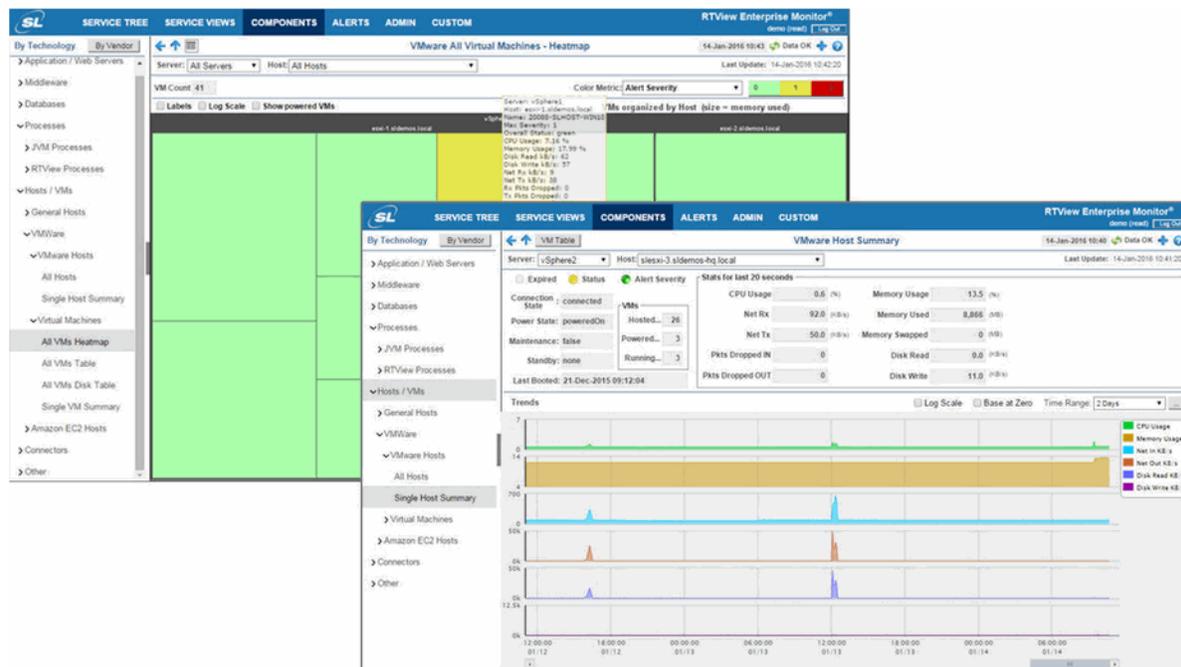
<form method=post action="login2.jsp?" autocomplete=off id="loginform" onsubmit="return doLogin(this)">
<table border="0" cellpadding="2" cellspacing="0">
  <tr>
    <td align="right" nowrap>Username:</td>
    <td align="right"><input id="user" style="width:120px" value=""></td>
  </tr>
  <tr>
    <td align="right" nowrap>Password:</td>
    <td align="right"><input type="password" id="pwd" style="width:120px" value=""></td>
  </tr>
  <tr>
    <td colspan="2" align="right"><input type="submit" value="OK"></td>
  </tr>
</table>
</form>
<select id="rolecombo" onchange="pickRole(this.value)"></select>
<button id="roleok" onclick="pickRole(rolecombo.value)">OK</button>
<iframe id="upd_iframe" name="upd_iframe" style="width:0px; height:0px; border:0px"></iframe>
</body>
```

2. Find the following elements and their values. We use the SLMon demo page (above) to illustrate:
  - **formNameParameterType=**: The type of HTML form of which there are three types, **id**, **name** and **value**. In your HTML code, locate either **id=**, **name=** or **value=**. In our example we find **id="loginform"**. For our example we specify **formNameParameterType=id**.
  - **formNameParameter=**: The name of the HTML form. Refer to what you found for the **formNameParameterType** property (either **id=**, **name=** or **value=**). In our example we found **id="loginform"**. Omit the quotation marks. For our example we specify **formNameParameter=loginform**.
  - **userInputElementType=**: The user input element type of which there are three types, **id**, **name** and **value**. In your HTML code, locate either **<input id=**, **<input name=** or **<input value=**. In our example we find **<input id=**. For our example we specify **userInputElementType=id**.
  - **userInputElementName=**: The user input element name. Refer to what you found for the **userInputElementType** property (**<input id=**, **<input name=** or **<input value=**). In our example we found **<input id="user"**. Omit the quotation marks for the value. For our example we specify **userInputElementName=user**.
  - **passwordInputElementType=**: The password input element type of which there are three types, **id**, **name** and **value**. In your HTML code, locate either **id=pwd**, **name=pwd** or **value=pwd**. In our example we find **id=pwd**. For our example we specify **passwordInputElementType=id**.
  - **passwordInputElementName=**: The password input element name. Refer to what you found for the **passwordInputElementType** property (either **id=pwd**, **name=pwd** or **value=pwd**). In our example we found **id=pwd**. For our example we specify **passwordInputElementName=pwd**.
  - **buttonInputElementType=**: The button input element type of which there are three types, **id**, **name** and **value**. In your HTML code, locate either **id=**, **name=** or **value=**. In our example we find **value='OK'**. For our example we specify **buttonInputElementType=value**.
  - **buttonInputElementName=**: The button name. Refer to what you found for the **buttonInputElementType** property (either **id=**, **name=** or **value=**). In our example we found **id='OK'**. For our example we specify **buttonInputElementName='OK'**.
3. **Save** the file.

## CHAPTER 27 Solution Package for VMware vCenter

RTView Enterprise Monitor® uses Solution Packages to gather and process performance metrics from a wide variety of different technologies, including VMware vCenter.

With the Solution Package for VMware vCenter, you are able to collect CPU, memory, disk and network data for hosts and virtual machines from VMware vCenter and ESXi servers in real-time. RTView Enterprise Monitor combines these metrics with application performance data obtained from application servers, enterprise message buses and other middleware components to create holistic, single-pane-of-glass views of the entire application environment. This concise visualization provides immediate insight into the level of criticality of a problem, and drill-down support to quickly determine cause and guide resolution.



Since vCenter provides built-in performance metrics, Oracle Coherence Monitor Cluster Overview Screenshot there is no longer a need to painfully install and manage monitoring agents on every machine that hosts application components. Instead, RTView simply connects to vCenter and can readily incorporate data from multiple data centers and thousands of virtual machines. On top of this, RTView provides an automated, data-driven application dependency model that intuitively visualizes the relationship among applications and their underlying infrastructure and middleware components in order to highlight the business impact and criticality of any problems or performance issues.

An integral part of the system, the included RTView Historian, can be configured to store vSphere metrics in an arbitrary SQL database for capacity planning and historic trend analysis. Trends can also be used to refine alert thresholds. RTView alerts can be integrated with alerts from third-party sources through RTView's alert management system to help users quickly filter alerts and identify the source of true performance problems.

The lightweight, flexible nature of RTView Enterprise Monitor is also of particular use in complex environments where the monitoring of both cloud-based and on-premise components is required.

See the **README.txt** file, located in the root directory of each Solution Package, for instructions about configuring and working with the Solution Package.

See **README\_sysreq.txt** for the full system requirements for RTView®.

## CHAPTER 28 Creating Custom Solution Packages

This section describes how to create a custom Solution Package (CSP) using the custom Solution Package example (located in the **rtvapm\_projects/emsample/custom** directory) as a template.

While RTView Enterprise Monitor comes with a broad set of Solution Packages for monitoring middleware and IT infrastructure software, the creation of your own CSPs enables you to enrich that set by monitoring your custom data sources.

To create your CSP perform the following steps in the order provided:

- Step 1: See “[The Custom SP Example](#)” on page 931. This section explains how to start the Custom SP example and illustrates concepts and configuration details that are essential for creating your own SP.
- Step 2: See “[Create Mycustom SP](#)” on page 948. This section provides step-by-step instructions for creating a new customized SP. To create Mycustom SP you rename the “custom” directory to “mycustom” and modify its files.

---

### The Custom SP Example

The Custom SP example is found in the **rtvapm/projects/emsample/custom** directory. It shows the fundamental elements that make up a standard RTView Enterprise Monitor Solution Package. The Custom SP example displays data from two separate custom JMX data sources that simulate birds in flight. The initial display shows a table containing all birds with the data associated with them. By clicking on a particular row, it allows the user to drill-down to a more detailed display that shows further data for the selected bird. The creation of SPs requires use of the RTView Display Builder, which is included in the RTView Enterprise Monitor. Please refer to the *RTView Core® User's Guide* available at <http://www.sl.com/support/documentation/>, and select the navigation item titled **Building Displays** on how to run and work with the Builder.

This section includes:

- “[Start the Custom SP Example](#)”: Instructions for starting the Custom SP (next).
- “[Custom SP - Caches](#)”: Describes the Custom SP cache configuration.
- “[Custom SP - Alerts](#)”: Describes the Custom SP alert configuration.
- “[Custom SP - Displays](#)”: Describes the Custom SP display configuration.
- “[Custom SP - Properties Files](#)”: Describes the Custom SP configuration files.

#### Start the Custom SP Example

1. In an [initialized command window](#) **cd** to the location of the Custom SP files and type:

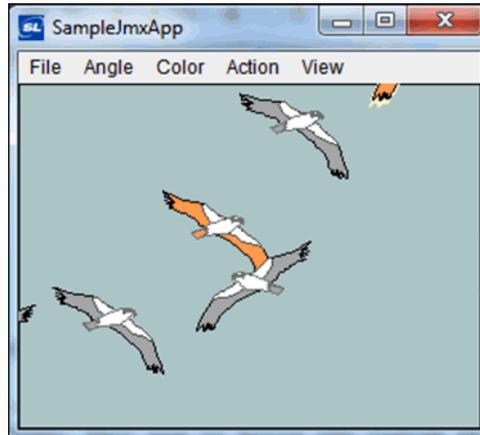
(Windows:) **cd rtvapm\projects\emsample\custom\projects\sample**

(UNIX:) **cd rtvapm/projects/emsample/custom/projects/sample**

2. Start the first JMX application simulator. In the command window run the first JMX application simulator by typing:

(Windows:) **start run\_samplejmxapp1**

(UNIX:) **./run\_samplejmxapp1.sh &**



3. Run the second JMX application simulator by typing:

(Windows:) **start run\_samplejmxapp2**

(UNIX:) **./run\_samplejmxapp2.sh &**

4. Start the database:

(Windows:) **start run\_hsqldb**

(UNIX:) **run\_hsqldb &**

5. Run the RTView Viewer by typing:

(Windows:) **start runv -properties:sample**

(UNIX:) **runv.sh -properties:sample &**

If prompted for a user name and a password, use **admin** for the user name and **admin** for the password.

- Open the **All Bird Views - All Birds Table** display. Note the **Alert Level** is green for all birds.

The screenshot shows the 'All Birds - Table' interface. On the left is a navigation menu with options: All Bird Views, All Birds Heatmap, All Birds Table (selected), Single Bird Views, Alert Views, and Administration. The main area displays a table with the following data:

| Connection     | Bird Name | Alert Level | Alert Count | Color    | Angle | FlapMode | X     | Y     | Expired                  | time_stamp        |
|----------------|-----------|-------------|-------------|----------|-------|----------|-------|-------|--------------------------|-------------------|
| samplejmxapp   | hawk_1    | 🟢           | 0           | yellow   | 30    | ☑        | 1,066 | 676   | <input type="checkbox"/> | 10/13/16 13:30... |
| samplejmxapp   | gull_1    | 🟢           | 0           | red      | 45    | ☑        | -234  | 1,378 | <input type="checkbox"/> | 10/13/16 13:30... |
| samplejmxapp   | hawk_2    | 🟢           | 0           | pink     | 30    | ☑        | 1,872 | 416   | <input type="checkbox"/> | 10/13/16 13:30... |
| samplejmxapp   | gull_2    | 🟢           | 0           | magenta  | 45    | ☑        | 2,652 | 1,612 | <input type="checkbox"/> | 10/13/16 13:30... |
| samplejmxap... | hawk_1    | 🟢           | 0           | black    | 30    | ☑        | -52   | 936   | <input type="checkbox"/> | 10/13/16 13:30... |
| samplejmxap... | gull_1    | 🟢           | 0           | blue     | 45    | ☑        | 52    | 1,820 | <input type="checkbox"/> | 10/13/16 13:30... |
| samplejmxap... | hawk_2    | 🟢           | 0           | cyan     | 30    | ☑        | 1,352 | 2,288 | <input type="checkbox"/> | 10/13/16 13:30... |
| samplejmxap... | gull_2    | 🟢           | 0           | darkGray | 45    | ☑        | 2,964 | 0     | <input type="checkbox"/> | 10/13/16 13:30... |

- In the **Administration - "Alert Administration"** display, enable both alerts.

The screenshot shows the 'Alert Administration' interface. On the left is a navigation menu with options: All Bird Views, Single Bird Views, Alert Views, and Administration (selected). Under Administration, 'Alert Administration' is selected. The main area shows:

- Alert Filter:  Clear
- Alert Engine Enabled  Disable
- Alert Settings Conn OK

| Alert             | Warning Level            | Alarm Level              | Duration | Alert Enabled                       | Override Count |
|-------------------|--------------------------|--------------------------|----------|-------------------------------------|----------------|
| CustomBirdExpired | <input type="checkbox"/> | <input type="checkbox"/> | 0        | <input checked="" type="checkbox"/> | 0              |
| CustomBirdTooHigh | 1,600                    | 2,000                    | 0        | <input checked="" type="checkbox"/> | 0              |

Settings for Selected Alert

Name: CustomBirdTooHigh    Warning Level: 1600.0    Duration (Secs.): 0

Description:     Alarm Level: 2000.0    Enabled:

Save Settings

Tabular Alert Options

The Warning Level, Alert Level and Alarm Enabled values on this screen can be overridden for each alert index.

- Open the **All Bird Views - All Birds Table** display. Note that the **Alert Level** changes as the bird Y values crosses the alert threshold, or expires after being deleted.

| All Birds Table |           |             |             |          |       |                                     |       |       |                                     |                   |
|-----------------|-----------|-------------|-------------|----------|-------|-------------------------------------|-------|-------|-------------------------------------|-------------------|
| Connection      | Bird Name | Alert Level | Alert Count | Color    | Angle | FlapMode                            | X     | Y     | Expired                             | time_stamp        |
| samplejmxapp    | hawk_1    |             | 0           | yellow   | 30    | <input checked="" type="checkbox"/> | 2,210 | 468   | <input type="checkbox"/>            | 10/13/16 13:33... |
| samplejmxapp    | gull_1    |             | 0           | red      | 45    | <input checked="" type="checkbox"/> | 754   | -26   | <input type="checkbox"/>            | 10/13/16 13:33... |
| samplejmxapp    | hawk_2    |             | 1           | pink     | 30    | <input checked="" type="checkbox"/> | 1,248 | 1,040 | <input checked="" type="checkbox"/> | 10/13/16 13:32... |
| samplejmxapp    | gull_2    |             | 1           | magenta  | 45    | <input checked="" type="checkbox"/> | 2,236 | 1,820 | <input type="checkbox"/>            | 10/13/16 13:33... |
| samplejmxapp2   | hawk_1    |             | 1           | black    | 30    | <input checked="" type="checkbox"/> | 624   | 2,080 | <input type="checkbox"/>            | 10/13/16 13:33... |
| samplejmxapp2   | gull_1    |             | 1           | blue     | 45    | <input checked="" type="checkbox"/> | 1,222 | 1,638 | <input type="checkbox"/>            | 10/13/16 13:33... |
| samplejmxapp2   | hawk_2    |             | 0           | cyan     | 30    | <input checked="" type="checkbox"/> | 182   | 780   | <input type="checkbox"/>            | 10/13/16 13:33... |
| samplejmxapp2   | gull_2    |             | 0           | darkGray | 45    | <input checked="" type="checkbox"/> | 1,794 | 1,378 | <input type="checkbox"/>            | 10/13/16 13:33... |

The Custom SP consists of the following files:

- **custom\_bird\_cache.rtv** - Contains the cache definition object holding the monitored data used throughout the Custom SP.
- **custom\_bird\_current\_include.rtv** - Include file containing a function to extract all current data from the cache.
- **custom\_bird\_current1\_include.rtv** - Include file containing a function to extract all data from one single item from the cache (the selected bird).
- **custom\_bird\_history1\_include.rtv** - Include file containing a function to show historical data from one single item from the cache (the selected bird).
- **custom\_shared\_vars.rtv** - Include file containing the drill-down substitutions that are used in the Custom SP.
- **custom\_alertdefs.rtv** - Contains the alert definition objects to handle alert conditions in the package.
- **custom\_alertstats\_current\_include.rtv** - Include file containing the functions to obtain the current alerts of the Custom SP from the RTView Enterprise Monitor platform.
- **custom\_allbirds\_table.rtv** - Contains a table object to display all current data in the CustomBirdData cache which collects data from all running data sources.
- **custom\_bird\_summary.rtv** - Contains graphical objects to display data from an individual index from the cache (the selected bird).
- **rtview.properties** - Contains the default database configuration settings of the Custom SP.
- **sample.properties**: Contains JMX settings needed to run the Custom SP.
- **run\_samplejmxapp1.bat/ .sh** - Scripts to run the sample JMX data source on port 9995.
- **run\_samplejmxapp2.bat/ .sh** - Scripts to run the sample JMX data source on port 9996.
- **server.properties** - Contains the port, database names, and directory location for HSQLDB.
- **custom\_navtree.xml** - XML file to define the menu options to show in the navigation tree of the Custom SP.
- **custom.navinfo.xml** - Contains the Heading, Technology, and Vendor information for including the contents of the **custom\_navtree.xml** in the **Components** tab.
- **custom\_panels.xml** - XML file used to define the arrangement of each graphical component. This file declares that the title will be in the upper part of the display, the navigation tree on the left side and a slightly squared area to show the displays on the right of the navigation tree and below the title.

Proceed to ["Custom SP - Caches,"](#) next.

## Custom SP - Caches

Here you learn how to:

- Create and set up caches
- Create cache filtering functions to be used in displays
- Increase performance by using caches appropriately

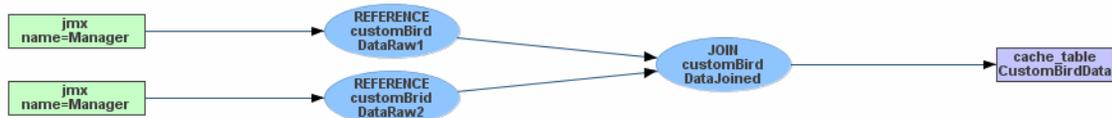
Caches provide a holding area to store real time data that can be collected synchronously or asynchronously. Caches maintain several tables to store current data and past data independently. Depending on the settings of the cache, these tables store and process data differently. We will use the Custom SP to illustrate the most relevant cache attributes.

For more information about caches, please refer to the *RTView Core® User's Guide* at <http://www.sl.com/support/documentation/> and select the navigation item titled **Caches**.

There are two basic steps to create a cache:

1. Create cache
2. Create functions to filter the cache data

The cache in the Custom SP is called CustomBirdData. The cache definition file itself (**custom\_bird\_cache.rtv**) is where we link to the raw data coming in. In the cache definition object contained in this file, the behavior of the cache will be fully specified. In this object there are attributes to define which data the cache will attach to, how much historical data the cache will maintain, how the incoming data should be time stamped, and the way the data in the cache should be expired. For example, in the Custom SP, the cache definition file has the functions **customBirdDataRaw1** and **customBirdDataRaw2**, which are functions of type **Reference**. These functions receive data from the two JMX data sources (SampleJmxApp and SampleJmxApp2). The data being collected is then joined in the function **customBirdDataJoined**, which is the function attached to the **valueTable** attribute of the cache definition object. The following diagram illustrates the input functions to the cache and the joining of them to feed the cache.



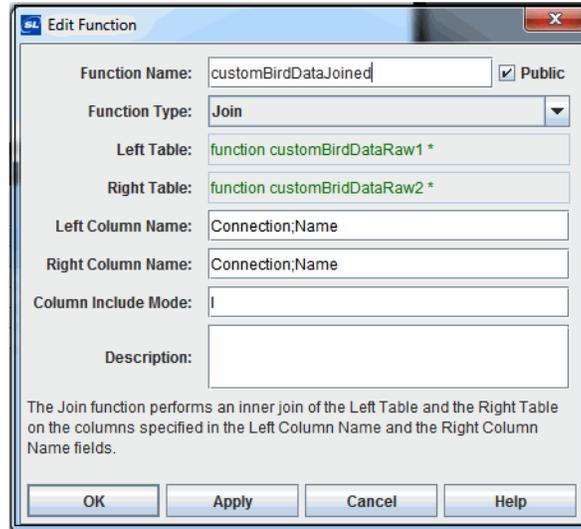
There are performance and maintenance reasons to standardize the way the data is extracted from the cache. Therefore, it is recommended that filtering functions are created to retrieve the data from the cache which will then be used in the displays. These functions usually select the current or the history tables from the cache on different include files. In the Custom SP, the file **custom\_bird\_current\_include.rtv** has the function **customBirdDataCurrent**, which filters the current table of the cache. This file will be the include file used in the display file **custom\_allbirds\_table.rtv** to get all current data from the cache by attaching the function **customBirdDataCurrent** to the **valueTable** attribute of the table object. Finally, to select the current and past data out of one item from the cache, the include files **custom\_bird\_current1\_include.rtv** and **custom\_bird\_history1\_include.rtv** are used. In the display file **custom\_bird\_summary.rtv** these two files are included to show all available data of one selected index (in this case one single bird). This selection is performed in the **custom\_allbirds\_table.rtv** file when the user selects one bird by clicking in one row of the table. Please refer to [Appendix E, "Custom Solution Packages - Best Practices"](#) for function naming conventions.

Please refer to the *RTView Core® User's Guide* at <http://www.sl.com/support/documentation/> and click on the navigation item titled Functions for more information about functions in general.

### Custom SP - Steps to Create Caches

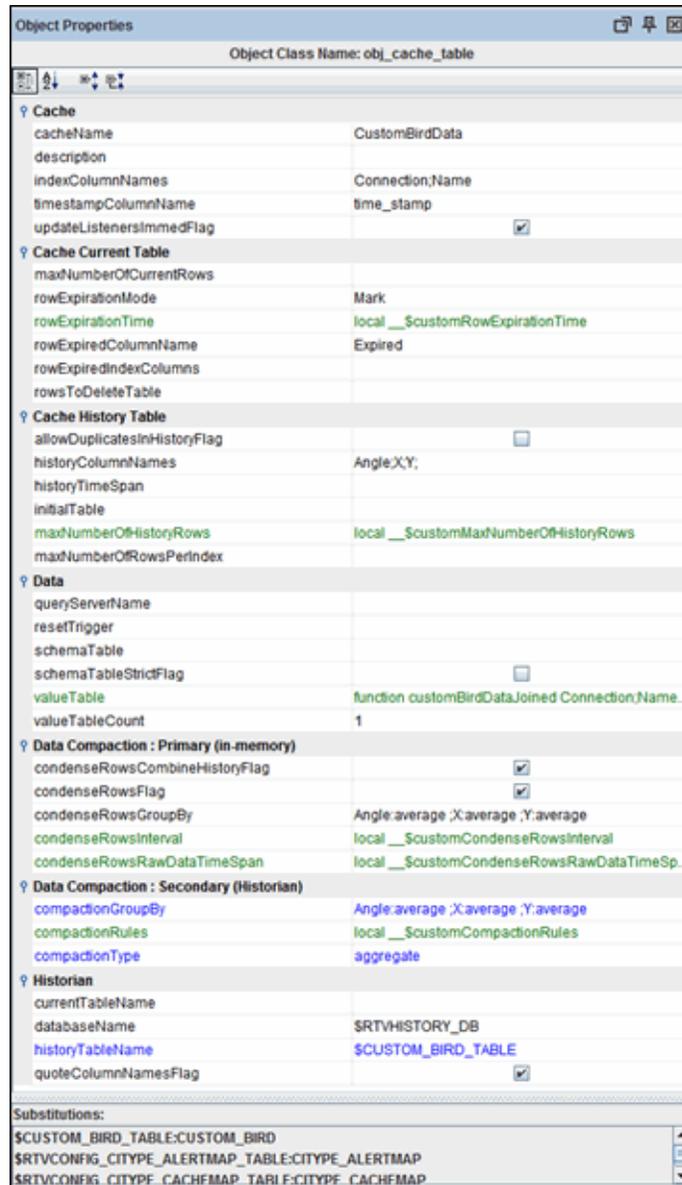
1. In the **custom\_bird\_cache.rtv** file, the cache CustomBirdData is defined. Refer to [Appendix E, "Custom Solution Packages - Best Practices"](#) for more information about cache naming conventions.

2. The data from the cache comes from two functions that collect raw data from JMX. The first function (**customBirdDataRaw1**) collects **Color** and **Angle** while the second (**customBirdDataRaw2**) collects **FlapMode**, **X** and **Y** metrics. The function **customBirdDataJoined** compounds the data collected by the previous two functions to be the feeding function of the CustomBirdData cache.



3. To see all caches, first select **Tools->Cache** from the main window in the RTView Builder. A sub-window with the available caches will be shown. By selecting the CustomBirdData cache, the list of attributes of the cache will appear on the right panel. The following illustration shows the complete set of attributes of this cache, which will be described next.

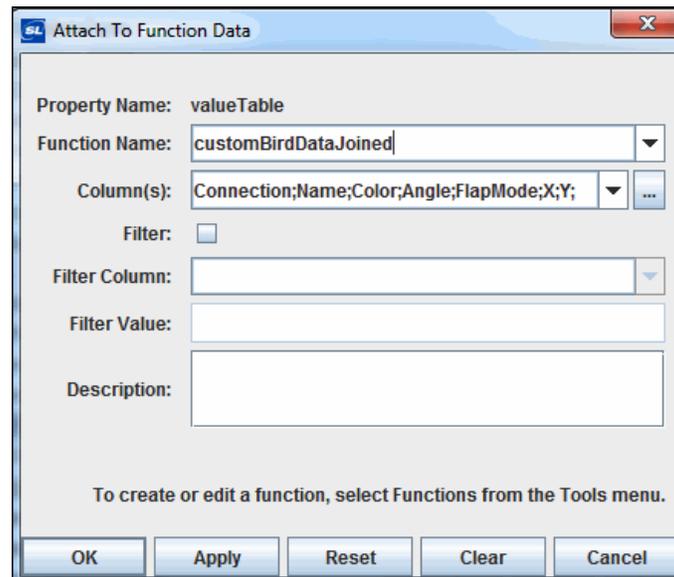
3a. Cache - The name of the cache (**cacheName** attribute) is CustomBirdData. The indexes of the cache (**indexColumnNames** attribute) are semicolon-separated. In our case, there are two indexes: **Connection** and **Name**. The **time stamp** column (**timestampColumnName** attribute) is **time\_stamp**.



3b. Cache Current Table - The way data is expired from the cache is defined in this section. In our case, the expiration mode of the rows in the current table of the cache (**rowExpirationMode** attribute) is **Mark**, which implies that expired columns will have a column set to **TRUE**, indicating the row expired. The name of the column is defined in the **rowExpirationColumnName** attribute, which is in this case **Expired**. And the time interval to determine whether a row has expired is defined in the **rowExpirationTime** attribute, which is **35s** in this cache. Therefore, if the difference between the current time and the time stamp of a row in the cache is greater than **35s**, then the **Expired** column will be set to **TRUE**, which means the data is obsolete. Otherwise, the **Expired** column will be set to **FALSE**, meaning that the data should be considered updated.

3c. Cache History Table - The data kept historically is defined in this section. The names of the columns to keep history (**historyColumnNames** attribute) are semicolon-separated and set to **Angle, X** and **Y**. The maximum number of rows of the history table (**maxNumberOfHistoryRows** attribute) is set to **50,000** rows.

3d. Data - This section defines the data source attachments feeding the cache. There will be as many attachments (valueTable attribute) as defined in the **valueTableCount** attribute. In this cache, there is only one feeding source: the **birdDataJoined** function.



3e. Data Compaction: Primary (in-memory) - This section defines the rules to condense cache data in memory. In this cache, all data kept in history will be aggregated by averaging rows every 60s (**condenseRowsInterval** attribute) after 5 minutes of keeping raw data in the cache (**300s** in the **condenseRowsDataTimeSpan** attribute) have passed.

3f. Data Compaction: Secondary (Historian) - This section defines the rules to condense historical data in the data base. The columns kept in history will be aggregated by averaging rows with the following rule **1h -;1w 5m;1M 1h**, which means the data from 1 hour will not be aggregated (**1h** - rule), the data over a period of 1 week will be aggregated every 5 minutes (**1w 5m** rule), and the data over a period of 1 month old will be aggregated every hour (**1M 1h** rule).

3g. Historian - The name of the data base (**databaseName** attribute) and the table name (**historyTableName** attribute) that stores the cache historical data are defined here.

Proceed to "[Custom SP - Alerts](#)," next.

## Custom SP - Alerts

This section describes the alert creation of the Custom SP. The RTView Enterprise Monitor Alert Engine can monitor alert conditions and perform automated actions from any available RTView data source. Alert definition includes the setting of alerting and warning thresholds, notification policies, and optionally perform automated actions, such as email, system commands, executing a SQL statement or sending JMS messages. For more information about alerts, please refer to Using the Monitor - "[Alert Views](#)" on page 209, and the *RTView Core® User's Guide* at <http://www.sl.com/support/documentation/> and select the navigation item titled **Alerts**.

There are two basic steps to create an alert:

1. Create alert
2. Create functions to filter available alert data

There are two alerts in the Custom SP, which are named **CustomBirdExpired** and **CustomBirdTooHigh**. The alert definition file itself (**custom\_alertdefs.rtv**) is where we set the attributes of the alerts. In the alert definition objects contained in this file, the behavior of the alerts will be fully specified. In these objects, there are attributes to define which data the alert will be attached to, the type of the alert, the thresholds of the incoming data, and the way the data is indexed. For example, in the Custom SP, there is one alert of type discrete (**CustomBirdExpired**) and other of type interval (**CustomBirdTooHigh**).

There are four types of alerts under RTView Enterprise Monitor: discrete, interval, multi-state, and event. The status of each alert is driven by the metric Severity, which is maintained by the RTView Enterprise Monitor Alert Engine. To determine in real time the number of alerts that are raised, the RTView Enterprise Monitor Alert Engine maintains a group of internal caches that one needs to work with. Similarly to custom caches, the way to work with these caches is by creating an alert include file that will extract from the current table of the caches the rows associated with the package. To do so, each alert must define in the Package attribute of the alert definition object the name of the package associated with.

In the Custom SP, this attribute is set to **Custom**. The file **custom\_alertstats\_include.rtv** contains the necessary filtering functions to obtain the current alerts of the package. This file will be included in the displays requiring to visualize alert information.

### About Alerts

Alerts in the Custom SP are handled primarily in two files, those being **custom\_alertdefs.rtv** and **custom\_alertstats\_current\_include.rtv**. The include file **custom\_alertstats\_current\_include.rtv** contains the filtering functions to get only the alerts associated to this package. Some of these functions will be used in the display files **custom\_allbirds\_table.rtv** and **custom\_bird\_summary.rtv** to show alert information. These alerts are attached to the function **customBirdDataCurrent** which is included from the file **custom\_bird\_current\_include.rtv**. The indexes of both alerts are Connection and Name and the metrics associated with them are **Expired** and **Y**, respectively.

The file **custom\_alertstats\_current\_include.rtv** contains functions that extract data from the RTView Enterprise Monitor internal caches RtvAlertStatsByPackageIndex and RtvAlertStatsByCategoryIndex of the Alert Server. The RtvAlertStatsByPackageIndex cache provides condensed information of the uncleared and unacknowledged alerts per Package while the RtvAlertStatsByCategoryIndex cache provides condensed information of the uncleared and unacknowledged alerts per Category. The functions are:

- **customAlertStatsByPackageCurrent**: filters from the RtvAlertStatsByPackageIndex cache all alerts containing in the **Package** attribute of the alerts the prefix **Custom**.

The screenshot shows the 'Attach To Cache Data' dialog box. The 'Property Name' is 't\_arg1'. The 'Cache' is 'RtvAlertStatsByPackageIndex', the 'Table' is 'current', and the 'Column(s)' are 'Alert Index Values;AlertCount;Max Severity;'. The 'Filter Rows' are set to 'Basic'. The 'Filter Column' is 'Package' and the 'Filter Value' is 'Custom'. The 'Update Once' checkbox is unchecked. The 'Data Server' is '\$rtvAlertDataServer'. Buttons at the bottom include 'OK', 'Apply', 'Reset', 'Clear', and 'Cancel'.

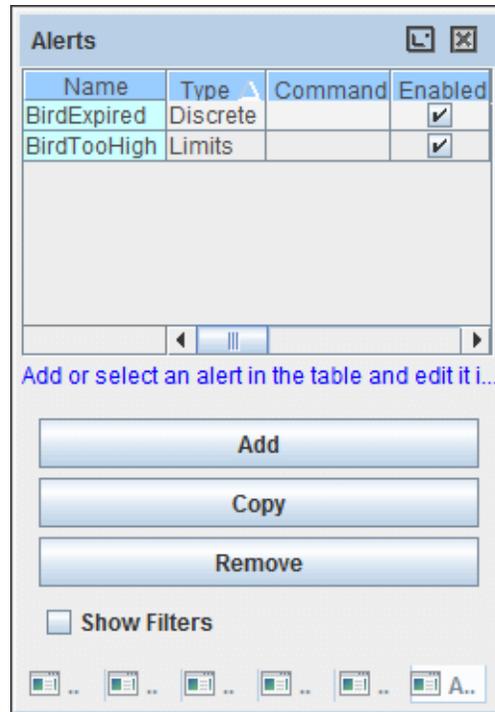
- **customAlertStatsByCategoryCurrent**: filters from the RtvAlertStatsByCategoryIndex cache all alerts containing in the **Category** attribute of the alerts the prefix **Bird**.

The screenshot shows the 'Attach To Cache Data' dialog box. The 'Property Name' is 't\_arg1'. The 'Cache' is 'RtvAlertStatsByCategoryIndex', the 'Table' is 'current', and the 'Column(s)' are 'Index Values;AlertCount;Max Severity;'. The 'Filter Rows' are set to 'Basic'. The 'Filter Column' is 'Category' and the 'Filter Value' is 'Bird'. The 'Update Once' checkbox is unchecked. The 'Data Server' is '\$rtvAlertDataServer'. Buttons at the bottom include 'OK', 'Apply', 'Reset', 'Clear', and 'Cancel'.

- **customAlertSertSeverityByBird**: aggregates the **Maximum Severity** and the **Alert Count** of all alerts provided for the **customAlertStatsByCategoryCurrent** function per set of indexes (one instance of **\$customConn** and **\$customBird** substitutions).

## Custom SP - Steps to Create Alerts

1. In the **custom\_alertdefs.rtv** file, the alerts **CustomBirdExpired** and **CustomBirdTooHigh** are defined. Refer to [Appendix E, "Custom Solution Packages - Best Practices"](#) for more information about cache naming conventions.



2. The data triggering the alerts comes from the function **customBirdDataCurrent** that is included from the **custom\_bird\_current\_include.rtv** file. To see all alert attributes, first select **Tools->Alerts** from the main window in the RTView Builder. A sub-window with the available alerts will be shown. By selecting one of the alerts, the list of attributes of the alert will appear on the right panel.

3a. Alert - The name of the alert (**alertName** attribute) is **CustomBirdExpired**. This is a **Discrete** alert. The type of the alert is defined when adding the alert by clicking on the **Add** button. An edit box to enter the name of the alert and a combo box with the four available possibilities will be shown. Discrete alerts should have the **valueMediumAlertEnabledFlag** attribute selected.

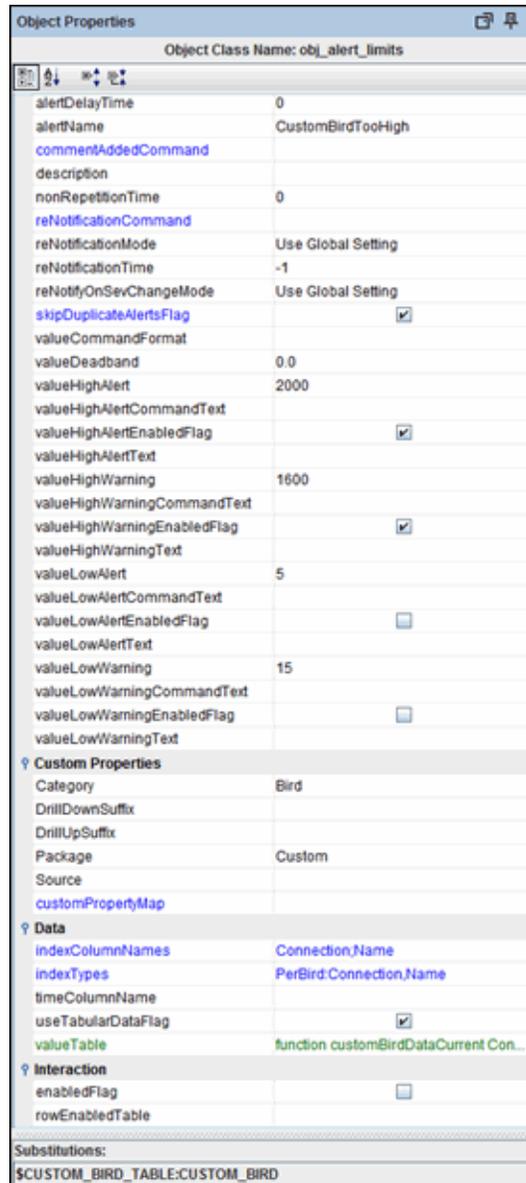
3b. Custom Properties - The main attributes to define in this section are the **Category** and **Package** attributes. The Package attribute (in this example, **Custom**) is used to identify the alerts from the Custom SP out of the rest of alerts that are handled by the RTView Enterprise Monitor Alert Server, while the **Category** attribute (in this example, **Bird**) provides a way to group incoming alerts. In the Custom SP both alerts refer to the same element and set of indexes. Therefore they share the same **Category** value: **Bird**.

3c. Data - The indexes of the alert and the metric triggering alerts are defined in this section. The **indexColumnNames** are for one single bird, which is defined by **Connection** and **Name**. And the **valueTable** attribute is attached to the **customBirdDataCurrent** function with the index columns and the metric to be alerting against (**Expired** metric). Due the input data is tabular, the **useTabularDataFlag** is checked.

| Object Properties                     |   |
|---------------------------------------|---|
| Object Class Name: obj_alert_discrete |   |
| <b>Alert</b>                          |   |
| alertClearedCommand                   |   |
| alertCommand                          |   |
| alertDelayTime                        | 0                                       |
| alertName                             | CustomBirdExpired                       |
| commentAddedCommand                   |   |
| description                           |   |
| nonRepetitionTime                     | 0                                       |
| reNotificationCommand                 |   |
| reNotificationMode                    | Use Global Setting                      |
| reNotificationTime                    | 0                                       |
| valueHighAlert                        | high                                    |
| valueHighAlertCommandText             |   |
| valueHighAlertEnabledFlag             | <input type="checkbox"/>                |
| valueHighAlertText                    |   |
| valueLowAlert                         | low                                     |
| valueLowAlertCommandText              |   |
| valueLowAlertEnabledFlag              | <input type="checkbox"/>                |
| valueLowAlertText                     |   |
| valueMediumAlert                      | true                                    |
| valueMediumAlertCommandText           |   |
| valueMediumAlertEnabledFlag           | <input checked="" type="checkbox"/>     |
| valueMediumAlertText                  |   |
| <b>Custom Properties</b>              |   |
| Category                              | Bird                                    |
| DrillDownSuffix                       |   |
| DrillUpSuffix                         |   |
| Package                               | Custom                                  |
| Source                                |   |
| customPropertyMap                     |   |
| <b>Data</b>                           |   |
| indexColumnNames                      | Connection,Name                         |
| indexTypes                            |   |
| timeColumnName                        |   |
| useTabularDataFlag                    | <input checked="" type="checkbox"/>     |
| valueTable                            | function customBirdDataCurrent Conne... |
| <b>Interaction</b>                    |   |
| enabledFlag                           | <input type="checkbox"/>                |
| rowEnabledTable                       |   |

3d. Interaction - This section defines the associated interaction when the alert has been triggered. In the Custom SP, there has no interaction been defined, therefore the attributes of this section are empty.

4a. Alert - The name of the alert (**alertName** attribute) is **CustomBirdTooHigh**. This is a Limits alert. The alerts of type Limits should have the **valueHighAlertEnabledFlag/ valueLowAlertEnabledFlag** attributes and the **valueHighWarningEnabledFlag/ valueLowWarningEnabledFlag** attributes checked when high/low thresholds are the limits triggering the alert. In this case, it is a high threshold alert, therefore the **valueHighAlertEnabledFlag** and the **valueHighWarningEnabledFlag** attributes are checked with the values of the default thresholds (the **valueHighAlert** attribute which is set to **2000** and the **valueHighWarning** attribute set to **1600**). Therefore, these settings imply that one alert will be triggered (Severity of **2**) each time the Y metric of a bird reaches **2000** while one warning will be triggered (Severity of **1**) each time the **Y** metric of a given bird reaches **1600**.



4b. Custom Properties - Same as in 3b.

4c. Data - Same as in 3c except that the metric triggering the alert is the high of the bird (the **Y** column).

4d. Interaction - Same as in 3d.

Proceed to “Custom SP - Displays,” next.

## Custom SP - Displays

This section describes the creation of the displays contained in the Custom SP. These are the **custom\_allbirds\_table.rtv** and the **custom\_bird\_summary.rtv**, which have been created to monitor the JMX data related with the birds in flight. These are the displays a user will interact with to monitor alarm status and drill-down to detailed displays to review specific metrics.

There are two general groups of displays: Those presenting data of a set of elements and the ones presenting the information about a single element. In general, due to performance and maintenance reasons, the displays presenting data of a set of elements will show current data, while the displays specifics to a single element should show historical data.

As with caches and alerts in RTView Enterprise Monitor, displays are created using the RTView Display Builder. For more information about the creation of displays, please refer to the *RTView Core® User's Guide* at <http://www.sl.com/support/documentation/> and select the navigation item titled **Building Displays**.

### Creating Displays

There are many ways to interact with data using graphical objects. The most widely used are tables, combo and check boxes, edit boxes, and trend graphs. And the drill-down mechanism to obtain more detailed data of a selected item by clicking in the graphical object containing it. Please refer to the *RTView Core® User's Guide* at <http://www.sl.com/support/documentation/> and select the navigation item titled **Building Displays->Drill Down Displays** for further information.

The standard way to present the data of a set of elements is with a table (as in the **custom\_allbirds\_table.rtv**). By clicking in a row of the table, one will drill-down to the detailed data of the chosen element (in the Custom SP, one navigates from the **custom\_allbirds\_table.rtv** to **custom\_bird\_summary.rtv**), which shows specific data of the selected element. Following the standards described in “Custom Solution Packages - Best Practices”, these displays are including the files containing the cache filtering functions instead of using directly the BirdData cache.

### To Create Displays

1. In the **custom\_allbirds\_table.rtv**, the main object is the table showing the data from each bird flying in the system in a different row. This table is the main entry point of the Custom SP.

| All Birds - Table |           |             |             |        |       |                                     |       |       |                          |                    |
|-------------------|-----------|-------------|-------------|--------|-------|-------------------------------------|-------|-------|--------------------------|--------------------|
| All Birds Table   |           |             |             |        |       |                                     |       |       |                          |                    |
| Connection        | Bird Name | Alert Level | Alert Count | Color  | Angle | FlapMode                            | X     | Y     | Expired                  | time_stamp         |
| samplejmxapp      | hawk_1    |             | 1           | gray   | 30    | <input checked="" type="checkbox"/> | 848   | 1,176 | <input type="checkbox"/> | 12/10/14 13:15:... |
| samplejmxapp      | hawk_2    |             | 1           | gray   | 30    | <input checked="" type="checkbox"/> | 2,018 | 2,412 | <input type="checkbox"/> | 12/10/14 13:15:... |
| samplejmxapp      | gull_1    |             | 0           | orange | 45    | <input checked="" type="checkbox"/> | 1,524 | 500   | <input type="checkbox"/> | 12/10/14 13:15:... |
| samplejmxapp      | hawk_3    |             | 1           | gray   | 30    | <input checked="" type="checkbox"/> | -50   | 1,100 | <input type="checkbox"/> | 12/10/14 13:15:... |
| samplejmxapp      | hawk_4    |             | 0           | gray   | 30    | <input checked="" type="checkbox"/> | 1,200 | 400   | <input type="checkbox"/> | 12/10/14 13:15:... |
| samplejmxapp      | gull_2    |             | 0           | orange | 45    | <input checked="" type="checkbox"/> | 2,300 | 0     | <input type="checkbox"/> | 12/10/14 13:15:... |

The data shown in the table comes from the function **customBirdDataCurrent**, which is included in the **custom\_bird\_current\_include.rtv** file. This function is attached to the **valueTable** attribute of the table object and the columns to be shown in the table are **Connection, Name, Color, Angle, FlapMode, X, Y, Expired**, and **time\_stamp**. By clicking on one row of the table, one drills down to the detailed display of the selected bird. The user interaction is defined in the **Section Interaction** of the **Object Properties** of the table. In the **drillDownTarget** attribute, the file **custom\_bird\_summary.rtv** is defined, which implies this will be the end display of the user interaction. The drill down substitutions to select the chosen bird are set in the **drillDownColumnSubs**. In this case, the two indexes (**Connection** and **Name**) with their associated substitutions (**\$customConn** and **\$customBird**).

| Interaction                 |   |
|-----------------------------|---|
| clearSelection              | 0   |
| columnResizeEnabledFlag     | <input checked="" type="checkbox"/>       |
| command                     |   |
| commandCloseWindowOnSuccess | <input type="checkbox"/>                  |
| commandConfirm              | <input type="checkbox"/>                  |
| commandConfirmText          |   |
| drillDownColumnSubs         | \$customConn:Connection \$customBird:Name |
| drillDownSelectMode         | Element Only                              |
| drillDownTarget             | \$. custom_bird_summary.rtv               |
| editDataEnabledFlag         | <input type="checkbox"/>                  |
| menuItemGroup               |   |
| multiSelectFlag             | <input type="checkbox"/>                  |
| rightClickActionFlag        | <input type="checkbox"/>                  |
| rowHighlightEnabledFlag     | <input type="checkbox"/>                  |
| scrollToSelectionFlag       | <input type="checkbox"/>                  |
| scrollbarMode               | As Needed                                 |
| tabIndex                    | 0   |

2. To keep common look-&-feel, a general display was included (**custom\_common\_1.rtv**). This is included in the **custom\_allbirds\_table.rtv** file to provide the standard to determine whether the data is available, provide a help button, date and time. This common file just contains an include file to one RTView Enterprise Monitor common file (**rtv\_common\_1.rtv**) to get its upper heading. This file has been used across all RTView Enterprise Monitor and Solution Package displays and it is recommended to use it on custom displays to maintain the same appearance.

3. It is possible to navigate to the **custom\_bird\_summary.rtv** display file in two different ways: From the navigation tree by clicking in the **Bird Summary** tab, or by drilling-down from the **custom\_allbirds\_table.rtv** file. This display shows data for the selected bird, which can be changed in the combo boxes **Connection** and **Bird** at the upper part of the display.

4. There are several include files in the **custom\_bird\_summary.rtv** display.

4a. To keep the same upper heading, the **custom\_common\_1.rtv** file is included.

4b. To have access to alert data, the **custom\_alertstats current\_include.rtv** is included.

4c. To select different birds from a group of combo boxes, the **custom\_common\_bird.rtv** is included.

4d. To have access to current data from one single bird, the **custom\_bird\_current1\_include.rtv** is included.

4e. To have access to historical data from one single bird, the **custom\_bird\_history1\_include.rtv** is included.

5. All graphical objects in the **custom\_bird\_summary.rtv** display are attached to current data except the trend graph object that also has attributes attached to functions extracting historical data. For each trace in the trend graph, there is one attribute attached to the current data (**trace[n]Value** attribute, with **n** being the order of the trace) and another attribute attached to the historical data (**trace[n]ValueTable** attribute). For further information on trend graph creation, please refer to the *RTView Core® User's Guide* at <http://www.sl.com/support/documentation/> and select the navigation item titled **Building Displays->Using the Object Palette->Graphs**.

Proceed to "[Custom SP - Properties Files](#)," next.

## Custom SP - Properties Files

Properties files are used mainly in Java to store the configurable parameters of an application. They can also be used for storing strings for internationalization and localization; these are known as *Property Resource Bundles*. Each parameter is stored as a pair of strings, one storing the name of the parameter (called the *key*), and the other storing the value. In these files are defined the port number to connect to, the address of a data source, the location of the Data Server and so on. In RTView Enterprise Monitor some properties are cumulative and others override previous or default settings.

### rtvapm.[pkg].properties File

([/rtvapm\\_projects/myemsample/custom/conf/rtvapm.custom.properties](#)): This file declares the all default settings to execute the package:

- The location of the jar file (Package JAR)
- The files containing the cache definitions of the package (Cache Definition Files)
- The file containing the alert definitions of the package
- The default values of the substitutions for cache configuration
- The port numbers for the Data Server, Display Server, and Historian and their JMX ports for monitoring.

([/rtvapm\\_projects/myemsample/custom/conf/rtvapm.custom.ref.properties](#)): This file contains the properties needed to integrate with EM. For details about this file, see "[Creating the properties file for integration in RTView Enterprise Monitor](#)".

### rtview.properties File

([/rtvapm\\_projects/myemsample/custom/src/rfiles/rtview.properties](#)): This file contains the minimum set of definitions to connect to databases.

### server.properties File

([/rtvapm\\_projects/myemsample/custom/src/rfiles/server.properties](#)): This file specifies the ports of the two HSQLDB data bases. One for alerts and the other for the historian.

### sample.properties File

([/rtvapm\\_projects/myemsample/custom/src/rfiles/sample.properties](#)): This file provides an example of how to specify the data connections to run properly the Custom SP.

Proceed to "[Create Mycustom SP](#)," next.

---

## Create Mycustom SP

Using the Custom SP provided as a starting point, it is possible to create your own Solution Package. We will refer to this as Mycustom SP throughout the documentation. By following the steps in this section, one will get a customized SP that you can use in your own projects. This is an advanced chapter.

The steps involved with creating a customized SP are:

- “Step 1: Create Cache”
- “Step 2: Create Functions to Extract Current and History Data”
- “Step 3: Configure Caches”
- “Step 4: Create Top-Level Displays”
- “Step 5: Define the Alerts to Monitor the Data of Your Solution Package”
- “Step 6: Create the Include File to Define Functions to Filter Alerts”
- “Step 7: Create Low-level Displays with Combo Boxes for Selection”
- “Step 8: Create the Navigation Tree and Display Arrangement”
- “Step 9: Update Build Scripts”
- “Mycustom SP - Integration in RTView EM” on page 962

### Step 1: Create Cache

Before starting the cache creation, it is necessary to understand how the data from your specific data source is organized and which are the relevant metrics to be monitored. This initial stage of analysis is key to speed up the development time of your customized Solution Package. The very first piece of information one should know from this analysis is the index columns of the data, which will be the indexes of the cache (the **indexColumnNames** attribute of the cache object definition). It is recommended you store all relevant data of your customized Solution Package in caches.

#### 1.1. Create the work directory

The **custom** directory is the starting point for creating your own customized Solution Package. On a location parallel to your **rtvapm** directory (for instance **rtvapm\_projects**), copy the projects directory under **rtvapm** (which contains the **emsample** directory). And make a copy of the **custom** directory at the same level for your customized Solution Package.

It will be assumed through this document that your work directory is **rtvapm\_projects/myemsample** and that the directory where you are going to create your new Solution Package is parallel to custom. That is **rtvapm\_projects/myemsample/mycustom**.

#### 1.2. Rename the Bird Cache

Using the RTView Builder, open the file **rtvapm\_projects/myemsample/mycustom/src/rfiles/custom\_bird\_cache.rtv** and rename the cache CustomBirdData (using the Object Properties window) with an appropriate name for your data.

Best Practice: Cache Naming Convention:

All caches should start with upper case and follow camel-case style, ending with the suffix "Cache". E.g. CustomBirdCache, WlsServerInfoCache

#### 1.3. Rename the custom\_bird\_cache.rtv file

Rename the file with a meaningful description for the caches defined there. E.g. If you are developing a new WebLogic Solution Package, one possible cache definition file might be **weblogic\_server\_cache.rtv** which will contain caches associated to data from WebLogic Servers.

Best Practice: Cache Definition File naming convention

All cache files start with the package prefix, separate words with underscores, and end with the suffix "cache":

**[pck]\_[dataType]\_cache.rtv**

where **pck** is the package prefix, and **dataType** is the type of the data being cached.

E.g. **custom\_bird\_cache.rtv**

**weblogic\_server\_cache.rtv**

Best Practice: File naming convention

All files start with the package prefix and the word separator is under-bar ('\_'). The main data and the graphical object should need to be also mentioned as follows:

**[pkg]\_[indexing|reference]\_[mainObject|subject]**

where **pkg** is the package prefix, indexing refers to the elements in use and **mainObject** refers the main graphical object in use in the display.

E.g.

**glassfish\_allservers\_heatmap.rtv**

**weblogic\_allapps\_table.rtv**

---

**Note:** We recommend [pck] being an acronym instead of the full name of the technology. For clarity, in this document we present full names of technologies.

---

#### 1.4. Declare the cache definition file in the conf properties file

Rename the properties file **rtvapm\_projects/myemsample/mycustom/conf/rtvapm.custom.properties** to **rtvapm\_projects/myemsample/mycustom/conf/rtvapm.mycustom.properties** and then edit it to search for **cache.config=custom\_bird\_cache.rtv**. Change in that line the string **custom\_bird\_cache.rtv** to the new name you chose for the cache definition file of your Solution Package.

Best Practice: Declaration of cache definition files

Cache definition files should be always declared in the properties file under **conf**. This properties file should follow this Naming Convention:

**rtvapm.[pckDir].properties**, where **pckDir** is the name of the directory where you are creating your customized Solution Package. In this example, the file name should be: **rtvapm.mycustom.properties**.

---

**Note:** The properties file loader looks for this specific file naming convention under **conf**. It will not be recognized with a different naming convention.

---

#### 1.5. Configure the cache expiration mode

To continue with the definition of the cache, it is also important to specify the expiration mode of the data in the cache. For further information regarding cache setup, refer to the *RTView Core® User's Guide* at <http://www.sl.com/support/documentation/> and select the section Caches.

### 1.6. Configure cache history

Select the metrics that are required to be stored in history and their compaction mechanism. For further information regarding cache setup, refer to the *RTView Core® User's Guide* at <http://www.sl.com/support/documentation/> and select the section Caches.

Some attributes of caches might need refinement on the end-customer side. For instance, the time when rows are expired might depend on the location of the Data Servers. Some customers might need a higher expiration time in order to avoid expiring rows that are coming at a slower pace. While other end-users can have the reverse problem and need to confirm correct data transfer at a faster pace.

In general, if the cache has been configured to keep data in history, one should need to set up the expiration mode and the history attributes of caches. To do so, one needs to define substitutions that can be modified through a properties file.

There is in general one file per Solution Package that contains the substitutions. For instance, **wls\_cache\_vars\_include.rtv** is the file containing cache substitutions in our WebLogic Monitor, WLM.

Best Practice: Cache Variables File naming convention

**[pkg]\_cache\_vars\_include.rtv**

where **pkg** is the package prefix.

---

**Note:** If you do not have variables initialized to configure history, the Historian might not work properly under all circumstances. Besides, if you need to change the defaults you would need to edit each cache definition file. That operation affects all users and shouldn't be allowed to all types of users.

---

Having these substitutions isolated in one file provide the information about which are the defaults for the package caches and gives the possibility to change them globally if needed in custom properties files. This is an optional, but highly recommended, best practice.

#### 1.6.1. Add substitutions to configure cache properties

Rename **custom\_cache\_vars\_include.rtv** to a meaningful file name for your customized SP following the naming convention. Then open the file with the Builder and change the prefix **\$custom** with a meaningful prefix for your customized Solution Package. For instance, **\$customCondenseRowsInterval** to **\$mycustomCondenseRowsInterval**, or **\$mysqlCondenseRowsInterval**, if you are creating a new customized MySQL Solution Package.

After this renaming, you should reference this new file in your cache definition file instead of the custom and reference the substitutions in the cache attributes of all your caches, which will still contain references to the **\$custom\*** substitutions.

#### 1.6.2. Provide properties to customize cache attributes

Edit to **rtvpm\_projects/myemsample/mycustom/conf/rtvpm.mycustom.properties** file and find "Configure Database Tables here" section. Replace the names of the substitution **\$CUSTOM\_BIRD\_TABLE** with one appropriate to your Solution Package. For instance, **\$MYCUSTOM\_[yourData]\_TABLE**

Best Practice: Naming convention for database tables

Keep the standardized substitution and value of the database name for history

**sl.rtvview.sub=\$RTVHISTORY\_DB:RTVHISTORY**

Name the substitutions and values for the database tables as follows

**sl.rtvview.sub=\$[PCK]\_[DATATYPE]\_TABLE:[PCK]\_[DATATYPE]**

E.g.

**sl.rtvview.sub=\$RTVHISTORY\_DB:RTVHISTORY**

**sl.rtvview.sub=\$BW\_SERVERS\_TABLE:BW\_SERVERS**

### 1.7. Use the appropriate feeding function for the cache

Attach to the valueTable attribute of the cache the appropriate feeding function associated to your data source. For further information regarding cache setup, refer to the *RTView Core® User's Guide* at <http://www.sl.com/support/documentation/> and select the section Caches.

### 1.8. Verify your setup

To verify your work so far, the new Solution Package should run similarly to the original Custom SP but no bird data should be seen at this point in the displays.

## Step 2: Create Functions to Extract Current and History Data

To improve performance, the best option is to provide functions for current and history in files with similar naming conventions. Due current data is used differently from historic data, the functions extracting each types should be kept in separate files. Moreover, because current data can be extracted for all instances of a cache or filtered, it is recommended to separate into different files the current data for all items in a cache and the current data for one single item. For each cache definition file, we recommend creating the following three include files:

- Current Include File: To get the data from the current table of the caches.
- Current1 Include File: To get the data from the current table of the caches filtered for one set of indexes.
- History1 Include File: To get the historical data of the caches filtered for one set of indexes.

### 2.1. Creation of the Current Include File

This file contains one function per cache with the following.

Best Practice: File naming convention of current include files

**[pck]\_[dataType]\_current\_include.rtv**

E.g. **wls\_server\_current\_include.rtv**

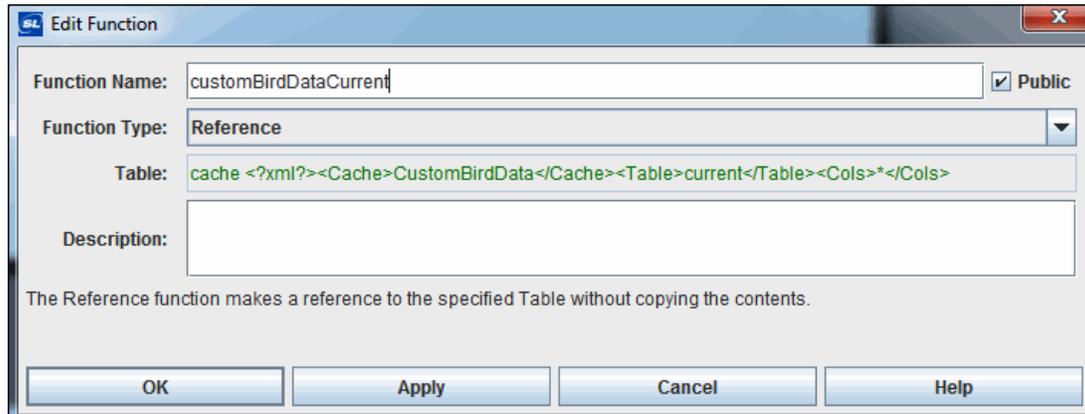
---

**Note:** For performance reasons, in displays it is not recommended that you refer directly to caches. Instead you should include **\*current\_include** files containing exclusively the set of functions that will be regularly used.

---

#### 2.1.1. Rename current file

Rename the **custom\_bird\_current\_include.rtv** file with an appropriate name for your customized Solution Package. Open the file in the RTView Builder, rename the cache filtering function (customBirdDataCurrent) and attach it to the cache that you created in the previous step. If the cache name cannot be seen in the drop down, this indicates that the RTView Builder cannot reach the cache configuration file. Please go back to “[Step 1: Create Cache](#)” on [page 948](#) and double check your changes. When renaming the function you will be asked if you would like to update existing data attachments for the function to use the new name. Answer **Yes** to this question.



Best Practice: Function naming convention for current functions

### **[pck][DataType]Current**

where **pck** is the Package prefix and **DataType** is the type of the data cached.

E.g. **gfsServerCurrent**

**customBirdDataCurrent**

**Note:** Functions start with lowercase and caches with uppercase.

## **Step 2.2. Creation of Current1 Include File**

Current 1 (one) Include Files are the files in which we use the shared variables of the Solution Package to filter one item out of the cache. This file contains one function per cache with the following.

Best Practice: File naming convention for current 1 include files

### **[pck]\_[dataType]\_current1[initial]\_include.rtv**

where **pck** is the Package Prefix, **dataType** is the name of the data cached, and **initial** is the first letter of the dataType.

E.g. **wls\_server\_current1s\_include.rtv**, or **custom\_bird\_current1\_include.rtv**  
where

**pck=wls, dataType=server, and initial=[s | blank]**

**Note:** Notice that the files **\*current1\*** and **history1\*** need filtering variables for selection. It is recommended that these filtering variables are located in a **\*shared\*** file and included in the

**\*common1\*** file. For instance, in the Custom SP the **custom\_shared\_vars.rtv** contains **\$customBird** and **\$customConn**, which are the filtering or drill-down substitutions used throughout all files in that SP.

---

### Step 2.2. Rename current 1 file

Rename the **custom\_bird\_current1\_include.rtv** file with an appropriate name for your customized Solution Package.

### Step 2.3 Create the \*shared\_vars.rtv file for your SP

Rename the **custom\_shared\_vars.rtv** file with an appropriate file name for your Solution Package. Using the RTView Builder, rename the drill-down substitutions that you will use in your Solution Package. These substitutions will be used throughout displays and include files.

Best Practice: File naming convention of files containing the SP drilling-down substitutions

**[pck]\_shared\_vars.rtv**, e.g. **custom\_shared\_vars.rtv**

Best Practice: Substitution naming convention

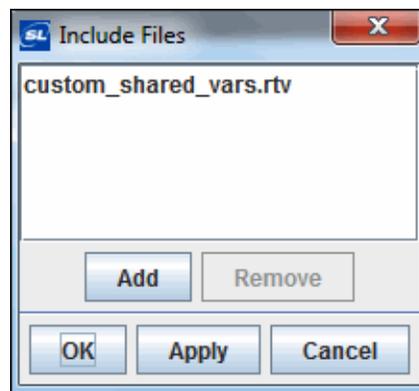
Camel-case naming starting with lower case that should start with the prefix of the Solution Package followed by the name of the metric or column name of the index.

**\$(pck)[MetricName]**

E.g. **\$wlsServer**, **\$customBird**

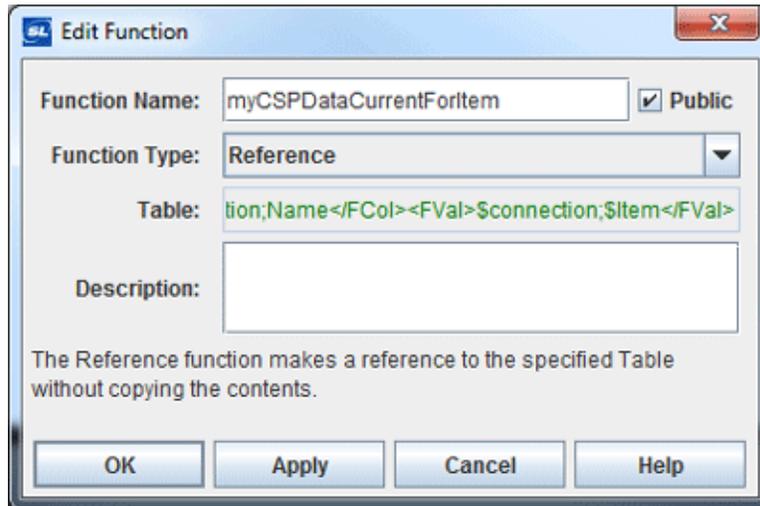
### 2.4. Replace the include file

In the **custom\_alertstats\_current\_include.rtv** file, replace the include file with the one you have created in the previous step. The variables in this file will be used to extract the alerts of your SP from the RTView Enterprise Monitor Alert Engine. This step will be described later in this document.



### 2.5. Rename the custom\_bird\_current1\_include.rtv file

Rename the **custom\_bird\_current1\_include.rtv** file with an appropriate file name for your Solution Package. Using the RTView Builder, rename the cache filtering function **customBirdDataCurrentForBird** and attach it to the cache. Use filtering substitutions (variables used to filter one item from a set of data - in the **custom\_shared\_vars.rtv** file these are called **\$customConn** and **\$customBird**) to select one item from your data source and attach it to the current table. This is done under **Filter Value** in the **Attach to Cache Data** dialog.



## 2.6. Creation of the History 1 Include File

To get the historical data of a given set of indexes, we use this type of files, which should contain one function per cache that requires filtering to one single item.

Best Practice: File naming convention of History 1 include files

**[pck]\_[dataType]\_history1[initial]\_include.rtv**

E.g. **wls\_server\_history1s\_include.rtv**

**custom\_bird\_history1\_include.rtv**

---

**Note:** If there is no confusion, you can omit the initial in all **\*1\_include** files.

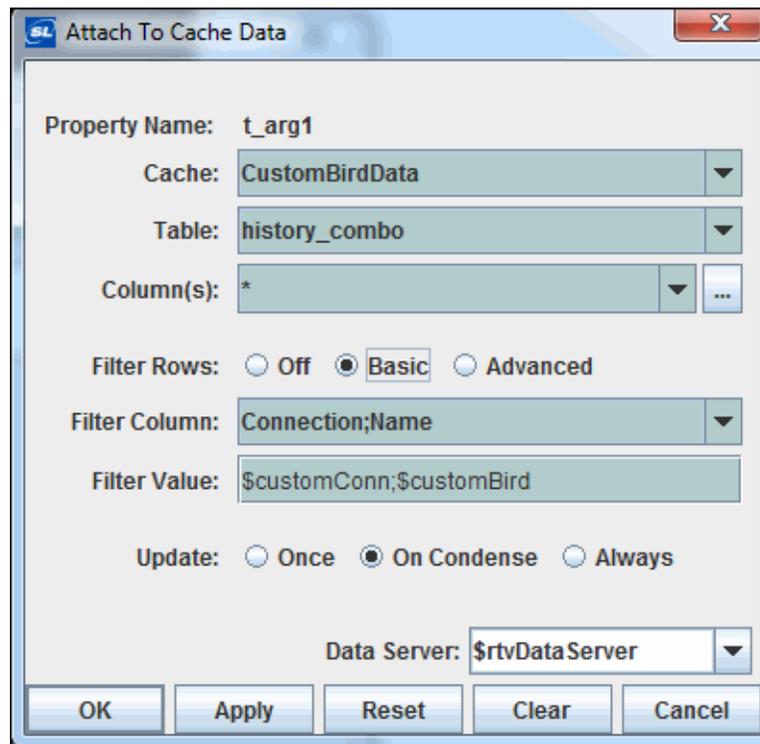
---

Best Practice: Naming convention for History 1 functions

**[pck]HistoryFor[ItemName]**

E.g. **wlsHistoryForServer**

**customBirdDataHistoryForBird**



### Step 3: Configure Caches

In the file **rtvapm.mycustom.properties** contained in the **/rtvapm\_projects/myemsample/mycustom/conf** directory, each cache file should be declared. The configuration line for each file is as follows:

**collector.sl.rtvview.cache.config=[pck]\_[datatype]\_cache.rtv**

E.g. **collector.sl.rtvview.cache.config=custom\_bird\_cache.rtv**

**collector.sl.rtvview.cache.config=bw\_server\_cache.rtv**

#### Step 3.1. Declare the cache definition files

In the **/rtvapm\_projects/myemsample/mycustom/conf/rtvapm.mycustom.properties** file, for each cache definition file, modify the **custom\_bird\_cache** line by renaming it to the appropriate file name containing the caches for your SP. If you have two or more cache definition files, you should add one line per cache definition file.

#### Step 3.2. Define the substitutions used in the cache definition files.

In several attributes from caches we used substitutions to define their value. Here, one should define all substitutions as well as the name of the tables for historical data. There are several ways to keep history of a cache - please refer to the *RTView Core® User's Guide* at <http://www.sl.com/support/documentation/> and select **Caches** for further information. For each cache with history being configured (either with history number of rows > 0 and /or compaction attributes not empty), it is necessary to declare the table name to keep history. Any default settings in the conf directory can be overwritten if necessary in the **sample.properties** file in the **/rtvapm\_projects/myemsample/mycustom/src/rfiles** directory. In general, data connections and all customized properties are defined here.

### Step 3.2. Create substitutions

Create substitutions to define the table names to store historic data if you have defined caches with history, then create one substitution to store the table name and attach it to the **historyTableName** attribute of the Historian section of the Cache Definition Object. To do so, you should follow these steps:

3.2.1. Open the file with the cache definition in the RTView Builder. E.g.

**custom\_bird\_cache.rtv**

3.2.2. From the main menu select **Tools->Caches** and click on the cache with history being set. E.g. **CustomBirdData**

3.2.3. Go to the Historian section of the Object Properties of the cache and replace the name of the substitution in the **historyTableName** attribute. The naming convention for this substitution follows:

Best Practice: Naming convention of historian tables should:

- Create a substitution to use in the cache object `$_PCK_[DATATYPE]_TABLE`
- Assign the substitution to a value identical to the substitution name removing the last suffix

3.2.4. For each of your caches with history being setup, go to the **/rtvapm\_projects/myemsample/mycustom/conf** directory and replace with the name of the substitution you chose in the **rtvapm.mycustom.properties** file. Each cache must have a specific substitution with an unique table name. E.g. the configuration line:

**sl.rtvview.sub=\$\_CUSTOM\_BIRD\_TABLE:CUSTOM\_BIRD**

could be changed to:

**collector.sl.rtvview.sub=\$\_MYCUSTOM\_TYPE1\_TABLE:MYCSP\_TYPE1**

The string after the colon is the name of the table.

3.2.5. If you want to replace the **databaseName** attribute, then repeat the four previous steps with the corresponding substitution and database name. For all caches the **databaseName** attribute should use the same substitution. This step is optional.

For instance, you can replace

**sl.rtvview.sub=\$\_CUSTOMHISTORY\_DB:RTVHISTORY**

by

**sl.rtvview.sub=\$\_PCK]HISTORY\_DB:RTVHISTORY**

and use the substitution **\$\_PCK]HISTORY\_DB**, where **PCK** is the prefix of your SP in upper cases for all **databaseName** attributes in all your caches configured to keep historical data.

---

**Note:** It is recommended you keep the value of the **databaseName** as it is used in the **rtvview.properties** configuration file (**\$\_RTVHISTORY:RTVHISTORY**). Otherwise, you should change it to the new value in this file and also in the properties files you have to configure history.

---

## Step 4: Create Top-Level Displays

In general, these displays will show the current data of the chosen collection. For instance, in the Custom SP, the file **custom\_allbirds\_table.rtv** should be regarded as the top-level display of the package. Therefore, these displays should include the associated **\*current\_include.rtv** file. The standard top-level displays are grouped on heatmaps, grids, and tables.

Best Practice: File naming convention for top-level displays

**[pck]\_[mydata]\_heatmap.rtv, e.g. bw\_allservers\_heatmap.rtv**

**[pck]\_[mydata]\_table.rtv, e.g. wls\_allapps\_table.rtv**

**[pck]\_[myData]\_grid.rtv, e.g. wls\_allservers\_grid.rtv**

To individually drill-down to a selected item from the display, declare the drill-down substitutions and the target display in the Interaction section of the table/heatmap/grid graphical object. See the “[Custom SP - Displays](#)” for a description on how this is done in the Custom SP.

### Step 4.1. Rename custom\_allbirds\_table.rtv

Rename the file **custom\_allbirds\_table.rtv** with an appropriate name for your Solution Package. Open the renamed file in the RTView Builder and replace the include file with the new one you renamed in Section 2.1. (It is the file equivalent to the **custom\_bird\_current\_include.rtv** file). In following sections, the common file will be changed. Then, select the table graphical object by clicking on it and go to the **valueTable** attribute to attach the new current function from your include file.

## Step 5: Define the Alerts to Monitor the Data of Your Solution Package

Once you have designed the alerting scenarios for your Solution Package, you define them in an alert definition file. The file naming convention of this file is:

Best Practice: Naming convention of Alert Definition Files

**[pck]\_alertdefs.rtv**

### 5.1 Rename custom\_alertdefs.rtv

Rename the **custom\_alertdefs.rtv** file with an appropriate name for your Solution Package. In the include file window, add the necessary current include files to get the metrics that will be used in the alert definition objects (originally **custom\_bird\_current\_include.rtv**). For each alert, specify the **Category** attribute and the **Package** attribute of the alert. These two attributes filter the alerts from the RTView Enterprise Monitor Alert Engine. The Package should be the same across alerts and **Category** should depend on the alert indexes. Finally, declare the indexes and the **valueTable** attribute of the alert. Please, review the previous chapter “[Custom SP - Alerts](#)” on page 939 for a rapid overview of the creation of alerts. Also see to the Alerts section in the *RTView Core® User's Guide* for further information.

5.2. In the **rtvapm\_projects/myemsample/mycustom/conf/rtvapm.mycustom.properties** file change the right string of the configuration line

**collector.sl.rtvview.alert.config=custom\_alertdefs.rtv**

with the name of the newly created alert definition file in Step 5.1.

## Step 6: Create the Include File to Define Functions to Filter Alerts

This file uses the caches of the RTView Enterprise Monitor Alert Engine to extract the alerts that are from the package.

Best Practice: Naming convention of the include file to filter alerts

**[pck]\_alertstats\_current\_include.rtv**, e.g. **wls\_alertstats\_current\_include.rtv**,  
**custom\_alertstats\_include**.

### 6.1 Rename the **custom\_alertstats\_current\_include.rtv** file

Rename the **custom\_alertstats\_current\_include.rtv** file with an appropriate name for your Solution Package. Afterwards, open this file with RTView Builder and rename the functions in this file with appropriate names.

6.1.1 The function **customAlertSeverityByBird** should be renamed to **[pck]AlertSeverityBy[Item]**. It extracts the alert information from the RTView EM internal cache **RtvAlertStatsByCategoryIndex**.

6.1.2 The function **customAlertStatsByPackageCurrent** should be renamed to **[pck]AlertStatsByPackageCurrent**. It extracts the information from the RTView Enterprise Monitor internal cache **RtvAlertStatsByPackageIndex**. This function provides the **AlertCount** and **MaxSeverity** of the alerts coming from the package. Double-clicking in the **Table Field** of the **Edit Function Window**, replace the **Filter Value** with the name of your Solution Package. (See next figure.)

### 6.2. Rename the **custom\_alertstats\_current\_include.rtv** file

Rename the **custom\_alertstats\_current\_include.rtv** file with an appropriate name for your Solution Package. Rename the functions in this file with appropriate names.

6.2.1 The function **customAlertSeverityByBird** should be renamed to **[pck]AlertSeverityBy[Item]**. It extracts the alert information from the RTView Enterprise Monitor internal cache **RtvAlertStatsByCategoryIndex**.

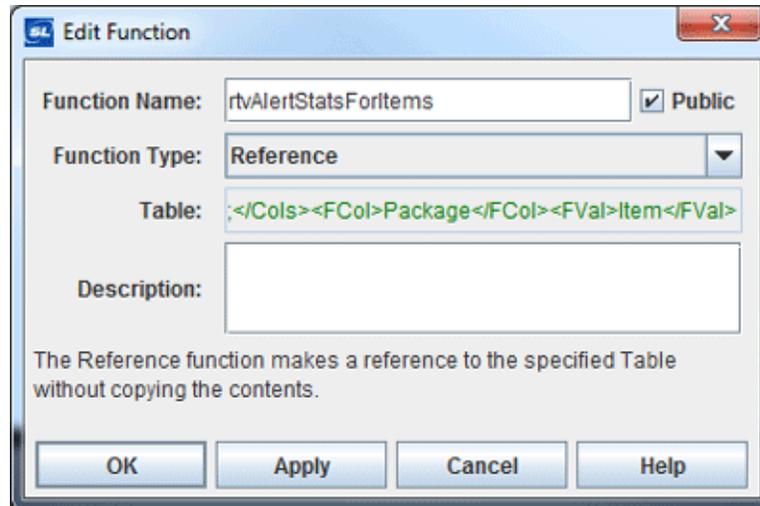
6.2.2. The function **customAlertStatsByPackageCurrent** should be renamed to **[pck]AlertStatsByPackageCurrent**. It extracts the information from the RTView Enterprise Monitor internal cache **RtvAlertStatsByPackageIndex**. This function provides the **AlertCount** and **MaxSeverity** of the alerts coming from the package. Double-clicking in the **Table Field** of the **Edit Function Window**, replace the **Filter Value** with the name of your Solution Package.

6.2.3 The function **customAlertStatsByCategoryCurrent** should be renamed to **[pck]AlertStatsByCategoryCurrent**. It extracts the information from the RTView Enterprise Monitor internal cache **RtvAlertStatsByCategoryIndex**. This function provides the **AlertCount** and **MaxSeverity** of the alerts coming from the package. Double-clicking in the **Table Field** of the **Edit Function Window**, replace the **Filter Value** with the name of your **Category**. (See next figure.)

---

**Important:** Notice that Categories can share the same indexes and more sophisticated mechanisms to extract in isolation these alerts might be needed.

---



These changes should be done for each Category you are alerting on. For instance, if you are monitoring IT infrastructure, your Categories could be arranged into hosts, servers of a given technology, applications, and servlets. Therefore, if you want to alert on each of these sets, then you need to create new functions to filter against their corresponding indexes. That is, you need to have the following functions:

- [pck]AllAlertStatsCurrent
- [pck]AlertStatsForHost
- [pck]AlertStatsForServer
- [pck]AlertStatsForApplication
- [pck]AlertStatsForServlet

You decide the alerting levels in your Solution Package, but keep in mind that each level needs a different Category in the alert definition object of each alert. Otherwise, there is no way to extract the desired levels for alerts.

## Step 7: Create Low-level Displays with Combo Boxes for Selection

To standardize across all low-level displays, create **\*common\*** files for each index of the data and show the index selection on validated (non-empty) combo boxes.

Best Practice: File naming convention for common1 files

**[pck]\_common\_1.rtv**

E.g. **wls\_common\_1.rtv**

The **\*common\_1.rtv** file contains the variables and substitutions to manage data through each display of the package. This file needs to be included on all displays to provide the substitutions to manage data and to show the upper header for a similar look-&-feel across displays.

### 7.1 Rename the `custom_bird_summary.rtv` file

Rename the `custom_bird_summary.rtv` file with an appropriate file name for your Solution Package. Attach each of the objects associated with current data to the specific attribute of the filtered function in your `[mycustom]_current1_include.rtv` file.

Rename `custom_common_1.rtv` following the above naming convention. And also rename the `custom_common_bird.rtv` with an appropriate name for your Solution Package. The naming convention follows:

Best Practice: File naming convention for drill-down common files

**[pck]\_common\_[type].rtv,**

e.g. `custom_common_bird.rtv`

### 7.2. Replace the include file

Open the previous file (originally `custom_common_bird.rtv`) in the RTView Builder and replace the include file with the corresponding `*current_include` file created in Step 2.1. Rename the function `connectionList` with an appropriate name for the first metric in your Solution Package. Double-clicking in this function, replace the `Selector Table` field in the **Edit Function Window** with the corresponding function and metric. Finally, rename the `validateConnection` function with an appropriate name for your Solution Package and change the `Substitution String` to the associated substitution and the `Default Value` to the function previously created. Repeat this step for each of the indexes in your data and add as many combo boxes as you need.

Best Practice: File naming convention for summary displays and arrangement

**[mycsp]\_[myData]\_summary.rtv**

E.g. `wls_jmserver_summary.rtv`

`custom_bird_summary.rtv`

The summary-level displays will show the historical data in the form of trend graphs. Usually, the upper part of the display will contain current data and historic data will be arranged on trend graphs in the lower part of the display. To do so, the corresponding `*history1*` files need to be included and attached to the `ValueTable` field of each trend.

### 7.3. Add a history file

Open your summary display in the RTView Builder (the one renamed in Step 7.1). In the include file window, remove the `custom_bird_history1_include.rtv` file and add the appropriate history file for your Solution Package. Now you can modify the trend graph on the bottom part of the display. By clicking in the trend graph, select graphical objects and in the Trace section of the Object Properties define the number of traces to be seen. On each trace, attach the `[pck]CurrentFor[Type]` function to the `trace[N]Value` attribute and the `[pck]HistoryFor[Type]` function to the `trace[N]ValueTable` attribute. For correct behavior, define as the first column the `time_stamp` and the metric you want to trend as the second column.

### 7.4. Rename alert include file in the summary display

In the **Tools->Include Files** window replace the alert include file with the appropriate one for your Solution Package. Then, click on the table graphical object, titled **Current Alerts for this Bird**, and change the title with a string appropriate for your summary display. Also, you should replace the function chain attached to the `valueTable` attribute of the table and the alert function in the function chain that joins the metrics and alerts to the corresponding function in the alert include file.

## 7.5. Update drill-down to new summary display

We will conclude here the creation of the drill-down mechanism in the top-level display that you created in Step 4.1. Open this file (originally **custom\_allbirds\_table.rtv**) in the RTView Builder and select the table object with one click over it. Go to the section Interaction in the Object Properties and set the **drillDownTarget** to be the file that you created in Step 7.1 and the **drillDownColumnSubs** attributes to the drill-down substitutions that are appropriate for your Solution Package. To double check that drilling down operation has been defined correctly, select **Preview Mode** in the tool bar of the RTView Builder and double click on one of the rows of the table. This action would produce the switching to the low-level display that you created in Step 7.1 with the indexes of the selected row. If this is not the case, please review the previous steps.

## Step 8: Create the Navigation Tree and Display Arrangement

The navigation tree (**\*navtree.rtv** file) defines the organization and nesting of the displays, and the **\*panels.xml** file defines the arrangement of the title, the menu, and the displays in the screen. The **\*navinfo.xml** file defines the Heading, Technology, and Vendor information used to include the navigation tree in EM.

The standard arrangement sets the title in the upper part of the screen, with a small left-sided rectangle to allocate the menu. On the right of the navigation tree (or display menu), the selected display from the menu will be shown. The naming conventions for these files are:

**[pck]\_navtree.rtv**

**[pck]\_panels.xml**

**[pck].navinfo.xml**

This step is needed in order to integrate displays from your Solution Package into the **Components** navigation tree of the RTView EM application. See [“Mycustom SP - Integration in RTView EM” on page 962](#) for more information on how to include custom displays in RTView Enterprise Monitor.

### 8.1. Rename the custom\_navtree.xml file

Rename the **custom\_navtree.xml** file with an appropriate file name for your Solution Package. Provide relevant labels for your displays and associate them with their file names.

### 8.2. Rename the custom\_panels.xml file

Rename the **custom\_panels.xml** file with an appropriate file name for your Solution Package. Open this file with a text editor and replace the file name of the navigation tree with the file you created in Step 8.1. Finally, set the display that will be shown in the main display at startup by replacing the **custom\_allbirds\_table.rtv** file with the main display file you chose. This is only needed if your Solution Package will be executed independently of RTView EM.

### 8.3. Rename the custom.navinfo.xml file

Rename the **custom.navinfo.xml** file with an appropriate file name for your Solution Package. This should use the same **pck** name as the **navtree.xml** file.

## Step 9: Update Build Scripts

This step is needed to adjust the renamed files from previous sections and declare the directory in which your Solution Package has been developed. With the script:

- **make\_all.bat / .sh**: All script files below will be called and executed.
- **make\_classes.bat / .sh**: If there is any custom code needed, it will be updated with this script.
- **make\_jar.bat / .sh**: Generates the jar file.
- **make\_project.bat / .sh**: To isolate code from the installation deliverable. The code of your Solution Package resides in the **mycustom/src/rfiles** directory and the deliverable directory is in **mycustom/projects/sample**. This separation allows customers distribute their own jar files similarly like RTView Enterprise Monitor distributes their Solution Packages.
- **make\_wars.bat / .sh**: Creates war files for this application.

In an [initialized command window](#), rebuild the package by executing the **make\_all.bat/.sh** script.

Best Practice: Separation of development and deliverable directories

For development you should execute and work in **src/rfiles**. Users of the package should work in **projects/sample**. These scripts allow the creation of the needed jars and files for this. Final tests should be always executed in the **projects/sample** directory and in the thin client to verify correct building/functioning of the Solution Package.

## Mycustom SP - Integration in RTView EM

This section describes the integration of your Solution Package in RTView Enterprise Monitor. There are several steps involved:

- [“Defining CI Types and their cache mappings, alert mappings and Key Metrics”](#)
- [“Creating the properties file for integration in RTView Enterprise Monitor”](#)
- [“Configuring the Mycustom SP Data Server”](#)
- [“Adding the Mycustom SP displays into the navigation tree”](#)
- [“Connecting alerts to the RTView EM Alert Server”](#)

### Defining CI Types and their cache mappings, alert mappings and Key Metrics

In the file **rtvconfig.mycustom.xml** located under the **rtvapm/projects/myemsample/mycustom/src/rfiles** directory, you'll find the following sections:

- a) CITYPE\_DEFS. The definitions of the CIs for your customized SP. For further information go to [“Configure Service Data Model” on page 29](#).
- b) CITYPE\_CACHEMAP. The mapping of CIs and caches
- c) CITYPE\_ALERTMAP. The mapping of CIs and alerts.
- d) CITYPE\_KEY\_METRICS. The Key Metrics. For details about Key Metrics, see [“Key Metrics Views” on page 139](#).

Step 1. CITYPE\_DEFS definition

You need to define here for each of the CIs used in your Solution Package the following information:

- CITYPE: name of the CI
- INDEXMAP: semicolon separated string of numbers: **1;2;...;n**, where **n** is the number of indexes of the associated cache
- INDEXNAMES: semicolon separated string of the metrics that define the indexes of the cache
- RTVDISPLAY: main display of the CI
- CIVARMAP: semicolon separated string of the substitutions used to select individual CIs
- DEFAULTQUALITY: If set to 1 it grays out the CI row in the Service Summary display and generates a bad quality alert if there is no data for that entry. If 0, then no bad quality alerts are generated if there is no data for that CI.
- OWNER: first level of the automatically populated CMDB. Keep the same owner name. For details, see ["Introduction to the CMDB" on page 30](#).
- AREA: second level of the automatically populated CMDB.
- SERVICEGROUP: third level of the automatically populated CMDB.

#### Step 2. CITYPE\_CACHEMAP

You need to define here the mapping between CI and the main cache that define the CIs in your customized SP.

#### Step 3. CITYPE\_ALERTMAP

You need to define here the mapping between CI and the alerts defined in your customized SP.

Step 4. CITYPE\_KEY\_METRICS. For details about Key Metrics, see ["Key Metrics Views" on page 139](#).

This table defines your Key Metrics. A Key Metric can be any column from any cache that is associated with the CITYPE in the CITYPE\_CACHEMAP table as long as it meets the following criteria:

- It must be a numeric value.
- It must be included in the history\_combo cache table. If the cache does not support a history combo table, the metric will work on the KM current displays, but not the KM history displays.
- It must have an alert associated with it where the threshold is compared to the raw metric value (not to a calculated value). This alert must be specified in the **AlertName** field (described below).

Each CI Type can have multiple Key Metrics defined. These should be the primary indicators for the health state or activity level on each CI Type. For example, the KMs for hosts are **CPU** and **Memory Utilization Percent**. For an EMS Server or queue, the KMs are the **input rate**, **output rate** and **pending message** counts. For an application server or servlet, the KMs are the **current sessions**, the **number of invocations** and **response time**.

The CITYPE\_KEY\_METRICS table must contain the following columns:

- **CITYPE** (string) – The CI Type. This must be a CI Type defined in the CITYPE\_DEFS table.
- **CACHENAME** (string) – The name of the cache that contains the metric. This must be a cache that is associated with the CITYPE in the CITYPE\_CACHEMAP table.
- **SELECTOR** (string) – This is the user friendly name displayed in the **Metric Name** column of the KM data.
- **METRICNAME** (string) – The name of the **cache** column. Note that this name is not displayed anywhere, it is only used to construct the data attachment to the cache. The SELECTOR is the name that is displays in the **Metric Name** column.
- **AlertName** (string) – The name of the alert that executes based on the metric. This alert must execute on the raw metric value, not a calculated value. If this field is blank, this KM will not be included in the KM displays.
- **CalcMode** (string) – This field is optional. If specified, the **Threshold % Scaled** value is calculated based on the following values:
  - exp** – This is an exponential scale that adjusts the value so that lower values are diminished. It should be used for all memory metrics.
  - inverse** – This should be used for all metrics where the alert is a low alert (an alert that executes when the value goes below the threshold). It applies an inverse scale so that value is calculated in reverse of the standard thresholds.
  - log** – This is a logarithmic scale.
- **Level** (int) – This should be set to **0** or **1**. Level **0** KMs are always included in the KM displays. Level **1** metrics are only included if the **Include Detail Level Metric** checkbox is selected.
- **MaxValueIfNoAlert** (string) – This is not currently used.
- **AutoScaleIfNoAlert** (int) – This is not currently used.
- **MinColor** (int) – This is not currently used.
- **MaxColor** (int) – This is not currently used.
- **ColorCount** (int) – This is not currently used.

### Creating the properties file for integration in RTView Enterprise Monitor

Create a new file named **rtvapm.<pkg>.ref.properties** under the **mycustom\conf directory** replacing **<pkg>** with the name of your package. This will contain classpath, navigation and citype information for use in RTView Enterprise Monitor:

```
#
# PACKAGE JARS
#
sl.rtvview.cp=%RTVAPM_HOME%/<pkg>/lib/rtvapm_pck.jar

#
# CITYPES
#
ConfigCollector.sl.rtvview.xml.xmlsource=rtvconfig.<pkg>.xml 0 rtvconfig.<pkg>.xml 0 1
ConfigCollector.sl.rtvview.cache.config=rtv_config_cache_source.xml.rtv $package:<pkg>
# Navigation
uiprocess.sl.rtvview.xml.xmlsource=<pkg>_navtree.xml 0 <pkg>_navtree.xml 0 1
uiprocess.sl.rtvview.xml.xmlsource=<pkg>.navinfo.xml 0 <pkg>.navinfo.xml 0 1
uiprocess.sl.rtvview.cache.config=rtv_tabtree_cache_source_comp.rtv $package:<pkg>
```

## Configuring the Mycustom SP Data Server

The Mycustom SP Data Server is configured in the CUSTOM section near the end of the **central.properties** file in the **rtvapm\_projects/myemsample/servers/central** directory. In this section, the Data Server name and its port number are defined as well as the JMX connection parameters to monitor. Also, the **cisource** property is defined which tells EM which Solution Package is hosted on this Data Server and causes the mapping of the CI Types. See the **sl.rtvapm.cisource** property in [Appendix B, "Properties"](#) section for details about **cisource** property syntax.

## Adding the Mycustom SP displays into the navigation tree

In **rtvapm\_projects/myemsample/servers/central/rtview.properties**, add this line replacing **<pck>** with your Solution Package name:

```
rtvapm_reference=<pck>
```

In **rtvapm\_projects/myemsample/servers/central/central.properties**, add your package to the \$rtvPackages property.

## Connecting alerts to the RTView EM Alert Server

Open the **rtview.properties** file (located in the **rtvapm\_projects/myemsample/mycustom/src/rfiles** directory) in a text editor and make the following edits:

- In the Define the ALERTDEFS DB Properties Section, comment out the following line:

```
sl.rtvview.sql.sqlldb=ALERTDEFS sa - jdbc:hsqldb:hsqldb://localhost:9102/alertdefs  
org.hsqldb.jdbcDriver - false true
```

You now verify that monitoring data gathered by your Solution Package is being correctly integrated with RTView Enterprise Monitor.



## APPENDIX A RTView EM Scripts

This section describes scripts that are available for RTView Enterprise Monitor and the **rtvservers.dat** configuration file. This section includes:

- [“Scripts” on page 967](#)
- [“rtvservers.dat” on page 977](#)

---

### Scripts

The following scripts are available when used from an [initialized command window](#). We recommend that all scripts be executed from your [project directory](#). The scripts can be executed from a Windows Command Prompt or UNIX terminal window. On Windows, you can type the commands as described in the following section; on UNIX systems you must add **.sh** to each command. For example, **rundata.sh**.

These instructions assume that a Bourne-compliant shell is used (**sh** or **bash**, for example).

This section describes scripts that are available for RTView Enterprise Monitor and the **rtvservers.dat** configuration file. This section includes:

- [“rtvservers.dat” on page 977](#)

| Script Name                 | Description  |
|-----------------------------|--|
| <b>dos2unix.sh</b>          | Converts a text file from a DOS format to a Unix format. This script takes one argument, a filename, and replaces the original file with the converted version. This script is not available as <b>.bat</b> script.<br>Location:<br><b>rtvapm/common/bin</b> |
| <b>make_all_wars.bat/sh</b> | Specifically for emsample, creates all <b>.war</b> files.<br><br>Location:<br><b>emsample/webapps</b>  |

---

**make\_rtvagent\_war.bat/sh**

Makes the **rtvagent.war** file for RTView servlets and places the file in the directory from which you execute the script. The script can be executed from any directory.

Specify an **appname** (which is used to name the war file). You may also specify a **host** and **port**. You may also put a copy of the servlet's properties file in the current directory and it will be used in the war file (the original properties files are in the **rtvapm/rtview/servlets/** directory). Note that if you put a properties file in the current directory you may still override its host or port values when you run the script.

The script takes the following arguments:

**-appname:** Used to name the war file. This argument is required.

**-host:** The host name.

**-port:** The port number.

**-verbose:** Causes the script to print out both the original and new values it puts in the properties file. For example:

**make\_rtvagent\_war -appname:test -host:testhost -port:9999 -verbose**

**-help**

If no arguments are specified (except for the **appname** argument, which is required), the values in the original properties file are used, or the file in the current directory if it is present.

Location:

**rtvapm/common/bin**

---

**make\_rtvdata\_war.bat/sh**

Makes the **rtvdata.war** file for RTView servlets and places the file in the directory from which you execute the script. The script can be executed from any directory.

Specify an **appname** (which is used to name the war file). You may also specify a **host** and **port**. You may also put a copy of the servlet's properties file in the current directory and it will be used in the war file (the original properties files are in the **rtvapm/rtview/servlets/** directory). Note that if you put a properties file in the current directory you may still override its host or port values when you run the script.

The script takes the following arguments:

**-appname:** Used to name the war file. This argument is required.

**-host:** The host name.

**-port:** The port number.

**-verbose:** Causes the script to print out both the original and new values it puts in the properties file. For example:

**make\_rtvdata\_war -appname:test -host:testhost -port:9999 -verbose**

**-help**

If no arguments are specified (except for the **appname** argument, which is required), the values in the original properties file are used, or the file in the current directory if it is present.

Location:

**rtvapm/common/bin**

---

**make\_rtvdisplay\_war.bat/sh**

Makes the **rtvdisplay.war** file for RTView servlets and places the file in the directory from which you execute the script. The script can be executed from any directory.

Specify an **appname** (which is used to name the war file). You may also specify a **host**, **port** and backup port). You may also put a copy of the servlet's properties file in the current directory and it will be used in the war file (the original properties files are in the **rtvapm/rtview/servlets/** directory). Note that if you put a properties file in the current directory you may still override its host or port values when you run the script.

The script takes the following arguments:

**-appname:** Used to name the war file. This argument is required.

**-host:** The host name.

**-port:** The port number.

**-ha\_port:** The high availability port number.

**-verbose:** Causes the script to print out both the original and new values it puts in the properties file. For example:

**make\_rtvdisplay\_war -appname:test -host:testhost -port:9999 -verbose**

**-help**

If no arguments are specified (except for the **appname** argument, which is required), the values in the original properties file are used, or the file in the current directory if it is present.

Location:

**rtvapm/common/bin**

**make\_rtquery\_war.bat/sh**

Makes the **rtquery.war** file for RTView servlets and places the file in the directory from which you execute the script. The script can be executed from any directory.

Specify an **appname** (which is used to name the war file). You may also specify a **host** and **port**. You may also put a copy of the servlet's properties file in the current directory and it will be used in the war file (the original properties files are in the **rtvapm/rtview/servlets/** directory). Note that if you put a properties file in the current directory you may still override its host or port values when you run the script.

The script takes the following arguments:

**-appname:** Used to name the war file. This argument is required.

**-host:** The host name.

**-port:** The port number.

**-verbose:** Causes the script to print out both the original and new values it puts in the properties file. For example:

**make\_rtquery\_war -appname:test -host:testhost -port:9999 -verbose**

**-help**

If no arguments are specified (except for the **appname** argument, which is required), the values in the original properties file are used, or the file in the current directory if it is present.

Location:

**rtvapm/common/bin**

**my\_alert\_actions.bat/sh**

Sample script to define actions for alerts.

Location:

**rtvapm/common/bin**

---

|                                |  |
|--------------------------------|--|
| <b>rtvapm_init.bat/sh</b>      | Initializes a command window.<br>Format:<br><b>rtvapm_init</b><br>(Append <b>.sh</b> on UNIX)<br><br>Location:<br><b>rtvapm_home</b>   |
| <b>rtvapm_user_init.bat/sh</b> | Initializes a user command window.<br>Format:<br><b>rtvapm_user_init</b><br>(Append <b>.sh</b> on UNIX)<br><br>Location:<br><b>project directory</b>   |
| <b>runa.bat/sh</b>             | Executes RTView Analyzer to extract the function chain of the chosen cache definition file. It returns a <b>.pdf</b> file with a graph of the function chain of all caches in the file. The two scripts have the same functionality.<br>Format:<br><b>runa [cacheDefFile].rtv</b><br>(Append <b>.sh</b> on UNIX)<br><b>cacheDefFile</b> - Cache definition file name.<br><br>Location:<br><b>rtvapm/common/bin</b> |
| <b>runb.bat/sh</b>             | Starts the Display Builder. The two scripts have the same functionality.<br>Format:<br><b>runb [-ds] [-bg]</b><br>(Append <b>.sh</b> on UNIX)<br><b>-ds</b> - To use the currently running Data Server.<br><b>-bg</b> - Runs the Display Builder as a background process.<br><br>Location:<br><b>rtvapm/common/bin</b>   |

---

---

**-listversions**

Lists the versions of each RTView jar in the classpath.

Example:

**runb -listversions**

Once the viewer has started fully, you should see versions for all "gmsj\*.jar" and "rtvapm\_\*.jar" files. Output should resemble the following excerpt:

VERSION INFORMATION:

gmsjrtview: APM 2.1.0.0 ALPHA, 11 March 2015 (APM 2.1.0.0 ALPHA, 11 March 2015)

gmsjmodels: APM 2.1.0.0 ALPHA, 11 March 2015 (APM 2.1.0.0 ALPHA, 11 March 2015)

gmsjrtvreport: APM 2.1.0.0 ALPHA, 11 March 2015 (APM 2.1.0.0 ALPHA, 11 March 2015)

gmsjext: APM 2.1.0.0 ALPHA, 11 March 2015 (APM 2.1.0.0 ALPHA, 11 March 2015)

rtvapm\_tbeomon: TBE 2.1.0.0 ALPHA, 11 March 2015 (TBE 2.1.0.0 ALPHA, 11 March 2015)

rtvapm\_gfmon: APM 2.1.0.0 ALPHA, 11 March 2015 (APM 2.1.0.0 ALPHA, 11 March 2015)

rtvapm\_emsmon: EMM 6.4.0.0 ALPHA, 11 March 2015 (EMM 6.4.0.0 ALPHA, 11 March 2015)

---

**rundata.bat/sh**

Starts the Data Server. We recommend that you use the [start\\_rtv](#) script.

Format:

**rundata [-properties]:[Property File Name]**

(Append **.sh** on UNIX)

**-properties** - specifies to apply a specific property file.

**Property File Name** - the name of the properties file to apply.

**-propfilter** - relevant to the Data Server.

Examples:

**rundata -properties:mssystem**

or

**rundata -properties:mssystem.properties**

(**.properties** file name suffix is optional)

Example:

**rundata.sh -properties:sample -propfilter:sender**

Location:

**rtvapm/common/bin**

---

---

**-listversions**

Lists the versions of each RTView jar in the classpath.

Example:

**rundata -listversions**

Once the viewer has started fully, you should see versions for all "gmsj\*.jar" and "rtvapm\_\*.jar" files. Output should resemble the following excerpt:

VERSION INFORMATION:

gmsjrtview: APM 2.1.0.0 ALPHA, 11 March 2015 (APM 2.1.0.0 ALPHA, 11 March 2015)

gmsjmodels: APM 2.1.0.0 ALPHA, 11 March 2015 (APM 2.1.0.0 ALPHA, 11 March 2015)

gmsjrtvreport: APM 2.1.0.0 ALPHA, 11 March 2015 (APM 2.1.0.0 ALPHA, 11 March 2015)

gmsjext: APM 2.1.0.0 ALPHA, 11 March 2015 (APM 2.1.0.0 ALPHA, 11 March 2015)

rtvapm\_tbeomon: TBE 2.1.0.0 ALPHA, 11 March 2015 (TBE 2.1.0.0 ALPHA, 11 March 2015)

rtvapm\_gfmon: APM 2.1.0.0 ALPHA, 11 March 2015 (APM 2.1.0.0 ALPHA, 11 March 2015)

rtvapm\_emsmon: EMM 6.4.0.0 ALPHA, 11 March 2015 (EMM 6.4.0.0 ALPHA, 11 March 2015)

---

**rundb.bat/sh**

Starts the HSQLDB database. We recommend that you use the [start\\_rtv](#) script.

Location:

**rtvapm/common/bin**

---

**rundisp.bat/sh**

Starts the Display Server. We recommend that you use the [start\\_rtv](#) script.

Location:

**rtvapm/common/bin**

---

**-listversions**

Lists the versions of each RTView jar in the classpath.

Example:

**rundisp -listversions**

Once the viewer has started fully, you should see versions for all "gmsj\*.jar" and "rtvapm\_\*.jar" files. Output should resemble the following excerpt:

VERSION INFORMATION:

gmsjrtview: APM 2.1.0.0 ALPHA, 11 March 2015 (APM 2.1.0.0 ALPHA, 11 March 2015)

gmsjmodels: APM 2.1.0.0 ALPHA, 11 March 2015 (APM 2.1.0.0 ALPHA, 11 March 2015)

gmsjrtvreport: APM 2.1.0.0 ALPHA, 11 March 2015 (APM 2.1.0.0 ALPHA, 11 March 2015)

gmsjext: APM 2.1.0.0 ALPHA, 11 March 2015 (APM 2.1.0.0 ALPHA, 11 March 2015)

rtvapm\_tbeomon: TBE 2.1.0.0 ALPHA, 11 March 2015 (TBE 2.1.0.0 ALPHA, 11 March 2015)

rtvapm\_gfmon: APM 2.1.0.0 ALPHA, 11 March 2015 (APM 2.1.0.0 ALPHA, 11 March 2015)

rtvapm\_emsmon: EMM 6.4.0.0 ALPHA, 11 March 2015 (EMM 6.4.0.0 ALPHA, 11 March 2015)

---

---

|                          |   |
|--------------------------|---|
| <b>runhist.bat/sh</b>    | <p>Starts the Historian. We recommend that you use the <a href="#">start_rtv</a> script.</p> <p>Location:<br/><b>rtvapm/common/bin</b></p> <hr/> <p><b>-listversions</b></p> <p>Lists the versions of each RTView jar in the classpath.</p> <p>Example:<br/><b>runhist -listversions</b></p> <p>Once the viewer has started fully, you should see versions for all "gmsj*.jar" and "rtvapm_*.jar" files. Output should resemble the following excerpt:</p> <p>VERSION INFORMATION:</p> <p>gmsjrtrview: APM 2.1.0.0 ALPHA, 11 March 2015 (APM 2.1.0.0 ALPHA, 11 March 2015)</p> <p>gmsjmodels: APM 2.1.0.0 ALPHA, 11 March 2015 (APM 2.1.0.0 ALPHA, 11 March 2015)</p> <p>gmsjrtrvreport: APM 2.1.0.0 ALPHA, 11 March 2015 (APM 2.1.0.0 ALPHA, 11 March 2015)</p> <p>gmsjext: APM 2.1.0.0 ALPHA, 11 March 2015 (APM 2.1.0.0 ALPHA, 11 March 2015)</p> <p>rtvapm_tbemon: TBE 2.1.0.0 ALPHA, 11 March 2015 (TBE 2.1.0.0 ALPHA, 11 March 2015)</p> <p>rtvapm_gfmon: APM 2.1.0.0 ALPHA, 11 March 2015 (APM 2.1.0.0 ALPHA, 11 March 2015)</p> <p>rtvapm_emsmon: EMM 6.4.0.0 ALPHA, 11 March 2015 (EMM 6.4.0.0 ALPHA, 11 March 2015)</p>   |
| <b>run_hsqldb.bat/sh</b> | <p>Starts the HSQLDB database.</p>  |
| <b>runv.bat/sh</b>       | <p>Starts the Display Viewer. We recommend that you use the <a href="#">start_rtv</a> script.</p> <p>Location:<br/><b>rtvapm/common/bin</b></p> <hr/> <p><b>-listversions</b></p> <p>Lists the versions of each RTView jar in the classpath.</p> <p>Example:<br/><b>runv -listversions</b></p> <p>Once the viewer has started fully, you should see versions for all "gmsj*.jar" and "rtvapm_*.jar" files. Output should resemble the following excerpt:</p> <p>VERSION INFORMATION:</p> <p>gmsjrtrview: APM 2.1.0.0 ALPHA, 11 March 2015 (APM 2.1.0.0 ALPHA, 11 March 2015)</p> <p>gmsjmodels: APM 2.1.0.0 ALPHA, 11 March 2015 (APM 2.1.0.0 ALPHA, 11 March 2015)</p> <p>gmsjrtrvreport: APM 2.1.0.0 ALPHA, 11 March 2015 (APM 2.1.0.0 ALPHA, 11 March 2015)</p> <p>gmsjext: APM 2.1.0.0 ALPHA, 11 March 2015 (APM 2.1.0.0 ALPHA, 11 March 2015)</p> <p>rtvapm_tbemon: TBE 2.1.0.0 ALPHA, 11 March 2015 (TBE 2.1.0.0 ALPHA, 11 March 2015)</p> <p>rtvapm_gfmon: APM 2.1.0.0 ALPHA, 11 March 2015 (APM 2.1.0.0 ALPHA, 11 March 2015)</p> <p>rtvapm_emsmon: EMM 6.4.0.0 ALPHA, 11 March 2015 (EMM 6.4.0.0 ALPHA, 11 March 2015)</p> |

---

**start\_rtv.bat/sh**

Starts processes in an RTView Enterprise Monitor configuration as specified in the **rtvservers.dat** configuration file.

For details about **rtvservers.dat**, see "**rtvservers.dat**" on page 977.

An RTView Enterprise Monitor configuration might include a Data Server, a Display Server or Viewer, an Historian and a Central Server Database.

**start\_rtv** only attempts to start processes it detects are not running. The action can be applied to all RTView Enterprise Monitor configurations, a single RTView Enterprise Monitor configuration or a single process in an RTView Enterprise Monitor configuration.

If the Display Viewer is started using the **start\_rtv** script, the Viewer cannot be stopped using the **stop\_rtv** script. You can stop the Viewer by closing its window.

Additional arguments can be included on the command line in which case they are passed to every server specified by the command. Additional arguments can also be included in the "**rtvservers.dat**" file, in which case they are only applied to the specific server in whose command they are included.

**Note:** If you use the **-properties** or **-propfilter** argument with **start\_rtv**, you should also use them with **status\_rtv** and **stop\_rtv**. Those commands use the JMX ports defined for the server, and if any of the properties specified by **-properties** or **-propfilter** arguments change those ports, subsequent commands will be unable to find the server unless also given those properties.

**-console** (or **-c**) - Start the processes with a command window (which is useful for testing).

When used without arguments, this script returns usage information and a list of available configurations. For example, **start\_rtv** returns:

```
Usage: start_rtv config or 'all' [server or 'all'] [args...]
```

```
Available configs:
```

```
  default
    dataserver
    historian
    displayserver
    database
  sender
    dataserver
```

```
Location:
```

```
rtvapm/common/bin
```

**all**

Starts all RTView Enterprise Monitor configurations specified in the **rtvservers.dat** file.

**all** applies the action to all RTView Enterprise Monitor configurations specified in the **rtvservers.dat** file (and corresponding servers or clients specified in each configuration). NOTE: When multiple configurations are specified in the **rtvservers.dat** file and they have different project settings directory locations, the **all** argument processes all the configurations. However, if the configurations have the same project settings directory locations, the **all** argument processes only the first configuration as the others are considered alternative configurations.

Example:

```
start_rtv all  
(Append .sh on UNIX)
```

---

**[Configuration Name]**

Starts a single RTView Enterprise Monitor configuration specified in the **rtvservers.dat** file:

**start\_rtv [Configuration Name]**

(Append **.sh** on UNIX)

Configuration Name is the RTView Enterprise Monitor configuration name specified in the **rtvservers.dat** file. The action applies to all servers or clients specified in the configuration.

Example:

**start\_rtv web\_deployment**

(Append **.sh** on UNIX)

---

**[Server Name]**

Starts a single process in an RTView Enterprise Monitor configuration specified in the **rtvservers.dat** file:

**start\_rtv [Configuration Name] [Server Name]**

(Append **.sh** on UNIX)

Server Name is the name of a server or client member in the configuration. For example, **dataserver**, **displayserver**, **historian** and **database**. The action applies only to that server or client in the configuration.

Example:

**start\_rtv web\_deployment dataserver**

(Append **.sh** on UNIX)

---

**status\_rtv.bat/sh**

Returns the status of all RTView Enterprise Monitor configurations specified in the **rtvservers.dat** configuration file.

For details about **rtvservers.dat**, see [“rtvservers.dat” on page 977](#).

This action uses defined JMX ports. An RTView Enterprise Monitor configuration might include a Data Server, a Display Server or Viewer, an Historian and a Central Server Database. **status\_rtv** only attempts to start processes it detects are not running. The action can be applied to all RTView Enterprise Monitor configurations, a single RTView Enterprise Monitor configuration or a single process in an RTView Enterprise Monitor configuration.

Additional arguments can be included on the command line in which case they are passed to every server specified by the command. Additional arguments can also be included in the [“rtvservers.dat”](#) file, in which case they are only applied to the specific server in whose command they are included.

Note that if you use **-properties** or **-propfilter** arguments with **start\_rtv**, you should also use them with **status\_rtv** and **stop\_rtv**. Those commands use the JMX ports defined for the server, and if any of the properties specified by **-properties** or **-propfilter** arguments change those ports, subsequent commands will be unable to find the server unless also given those properties.

Location

**rtvapm/common/bin**

---

**all**

Returns the status of all RTView Enterprise Monitor configurations specified in the **rtvservers.dat** file. NOTE: When multiple configurations are specified in the **rtvservers.dat** file and they have different project settings directory locations, the **all** argument processes all the configurations. However, if the configurations have the same project settings directory locations, the **all** argument processes only the first configuration as the others are considered alternative configurations.

Example:

**status\_rtv all**

(Append **.sh** on UNIX)

---

---

**[Configuration Name]**

Returns the status of a single RTView Enterprise Monitor configuration specified in the **rtvservers.dat** file:

**status\_rtv [Configuration Name]**

(Append **.sh** on UNIX)

Configuration Name is the RTView Enterprise Monitor configuration name specified in the **rtvservers.dat** file. The action applies to all servers or clients specified in the configuration.

Example:

**status\_rtv web\_deployment**

(Append **.sh** on UNIX)

---

**[Server Name]**

Returns the status of a single process in an RTView Enterprise Monitor configuration specified in the **rtvservers.dat** file:

**status\_rtv [Configuration Name] [Server Name]**

(Append **.sh** on UNIX)

Server Name is the name of a server or client member in the configuration. For example, **dataserver**, **displayserver**, **historian** and **database**. The action applies only to that server or client in the configuration.

Example:

**status\_rtv web\_deployment dataserver**

(Append **.sh** on UNIX)

---

**stop\_hsqldb.bat/sh**

Shuts down the HSQLDB database.

---

**stop\_rtv.bat/sh**

Stops processes in an RTView Enterprise Monitor configuration as specified in the **rtvservers.dat** configuration file.

For details about **rtvservers.dat**, see "[rtvservers.dat](#)" on page 977.

This action uses defined JMX ports. An RTView Enterprise Monitor configuration might include a Data Server, a Display Server or Viewer, an Historian and a Central Server Database. **stop\_rtv** only attempts to start processes it detects are not running. The action can be applied to all RTView Enterprise Monitor configurations, a single RTView Enterprise Monitor configuration or a single process in an RTView Enterprise Monitor configuration.

Additional arguments can be included on the command line in which case they are passed to every server specified by the command. Additional arguments can also be included in the "[rtvservers.dat](#)" file, in which case they are only applied to the specific server in whose command they are included.

Note that if you use **-properties** or **-propfilter** arguments with **start\_rtv**, you should also use them with **status\_rtv** and **stop\_rtv**. Those commands use the JMX ports defined for the server, and if any of the properties specified by **-properties** or **-propfilter** arguments change those ports, subsequent commands will be unable to find the server unless also given those properties.

Location:

**rtvapm/common/bin**

---

---

**all**

Stops all RTView Enterprise Monitor configurations specified in the **rtvservers.dat** file. **all** applies the action to all RTView Enterprise Monitor configurations specified in the **rtvservers.dat** file (and corresponding servers or clients specified in each configuration). NOTE: When multiple configurations are specified in the **rtvservers.dat** file and they have different project settings directory locations, the **all** argument processes all the configurations. However, if the configurations have the same project settings directory locations, the **all** argument processes only the first configuration as the others are considered alternative configurations.

Example:

**stop\_rtv all**  
(Append **.sh** on UNIX)

---

**[Configuration Name]**

Stops a single RTView Enterprise Monitor configuration specified in the **rtvservers.dat** file:

**stop\_rtv [Configuration Name]**  
(Append **.sh** on UNIX)

Configuration Name is the RTView Enterprise Monitor configuration name specified in the **rtvservers.dat** file. The action applies to all servers or clients specified in the configuration.

Example:

**stop\_rtv web\_deployment**  
(Append **.sh** on UNIX)

---

**[Server Name]**

Stops a single process in an RTView Enterprise Monitor configuration specified in the **rtvservers.dat** file:

**stop\_rtv [Configuration Name] [Server Name]**  
(Append **.sh** on UNIX)

Server Name is the name of a server or client member in the configuration. For example, **dataserver**, **displayserver**, **historian** and **database**. The action applies only to that server or client in the configuration.

Example:

**stop\_rtv web\_deployment dataserver**  
(Append **.sh** on UNIX)

---

**update\_wars.bat/sh**

Regenerates war files when the configuration of the Solution Package has changed.

Location:

**rtvapm/<package\_name>/projects/sample**  
(Append **.sh** on UNIX)

---

## rtvservers.dat

This section describes the **rtvservers.dat** configuration file which is used to manage your RTView Enterprise Monitor deployment and RTView Enterprise Monitor processes. This section includes:

- [“Single Configuration File” on page 978](#)
- [“Multiple Configuration File” on page 979](#)

The **rtvservers.dat** text file, located in your [project directory/servers](#) directory, contains one or more RTView Enterprise Monitor configurations. An RTView Enterprise Monitor configuration is a group of servers that should be started together. For example, the configuration might include any of the following: Data Server, Historian, HSQLDB database, and either a Display Server (for a Web Deployment) or a Display Viewer (for a Desktop Deployment). The **rtvservers.dat** file is used when the following scripts are executed:

- [start\\_rtv](#) Starts RTView Enterprise Monitor processes specified in the **rtvservers.dat** file.
- [stop\\_rtv](#) Stops the RTView Enterprise Monitor processes specified in the **rtvservers.dat** file.
- [status\\_rtv](#) Returns status information for RTView Enterprise Monitor processes specified in the **rtvservers.dat** file.

### Single Configuration File

The following **rtvservers.dat** file contains a single RTView Enterprise Monitor configuration, named **default**, for a Web deployment.

```
default . dataserver rundata
default . historian runhist -ds
default . displayserver rundisp -ds
default . database rundb
```

NOTE: The last line in the **rtvservers.dat** file must end with a new line, or be followed by a blank line.

In this example, to start the **default** configuration type: **start\_rtv default** or **start\_rtv all**. To start a single server in the configuration, type **start\_rtv <Configuration Name> <Server Name>**. For example: **start\_rtv default displayserver**.

Each line has the following format consisting of four fields:

**<Configuration Name> <Project Settings Directory Location> <Property Filter Identifying the Server> <Command>**

|   |  |
|---|--|
| <b>&lt;Configuration Name&gt;</b>                     | The name of the RTView Enterprise Monitor configuration ( <b>default</b> in this example).   |
| <b>&lt;Project Settings Directory Location&gt;</b>    | The RTView Enterprise Monitor project settings directory location, relative to the location of the <b>rtvservers.dat</b> file (., the current directory, in this example).   |
| <b>&lt;Property Filter Identifying the Server&gt;</b> | The property filter that identifies the server, which is the property filter under which the server's JMX port is defined. By default, this is the server name, such as <b>dataserver</b> , <b>displayserver</b> and <b>historian</b> .  |
| <b>&lt;Command&gt;</b>                                | The script used to start the process. Valid values are: <ul style="list-style-type: none"> <li>• <b>rundata</b>: Starts the Data Server.</li> <li>• <b>runhist</b>: Starts the Historian.</li> <li>• <b>rundisp</b>: Starts the Display Server.</li> <li>• <b>rundb</b>: Starts the HSQLDB Database.</li> <li>• <b>runv</b>: Starts the Display Viewer.</li> </ul> |

## Multiple Configuration File

When multiple configurations are specified in the **rtvservers.dat** file and they have different project settings directory locations, the **all** argument processes all the configurations. However, if the configurations have the same project settings directory locations, the **all** argument processes only the first configuration as the others are considered alternative configurations. Alternative configurations allow you to alternate between two configurations for a single RTView Enterprise Monitor deployment.

For example, the following **rtvservers.dat** file contains two configurations, **bwmon** and **emsmon**. Note that the project settings directory locations differ (**./bwmon** and **./emsmon**, respectively).

```
bwmon ./bwmon dataserver rundata
bwmon ./bwmon historian runhist -ds
bwmon ./bwmon displayserver rundisp -ds
```

```
emsmon ./emsmon dataserver rundata
emsmon ./emsmon historian runhist -ds
emsmon ./emsmon displayserver rundisp -ds
```

Because the project settings directory locations differ, you can use type **start\_rtv all** to start both configurations. To start only the **bwmon** configuration, type: **start\_rtv bwmon**. To start a single server in the **bwmon** configuration, type **start\_rtv <Configuration Name> <Server Name>**. For example: **start\_rtv bwmon displayserver**.

The following illustrates an **rtvservers.dat** file with an alternate configuration: **desktop** is for a Desktop Deployment and **browser** is for a Browser Deployment. Note that the project settings directory locations are the same (**./bwmon** for both). This **rtvservers.dat** file allows you to switch between a Web Browser and a Desktop Deployment.

```
desktop ./bwmon dataserver rundata
desktop ./bwmon historian runhist -ds
desktop ./bwmon viewer runv -ds
```

```
browser ./bwmon dataserver rundata
browser ./bwmon historian runhist -ds
browser ./bwmon displayserver rundisp -ds
```

When the **rtvservers.dat** file contains an alternate configuration as this example does, the **all** argument processes *only the first* configuration, in this case, the **desktop** configuration. To process the second configuration type: **start\_rtv browser**.



## APPENDIX B Properties

This section describes properties that are available for RTView Enterprise Monitor and how to configure them. This section includes:

- [“Overview” on page 981](#)
- [“Property Format” on page 982](#): Describes property format, filters and naming conventions.
- [“General Properties” on page 983](#): Describes properties for modifying display behavior, such as drill-down targets.
- [“Substitutions” on page 989](#): Describes substitutions available for modifying display behavior.

---

### Overview

RTView Enterprise Monitor configuration is specified using a series of properties. Properties can be specified in the command line, in properties files, or in a properties database. However, the most convenient way from a maintenance perspective is to create your own properties files, or edit the properties files in your [project directory](#) (the directory you created per instructions in [“Configure Central Servers”](#)). You can override certain RTView Enterprise Monitor default settings by editing properties. There are several property files that you might edit to configure or optimize your RTView Enterprise Monitor deployment. Typically, to apply property settings:

- to a single Solution Package, modify properties in the Solution Package directory: [project directory/servers/<package\\_name>](#) (in which the Solution Package-specific **rtview.properties** file resides, as well as other Solution Package-specific property files).
- globally to Solution Packages, modify properties up one level, in the directory: **project directory/servers**.
- to RTView Enterprise Monitor processes, modify properties in the directory: **project directory/servers/central** (in which the **rtview.properties** file and the **central.properties** file reside); and the **project directory/conf** directory, (in which the **emcommon.properties** file resides).
- global alert notification (across all Solution Packages), modify properties in **rtvapm.properties**.

NOTE: The property file locations differ for custom deployments.

Set properties using command line options in an [initialized command window](#). Options specified on the command line are applied last, therefore command line arguments override values saved in configuration files (such as **.properties** files). Also, in many cases the command-line option cannot be used as a property, or vice versa. For these reasons, we recommend that you use properties rather than command line options. To specify a property in the command line:

- Add a dash (-) at the beginning.
- Remove the prefix (sl.rtvew.).
- Remove the “Property Filters” prefix if present (for example, displayserver.). For details, see “Property Filters” on page 982.
- Replace the colon (: ) with an equals sign (=).

For example, the property **myprefix.sl.rtvew.someflag=true** is **-someflag:true** as a command line option. If a command line argument contains a space or a semicolon, the entire argument must be enclosed in quotes (e.g.: **"-sub:\$data:my Data"**).

---

## Property Format

This section describes the format for RTView Enterprise Monitor properties. All RTView Enterprise Monitor properties have the prefix **sl.rtvew** which is followed by a property name = value pair: **sl.rtvew.<property\_name>=:<value>**. For example, to specify the Data Server port number globally: **sl.rtvew.dataserver.port=3278**

### Property Filters

Filters are available to limit the scope to which a property is applied. Filters precede the **sl.rtvew** property prefix followed by a period (.):

**<property\_filter>.sl.rtvew.<property\_name>=:<value>**.

For example, to specify the Data Server port number to only proxy clients, we use the **proxyclient** filter: **proxyclient.sl.rtvew.dataserver.port=3278**

The following RTView Enterprise Monitor property filters are predefined and apply automatically depending on what tool is being executed:

| Filter               | Description  |
|----------------------|--|
| <b>builder</b>       | Applies the property to the Display Builder. For example:<br><b>builder.sl.rtvew.stylesheet</b>                            |
| <b>collector</b>     | Applies the property to the Data Collection Server. For example:<br><b>collector.sl.rtvew.jmx.jmx_metrics_period=15000</b> |
| <b>dataserver</b>    | Applies the property to the Data Server. For example:<br><b>dataserver.sl.rtvew.dataserver.socket=true</b>                 |
| <b>displayserver</b> | Applies the property to the Display Server. For example:<br><b>displayserver.sl.rtvew.displayserver.port=3079</b>          |
| <b>historian</b>     | Applies the property to the Historian. For example:<br><b>historian.sl.rtvew.historian.driver=org.hsqldb.jdbcDriver</b>    |
| <b>proxyclient</b>   | Applies the property to the proxy client. For example:<br><b>proxyclient.sl.rtvew.dataserver.port=2078</b>                 |

|                    |   |
|--------------------|---|
| <b>rtvanalyzer</b> | Applies the property to the RTView Analyzer. For example:<br><b>rtvanalyzer.sl.rtview.stylesheet=rtv_default,rtv_flat</b> |
| <b>viewer</b>      | Applies the property to the Display Viewer. For example:<br><b>viewer.sl.rtview.panelconfig=custom_panels.xml</b>         |

You can define your own property filters and use them as prefixes in your properties files. To select a property filter on the command line use the **-propfilter** argument. For example, to apply the **AlertCollector** filter: **-propfilter:AlertCollector**

## General Properties

The following properties are available for RTView Enterprise Monitor.

| Name                          | Description   |
|-------------------------------|---|
| <b>sl.rtview.cache.config</b> | Specifies a cache definition file. To load several cache definition files this property can be specified multiple times. New properties do not override previous values, they instead add one more file to the list.<br>Example:<br><b>collector.sl.rtview.cache.config=bird_cache.rtv</b>  |
| <b>sl.rtvapm.cisource</b>     | For use in RTView EM. Specifies one or more Solution Packages that are hosted on a Data Server. You can only have one <b>cisource</b> property per Data Server. The <b>cisource</b> property supports the following parameters:<br><b>dataserver</b> - The name of the Data Server connection.<br><b>packages</b> - A comma-separated list of Solution Packages that are hosted on the Data Server. All CI Types will be mapped for each Solution Package specified. This parameter is ignored if the <b>types</b> parameter is specified.<br><b>types</b> - A comma-separated list of CI Types that are hosted on the Data Server. Use this when you do not want to map all CI Types for the Solution Packages that are hosted on the Data Server<br>This property supports updates. However, removing or editing a <b>cisource</b> property does not remove mapping that were previously added to the <b>RTView CI Stats</b> tables.<br>Example:<br><b>sl.rtvapm.cisource=dataserver=EMSMON-LOCAL<br/>packages=emsmon</b> |
| <b>sl.rtview.cmd_line</b>     | Specifies options on the command line. When a new instance of this property is specified, the pre-existing values are not overridden. New properties concatenate its value to the command line. You can specify any valid command line option with a few exceptions. For example, you cannot add a new properties file with <b>-properties</b> , or add a property filter with <b>-propfilter</b> from within a property file.<br>Example:<br><b>displayserver.sl.rtview.cmd_line=-logfile:displayserver.log</b>  |

**log4j**

Specifies to use Log4j as the default log engine for RTView Enterprise Monitor processes (the Data Server, Historian, Viewer and Display Server). To set Log4j as the default, edit the **rtvapm.properties** file, located in your **project directory/conf** directory and the **central.properties** file, located in your **project directory/servers/central** directory as follows:

Uncomment the following lines in both files:

```
#sl.rtvview.cmd_line=-logfile:
#sl.rtvview.cmd_line=-logdir:
#sl.rtvview.jvm=-Dcom.sl.rtvview.useLog4j=true
```

On UNIX, comment out the command line for Windows:

```
#sl.rtvview.cmd_line=-log4jprops:%RTVAPM_HOME%/common/conf/
sl.log4j.properties
```

And uncomment the command line for UNIX:

```
sl.rtvview.cmd_line=-log4jprops:$RTVAPM_HOME/common/conf/
sl.log4j.properties
```

Open the log file, located in your **project directory/conf** directory, and verify the file content is similar to the following:

```
10:18:35,342 INFO rtv_file - [rtvview] Log4j is being used with
project directory/conf/sl.log4j.properties as the
configuration file.
```

NOTE: To verify whether Log4j is currently the default log engine, execute a start script (for example, `start_rtv`). If Log4j is not you see content similar to the following in the log file:

```
2013-06-12 10:05:13.968 [rtvview] Logging redirected for
System.out and System.err. Log4j is not in use.
```

**sl.rtvview.dataserver**

Specifies the default Data Server to connect to. This setting must match the Data Server port setting specified for the `dataserver.sl.rtvview.dataserver.port` property. The default is **//localhost:3278**.

Example:

```
dataclient.sl.rtvview.dataserver=//localhost:3278
```

This property can also specify a named Data Server to connect to. The port used must match the port specified in the Data Server we are to connect to.

Example:

```
sl.rtvview.dataserver=name=MISCMON-LOCAL;connect=//
localhost:10123
```

**sl.rtvview.dataserver.port**

Specifies the Data Server port for client connections. This setting must match the data client connection port setting specified for the `dataclient.sl.rtvview.dataserver` property. The default is **3278**.

Example:

```
dataclient.sl.rtvview.dataserver=3278
```

---

**sl.rtvview.displayserver  
.cellsexport**

Specify to limit the number of table cells included in HTML/Excel exports requested by the Thin Client. This option avoids out-of-memory exceptions and timeouts when exporting tables with many rows. The default is **40000**. This option is typically used in conjunction with the **cellsexport** option, and has the following behavior:

**Note:** If the **cellsexport** option is not specified, or if a value of less than a 1000 is specified, the Display Server attempts to export all rows for all tables, regardless of the table size.

If a table contains fewer cells than the **cellsexport** setting, the Display Server exports all rows for that table.

The exported HTML/Excel table starts with the same first row (or near it) that is visible in the Thin Client. That is, if you scroll to row 900 in the Thin Client and perform an HTML/Excel export, the exported table will begin near line 900.

If the rows included in an export to HTML/Excel are limited by the **cellsexport** option, the first row in the exported file is the same as the first row currently visible in the Thin Client.

An export to HTML/Excel requires less CPU and memory than an export to PDF (see **cellsexport**), therefore the value of the **cellsexport** option is typically larger than the value of the **cellsexport** option. For example, if an export to HTML/Excel was performed on a table with 5 columns and 100,000 rows, and the option **cellsexport** 30000 was specified when the Display Server was launched, 6000 rows (30000/5) would be included in an exported HTML/Excel file for that table. If the **cellsexport** 5000 option was specified, an export to PDF would include 1000 rows from the table.

**Note:** This option is not recognized by the Builder or the Viewer.

---

**sl.rtvview.displayserver  
.cellspage**

Specify server-side table paging and sorting mode, also referred to as paging mode, for the Thin Client. Paging mode improves the performance of displays containing table objects with many rows. In paging mode, the Display Server sends a specified maximum number of table data rows at a time to the Thin Client, rather than sending all table data rows at once. This option avoids out-of-memory exceptions, timeouts, and sluggish performance that can otherwise occur from processing and transmitting all of the rows at once. This option is typically used in conjunction with the **cellsexport** and **cellserreport** options. The default is **20000**.

The page of rows sent from the Display Server to the Thin Client includes all of the rows currently visible in the Thin Client plus additional rows above and/or below the visible rows. If the user scrolls beyond the rows contained in the current page or clicks on a column header to change the sorting order, the Display Server sends another page of rows in response.

The number of cells in a table is equal to the number of rows multiplied by the number of columns. For example, if **cellspage** = 10000, and the display contains a table with 5 columns, the Display Server uses a page size of 2000 rows for the table. This means the Display Server sends a maximum of 2000 table rows to the Thin Client at a time. If the table contains 40,000 rows the Display Server sends rows 1 through 2000 to the Thin Client when a user opens the display. If the user then scrolls to the bottom of the table, the Display Server sends rows 38,001 through 40,000 to the Thin Client. Similarly, if the user clicks on a column header to sort by that column, the Display Server sorts the table and sends the first 2000 sorted rows to the Thin Client. After the user scrolls or sorts a table in paging mode, the Thin Client displays '...' in each cell and an hourglass cursor appears over the table while it waits to receive the new page from the Display Server. The **cellspage** option also has the following behavior:

A smaller value for **cellspage** reduces the memory requirements for processing large tables in the Display Server, Application Server, and browser. A larger value smooths scrolling in the Thin Client because it increases the number of rows through which the Thin Client can scroll before it needs to request another page from the Display Server.

If the **cellspage** option is not specified, or if a value less than 1000 is specified, paging mode is disabled and the Display Server sends all data rows to the Thin Client for all tables regardless of the table size.

If a table contains fewer cells than the **cellspage** setting, the Display Server sends all rows for that table.

**sl.rtvview.displayserver  
.cellsexport**

Specify to limit the number of table cells included in PDF exports requested by the Thin Client. This option avoids out-of-memory exceptions and timeouts when exporting tables with many rows. The default is **20000**. This option is typically used in conjunction with the **cellspage** option, and has the following behavior:

If the **cellsexport** option is not specified, or if a value of less than a 1000 is specified, the Display Server attempts to export all rows for all tables, regardless of the table size.

If a table contains fewer cells than the **cellserreport** setting, the Display Server exports all rows for that table.

In an exported PDF file, the scroll position of the Thin Client has no effect on the starting row in the PDF file, nor any effect on the rows that are included in the PDF report.

An export to PDF requires more CPU and memory than an export to HTML/Excel (see **cellsexport**), therefore the value of the **cellserreport** option is typically smaller than the value of the **cellsexport** option. For example, if an export to HTML/Excel was performed on a table with 5 columns and 100,000 rows, and the option **cellsexport** 30000 was specified when the Display Server was launched, 6000 rows (30000/5) would be included in an exported HTML/Excel file for that table. If the **cellserreport** 5000 option was specified, an export to PDF would include 1000 rows from the table.

**sl.rtvview.dsenable**

Specifies the data source to enable.

Example:

**proxycient.sl.rtvview.dsenable=cache**

|   |   |
|---|---|
| <b>sl.rtvview.historian.charlimit</b>               | <p>Specifies the maximum number of characters per table column for the Historian (RTVHISTORY) database. The default is <b>255</b>.</p> <p>Example:</p> <p><b>historian.sl.rtvview.historian.charlimit=255</b></p>   |
| <b>sl.rtvview.historian.compactiontimerinterval</b> | <p>Specifies how often, in seconds, the aggregation engine checks for data to aggregate in the Historian (RTVHISTORY) database. The default is <b>5</b>. Data aggregation reduces the amount of aged data stored in the Historian cache table.</p> <p>Example:</p> <p><b>historian.sl.rtvview.historian.compactiontimerinterval=5</b></p>   |
| <b>sl.rtvview.historian.compactionverbose</b>       | <p>Specifies for the Historian (RTVHISTORY) database whether and how to output to the console. The default is 0. There are three options:</p> <p><b>0</b> - No information is output to the console.<br/> <b>1</b> - Summary information is output to the console.<br/> <b>2</b> - Debug-level information is output to the console.</p> <p>Example:</p> <p><b>historian.sl.rtvview.historian.compactionverbose=0</b></p> |
| <b>sl.rtvview.historian.driver</b>                  | <p>Specifies the Historian (RTVHISTORY) database. Not enabled, by default. Use this property to change the default HSQLDB database (used for evaluation purposes) to a production Historian database.</p> <p>Example:</p> <p><b>sl.rtvview.historian.driver=org.hsqldb.jdbcDriver</b></p> <p>NOTE: To enable the database, uncomment this property in the <b>emcommon.properties</b> file.</p>                            |
| <b>sl.rtvview.historian.index_history_tables</b>    | <p>Specifies whether to add indexes when creating tables in the Historian (RTVHISTORY) database. <b>true</b> adds indexes and <b>false</b> does not add indexes. The default is <b>true</b>.</p> <p>Example:</p> <p><b>historian.sl.rtvview.historian.index_history_tables=true</b></p>   |
| <b>sl.rtvview.historian.noreset</b>                 | <p>Specifies whether to clear the Historian (RTVHISTORY) database tables before storing new data. <b>true</b> does not clear the tables and <b>false</b> does clear the tables. The default is <b>true</b>.</p> <p>Example:</p> <p><b>historian.sl.rtvview.historian.noreset=true</b></p>   |
| <b>sl.rtvview.historian.password</b>                | <p>Specifies the password for accessing the Historian (RTVHISTORY) database. When no characters are entered (for example, <b>historian.sl.rtvview.historian.password=</b>) the password is blank, which is also a valid password. Valid values are according to the database engine.</p> <p>Example:</p> <p><b>historian.sl.rtvview.historian.password=99thPassword</b></p>   |
| <b>sl.rtvview.historian.url</b>                     | <p>Specifies the Historian (RTVHISTORY) database URL. Not enabled, by default. Use this property to change the default HSQLDB database (used for evaluation purposes) to a production database.</p> <p>Example:</p> <p><b>sl.rtvview.historian.url=jdbc:hsqldb:hsqi://localhost:9099/rtvhistory</b></p> <p>NOTE: To enable the database, uncomment this property in the <b>emcommon.properties</b> file.</p>              |

|   |   |
|---|---|
| <b>sl.rtview.historian.use<br/>rname</b>                          | Specifies the Historian (RTVHISTORY) database user login password. Not enabled, by default. Valid values are according to the database engine.<br>Example:<br><b>sl.rtview.historian.username=sa</b>  |
| <b>sl.rtview.historian.ver<br/>bose</b>                           | Specifies whether to print a line to the console for each record that is stored in the Historian (RTVHISTORY) database. <b>true</b> prints a line for each record and <b>false</b> does not. The default is <b>false</b> .<br>Example:<br><b>historian.sl.rtview.historian.verbose=false</b>  |
| <b>sl.rtview.jmx.jmx_mb<br/>beans_change_dynamic<br/>ally</b>     | Specifies whether to assume the JMX MBean attribute structure does not change dynamically. <b>true</b> specifies to not assume dynamic change. <b>false</b> specifies to assume dynamic change. The default is <b>false</b> .<br>Example:<br><b>sl.rtview.jmx.jmx_mbeans_change_dynamically=false</b>   |
| <b>sl.rtview.jmx.jmx_met<br/>rics_period</b>                      | Specifies how often, in milliseconds, JMX MBean methods are executed. Default is <b>10000</b> .<br>NOTE: Because the MBean Method Execution Interval is superseded by the General Update Period, the amount of time elapsed between method executions may be longer than the value entered. For example, if the General Update Period is 2000 milliseconds and the MBean Method Execution Interval is 5000 milliseconds, MBean methods will be executed every six seconds.<br>Example:<br><b>sl.rtview.jmx.jmx_metrics_period=10000</b> |
| <b>sl.rtview.jmx.jmx_min<br/>reconnecttime</b>                    | Specifies the amount of time that elapses, in seconds, before JMX attempts to reconnect. Default is <b>30</b> .<br>Example:<br><b>sl.rtview.jmx.jmx_minreconnecttime=30</b>   |
| <b>sl.rtview.jmx.jmxconn</b>                                      | Specifies the JMX data connection. The default is <b>local - - 'URL:local' - - false</b> . Specify the connection name, host, port, user name and password.<br>Example:<br><b>-jmxconn:Myconnection host1 9998</b>  |
| <b>sl.rtview.jmx.jmxdsSh<br/>owConnectionOnlyOn<br/>Multiples</b> | Specifies whether to add a JMX Connection column when an asterisk (*) is used to reference multiple connections. <b>true</b> specifies to add a JMX Connection column. <b>false</b> specifies to not add a JMX Connection column. The default is <b>true</b> .<br>Example:<br><b>sl.rtview.jmx.jmxdsShowConnectionOnlyOnMultiples=true</b>  |
| <b>sl.rtview.jvm</b>  | Specifies command line options for the Java Virtual Machine. For example, to allocate additional heap memory.<br>Examples:<br><b>displayserver.sl.rtview.jvm=-Djava.awt.headless=true</b><br><b>dataserver.sl.rtview.jvm=-Xmx768m</b><br><b>dataserver.sl.rtview.jvm=-Xms128m</b>   |
| <b>sl.rtview.sql.dbretry</b>                                      | Specifies the amount of time, in seconds, between attempts to reconnect to the database. The default is <b>40000</b> .<br>Example:<br><b>sl.rtview.sql.dbretry=40000</b>  |

|                              |  |
|------------------------------|--|
| <b>sl.rtvview.stylesheet</b> | Specifies a list of RTView Style definition files that determine the appearance of RTView displays (text sizes, fonts, colors and so forth). The default is <b>rtv_darkstyles,rtv_flat</b> .<br>Example:<br><b>sl.rtvview.stylesheet=rtv_darkstyles,rtv_flat</b> |
| <b>sl.rtvview.sub</b>        | Specifies to use a substitution. For details, see <a href="#">“Substitutions” on page 989</a> .<br>Example:<br><b>sl.rtvview.sub=\$rtvAlertMaxNumberOfHistoryRows:50000</b>  |

## Substitutions

The following substitutions can be set to modify your RTView Enterprise Monitor configuration and RTView Enterprise Monitor display behavior. There are different ways you can set a substitution, but the preferred way is to use the [sl.rtvview.sub](#) property.

| Substitution                      | Description   |
|-----------------------------------|---|
| <b>\$alertActionScript</b>        | Specifies the name of the script to execute for an alert command, without the extension. This name is combined with the value of <b>\$scriptEnding</b> to form the complete name of the script.<br>Example:<br><b>sl.rtvview.sub=-\$alertActionScript:my_alert_actions</b>                          |
| <b>\$domainName</b>               | Specifies a domain name to be used by the alert commands. Use this substitution on any Data Server that generates alerts to identify the source of the alert. Usually each Solution Package defines its own domain name.<br>Example:<br><b>sl.rtvview.sub=\$domainName:mydomainname</b>             |
| <b>\$jmxdataserver</b>            | Specifies the name of the JMX Data Server. The default is <b>ProxyDataServer</b> .<br>Example:<br><b>proxycient.sl.rtvview.sub=\$jmxdataserver:ProxyDataServer</b>  |
| <b>\$proxydataserver</b>          | Specifies the name of the proxy Data Server. The default is <b>ProxyDataServer</b> .<br>Example:<br><b>proxycient.sl.rtvview.sub=\$proxydataserver:ProxyDataServer</b>  |
| <b>\$RTV_ALERTS_CURRENT_TABLE</b> | Specifies the name of the current alerts database table. The default is <b>RTV_ALERTS_CURRENT</b> . Use this substitution in conjunction with the <b>RTV_ALERTS_TABLE</b> substitution to turn on alert history.<br>Example:<br><b>sl.rtvview.sub=\$RTV_ALERTS_CURRENT_TABLE:RTV_ALERTS_CURRENT</b> |
| <b>\$RTV_ALERTS_TABLE</b>         | Specifies the name of the alert database table. The default is <b>RTV_ALERTS</b> . Use this substitution in conjunction with the <b>\$RTV_ALERTS_CURRENT_TABLE</b> substitution to turn on alert history.<br>Example:<br><b>sl.rtvview.sub=\$RTV_ALERTS_TABLE:RTV_ALERTS</b>                        |

|  |  |
|--|--|
| <b>\$RTV_JMXSTATSTOTALS_TABLE</b>        | <p>Specifies the JMX table name. The default is <b>RTV_JMXSTATSTOTALS</b>.</p> <p>Example:<br/> <b>sl.rtvview.sub=\$RTV_JMXSTATSTOTALS_TABLE:RTV_JMXSTATSTOTALS</b></p>  |
| <b>\$rtvAlertHistoryColumnNames</b>      | <p>Specifies to add columns to the alert history table. Provide column names in a semicolon (;) delimited list. The default is <b>;Comments</b>.</p> <p>Example:<br/> <b>sl.rtvview.sub=\$rtvAlertHistoryColumnNames;;Comments</b></p>   |
| <b>\$rtvAlertMaxNumberOfHistoryRows</b>  | <p>Specifies the maximum number of rows to store in the alerts cache. The default is <b>50000</b>.</p> <p>Example:<br/> <b>sl.rtvview.sub=\$rtvAlertMaxNumberOfHistoryRows:50000</b></p>   |
| <b>\$rtvAlertPackageMask</b>             | <p>Specifies a regular expression to only show alerts in the <b>Alert Administration</b> display for Packages that match the specified mask. Use this substitution to display alerts for one or more Solution Package. The default is "", which specifies to show all alerts in the <b>Alert Administration</b> display.</p> <p>Example to display only WebLogic alerts:<br/> <b>sl.rtvview.sub=\$rtvAlertPackageMask:Wls</b></p> <p>Example to display only WebLogic and JVM alerts:<br/> <b>sl.rtvview.sub=\$rtvAlertPackageMask:^Wls ^Jvm</b></p> <p>Example:<br/> <b>sl.rtvview.sub=\$rtvAlertPackageMask:"</b></p>                                      |
| <b>\$RTVCONFIG_CITYPE_ALERTMAP_TABLE</b> | <p>Specifies the alert table name in the CI database. The default is <b>'CITYPE_ALERTMAP'</b>.</p> <p>Example:<br/> <b>sl.rtvview.sub=\$RTVCONFIG_CITYPE_ALERTMAP_TABLE:'CITYPE_ALERTMAP'</b></p>  |
| <b>\$RTVCONFIG_CITYPE_CACHEMAP_TABLE</b> | <p>Specifies the CI Type table name in the CI database. The default is <b>'CITYPE_CACHEMAP'</b>.</p> <p>Example:<br/> <b>sl.rtvview.sub=\$RTVCONFIG_CITYPE_CACHEMAP_TABLE:'CITYPE_CACHEMAP'</b></p>  |
| <b>\$RTVCONFIG_CITYPE_DEFS_TABLE</b>     | <p>Specifies the CI Type definitions table name in the CI database. The default is <b>'CITYPE_DEFS'</b>.</p> <p>Example:<br/> <b>sl.rtvview.sub=\$RTVCONFIG_CITYPE_DEFS_TABLE:'CITYPE_DEFS'</b></p>  |
| <b>\$RTVCONFIG_DB</b>                    | <p>Specifies the name of the CI database. The default is "".</p> <p>Example:<br/> <b>sl.rtvview.sub=\$RTVCONFIG_DB:"</b></p>   |
| <b>\$rtvDefaultCIEnvironment</b>         | <p>Specifies the default CMDB Environment assigned to CI's in the automatically generated Infrastructure Service Data Model. If not specified PRODUCTION is used. This default Environment is applied to all CI's that are not associated with an Environment in the user-defined Service Data Model.</p> <p>You override the default Environment by specifying a different environment in the <b>rtv_cmdb_source_default.rtv</b> line in your properties file. In the example below, the default Environment is set to DR.</p> <p>Example:<br/> <b>ConfigCollector.sl.rtvview.cache.config=rtv_cmdb_source_default.rtv \$rtvDefaultCIEnvironment:DR</b></p> |

|  |  |
|--|--|
| <b>\$RTVHISTORY_DB</b>                 | <p>Specifies the name of the Historian database table. The default is <b>RTVHISTORY</b>. Use this substitution in conjunction with the <b>RTV_ALERTS_TABLE</b> substitution and the <b>RTV_ALERTS_CURRENT_TABLE</b> substitution to configure Historian database tables.</p> <p>Example:<br/><b>sl.rtvview.sub=\$RTVHISTORY_DB:RTVHISTORY</b></p>  |
| <b>\$rtvNavAppRightClickActionFlag</b> | <p>Specifies drill-down behavior for heatmaps and tables. Set to <b>1</b> to enable drill-down on a double-click. Set to <b>0</b> allow drill-down on a single-click. The default is <b>0</b>.</p> <p>Example:<br/><b>sl.rtvview.sub=\$rtvNavAppRightClickActionFlag:1</b></p>   |
| <b>\$rtvNavBackEnabledFlag</b>         | <p>Specifies whether to make the back button visible in the Display Viewer, Display Server and the Display Builder. <b>0</b> specifies to make the back button invisible. <b>1</b> specifies to make the back button visible. The default is <b>1</b>.</p> <p>Example:<br/><b>sl.rtvview.sub=\$rtvNavBackEnabledFlag:1</b></p>   |
| <b>\$rtvShowDataServerColumn</b>       | <p>Specifies whether to display the <b>Data Server</b> column in <b>Service Summary</b> display, where <b>1</b> specifies to show the column and <b>0</b> specifies to hide the column. The default is <b>1</b>.</p> <p>Example:<br/><b>sl.rtvview.sub=\$rtvShowDataServerColumn:0</b></p>   |
| <b>\$rtvUserAlertTableColumns</b>      | <p>Specifies which columns to include in the <b>Alerts Table</b>. You can also specify which column to sort on (rather than the <b>Time</b> column) and whether to sort a column by ascending or descending order. For details, see <a href="#">“Configure RTView Alerts Table Columns” on page 73</a>.</p> <p>Example:<br/><b>sl.rtvview.sub=\$rtvUserAlertTableColumns:'Time:94 Last Update Time:93 Count:50 ID:50 Cleared:40 Cleared Reason:85 Acknowledged:40 Owner:70 Alert Name:134 Alert Index:150 PrimaryService:150 CName:117 Alert Text:1000 AlertClass:83 CompID:75 TicketID:69 TicketGroup:86'</b></p> |
| <b>\$rtvUserAlertTableSortAsc</b>      | <p>Specifies whether to sort a column in ascending or descending order in the Alerts Table, where <b>1</b> specifies ascending order and <b>0</b> specifies descending order. The default is <b>0</b>. By default, columns are sorted in descending order to show new alerts first. For details, see <a href="#">“Changing the Sort Column and Order” on page 75</a>.</p> <p>Example:<br/><b>sl.rtvview.sub=\$rtvUserAlertTableSortAsc:0</b></p>   |
| <b>\$rtvUserAlertTableSortColumn</b>   | <p>Specifies the name of the column to sort on in the Alerts Table. By default, the <b>RTView Alerts Table</b> is sorted by the <b>Time</b> column in descending order to show new alerts first. For details, see <a href="#">“Changing the Sort Column and Order” on page 75</a>.</p> <p>Example:<br/><b>sl.rtvview.sub=\$rtvUserAlertTableSortColumn:Time</b></p>  |
| <b>\$rtvUserEnableAlertDualWrite</b>   | <p>Mitigates the delays with <b>Alert Table</b> updates which occur in distributed Alert Server deployments. For details, see <a href="#">“Configure Dual Write for Distributed Alert Server” on page 62</a>.</p> <p>Example:<br/><b>sl.rtvview.sub=\$rtvUserEnableAlertDualWrite:1</b></p>  |
| <b>\$rtvUserShowAlertIndex</b>         | <p>Specifies whether to make the <b>Alert Index</b> column visible by default in the Alerts Table, where <b>1</b> specifies to show the column and <b>0</b> specifies to hide the column. The default is <b>0</b>. For details, see <a href="#">“Exposing ID, Cleared, Cleared Reason and Alert Index Columns” on page 74</a>.</p> <p>Example:<br/><b>sl.rtvview.sub=\$rtvUserShowAlertIndex:1</b></p>   |

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|                                   |  |
|-----------------------------------|--|
| <b>\$rtvUserShowCleared</b>       | <p>Specifies whether to make the <b>Closed</b> column visible by default in the Alerts Table, where <b>1</b> specifies to show the column and <b>0</b> specifies to hide the column. The default is <b>0</b>. For details, see <a href="#">“Exposing ID, Cleared, Cleared Reason and Alert Index Columns”</a> on page 74.</p> <p>Example:<br/> <b>sl.rtvview.sub=\$rtvUserShowCleared:1</b></p>  |
| <b>\$rtvUserShowClearedReason</b> | <p>Specifies whether to make the <b>Closed Reason</b> column visible by default in the Alerts Table, where <b>1</b> specifies to show the column and <b>0</b> specifies to hide the column. The default is <b>0</b>. For details, see <a href="#">“Exposing ID, Cleared, Cleared Reason and Alert Index Columns”</a> on page 74.</p> <p>Example:<br/> <b>sl.rtvview.sub=\$rtvUserShowClearedReason:1</b></p>   |
| <b>\$rtvUserShowDualTables</b>    | <p>Adds a second table at the bottom of the <b>Alerts Table</b> display. This table shows all open (not cleared) alerts owned by the logged in user. Filters in this display do not apply to this table. For details, see <a href="#">“Add Owned By Me to RTView Alerts Table”</a> on page 75.</p> <p>You can specify this substitution per-user or per-role if the RTView login is enabled and custom users or roles are defined. For details, see <a href="#">“Configure User and Role Management”</a> on page 45. By default, this enhanced table is hidden.</p> <p>To show this table, add the following line to the <b>rtview.properties</b> file in the directory where you run the Viewer or Display Server:</p> <p>Example:<br/> <b>sl.rtvview.sub=\$rtvUserShowDualTables:1</b></p> |
| <b>\$rtvUserShowId</b>            | <p>Specifies whether to make the <b>ID</b> column visible by default in the Alerts Table, where <b>1</b> specifies to show the column and <b>0</b> specifies to hide the column. The default is <b>0</b>. For details, see <a href="#">“Exposing ID, Cleared, Cleared Reason and Alert Index Columns”</a> on page 74.</p> <p>Example:<br/> <b>sl.rtvview.sub=\$rtvUserShowId:1</b></p>   |
| <b>\$scriptEnding</b>             | <p>Specifies the suffix of the script called for an alert command. Typically, it is set to <b>bat</b> on Windows systems and <b>sh</b> on Linux. The default is <b>bat</b>.</p> <p>Example:<br/> <b>sl.rtvview.sub=\$scriptEnding:bat</b></p>  |

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## APPENDIX C Alert Definitions

This section describes alerts that are available with RTView Enterprise Monitor and Solution Packages. This section includes:

- ["Docker" on page 993](#)
- ["MongoDB" on page 994](#)
- ["Node.js" on page 995](#)
- ["Oracle Coherence" on page 996](#)
- ["RTVMGR and RTVRULES" on page 1001](#)
- ["Solace" on page 1002](#)
- ["TIBCO ActiveMatrix BusinessWorks" on page 1007](#)
- ["TIBCO BusinessEvents" on page 1012](#)
- ["TIBCO Enterprise Message Service" on page 1013](#)
- ["UX" on page 1018](#)

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### Docker

The following alerts are available for Docker.

| Alert Name  | WARN. LEVEL | ALARM LEVEL | DURATION | ENABLED |
|---|-------------|-------------|----------|---------|
| <b>DocContainerCpuUsageHigh</b><br>A Docker Container's CPU usage is above the defined threshold.<br><b>Index Type(s):</b> PerContainer<br><b>Metric:</b> cpu.usage                           | 24          | 50          | 30       | FALSE   |
| <b>DocContainerExpired</b><br>A Docker Container has expired.<br><b>Index Type(s):</b> PerContainer<br><b>Metric:</b> Expired   | NaN         | NaN         | 30       | FALSE   |
| <b>DocContainerNetBytesInHigh</b><br>A Docker Container's incoming network data rate is above the defined thresholds.<br><b>Index Type(s):</b> PerContainer<br><b>Metric:</b> net.rxbytes.avg | 750000      | 1000000     | 30       | FALSE   |

|  |        |         |    |       |
|--|--------|---------|----|-------|
| <b>DocContainerNetBytesOutHigh</b><br>A Docker Container's outgoing network data rate is above the defined thresholds.<br><b>Index Type(s):</b> PerContainer<br><b>Metric:</b> net.txbytes.avg | 750000 | 1000000 | 30 | FALSE |
| <b>DocEngineCpuUsageHigh</b><br>A Docker Engine's CPU usage is above the defined thresholds.<br><b>Index Type(s):</b> PerEngine<br><b>Metric:</b> cpu.usage                                    | 50     | 75      | 30 | TRUE  |
| <b>DocEngineExpired</b><br>A Docker Engine has expired.<br><b>Index Type(s):</b> PerEngine<br><b>Metric:</b> Expired   | NaN    | NaN     | 30 | FALSE |
| <b>DocEngineNetBytesInHigh</b><br>A Docker Engine's incoming network data rate is above the defined thresholds.<br><b>Index Type(s):</b> PerEngine<br><b>Metric:</b> net.rxbytes.avg           | 750000 | 1000000 | 30 | TRUE  |
| <b>DocEngineNetBytesOutHigh</b><br>A Docker Engine's outgoing network data rate is above the defined thresholds.<br><b>Index Type(s):</b> PerEngine<br><b>Metric:</b> net.txbytes.avg          | 750000 | 1000000 | 30 | TRUE  |

## MongoDB

The following alerts are available for MongoDB.

| Alert Name  | WARN. LEVEL | ALARM LEVEL | DURATION | ENABLED |
|---|-------------|-------------|----------|---------|
| <b>MongoCollectionExpired</b><br>A collection was not able to be contacted for longer than the normal expiration window.<br><b>Index Type(s):</b> PerCollection<br><b>Metric:</b> Expired | NaN         | NaN         | 30       | FALSE   |
| <b>MongoCollectionNumObjectsHigh</b><br>The number of objects for the collection exceeds a given threshold.<br><b>Index Type(s):</b> PerCollection<br><b>Metric:</b> numberOfObjects      | 1600        | 2000        | 30       | FALSE   |
| <b>MongoDatabaseDataSizeHigh</b><br>The database size for the database exceeds a given threshold.<br><b>Index Type(s):</b> PerDatabase<br><b>Metric:</b> dataSize                         | 80000       | 100000      | 30       | FALSE   |

|   |     |     |    |       |
|---|-----|-----|----|-------|
| <b>MongDatabaseExpired</b><br>The database was not able to be contacted for longer than the normal expiration window.<br><b>Index Type(s):</b> PerDatabase<br><b>Metric:</b> Expired                | NaN | NaN | 30 | FALSE |
| <b>MongoInstanceExpired</b><br>The instance was not able to be contacted for longer than the normal expiration window.<br><b>Index Type(s):</b> PerInstance<br><b>Metric:</b> Expired               | 60  | 80  | 30 | FALSE |
| <b>MongoInstanceNotConnected</b><br>The instance was not able to be contacted for longer than the normal expiration window.<br><b>Index Type(s):</b> PerInstance<br><b>Metric:</b> connectionStatus | NaN | NaN | 30 | FALSE |
| <b>MongoInstanceOpenCursorsHigh</b><br>The number of Open Cursors for the Instance exceeds a given threshold.<br><b>Index Type(s):</b> PerInstance<br><b>Metric:</b> openCursors                    | 160 | 200 | 30 | TRUE  |

## Node.js

The following alerts are available for Node.js.

| Alert Name  | WARN. LEVEL | ALARM LEVEL | DURATION | ENABLED |
|---|-------------|-------------|----------|---------|
| <b>NodeMasterCpuUsageHigh</b><br>A master node's CPU usage is above the defined thresholds.<br><b>Index Type(s):</b> PerConnection<br><b>Metric:</b> Node Master - CPU %                            | 30          | 50          | 30       | FALSE   |
| <b>NodeMasterExpired</b><br>A master node has expired.<br><b>Index Type(s):</b> PerConnection<br><b>Metric:</b> Node Master - Expired   | NaN         | NaN         | 30       | FALSE   |
| <b>NodeMasterRequestRateHigh</b><br>The request rate of a master node is above the defined thresholds.<br><b>Index Type(s):</b> PerConnection<br><b>Metric:</b> Node Requests - Requests Per Second | 1600        | 2000        | 30       | FALSE   |
| <b>NodeMasterResponseTimeHigh</b><br>The response time of a URL is above the defined thresholds.<br><b>Index Type(s):</b> PerConnection<br><b>Metric:</b> Node Requests - Avg Response Time         | 5           | 10          | 30       | FALSE   |

|   |     |     |    |       |
|---|-----|-----|----|-------|
| <b>NodeProcessCpuUsageHigh</b><br>A worker node's CPU usage is above the defined thresholds.<br><b>Index Type(s):</b> PerConnection<br><b>Metric:</b> Node Processes - CPU Used %       | 5   | 50  | 30 | TRUE  |
| <b>NodeProcessExpired</b><br>A worker node has expired.<br><b>Index Type(s):</b> PerConnection<br><b>Metric:</b> Node Processes - Expired   | NaN | NaN | 30 | FALSE |
| <b>NodeProcessMemUsageHigh</b><br>A master node's memory usage has exceeded the defined limits.<br><b>Index Type(s):</b> PerConnection<br><b>Metric:</b> Node Processes - Memory Used % | 90  | 95  | 30 | TRUE  |

## Oracle Coherence

The following alerts are available with both the solution package and standalone versions for Oracle Coherence.

|                                      |   |
|--------------------------------------|---|
| <b>OcAvailableMemoryLowCluster</b>   | A single alert is executed if the average percent memory used over max memory of all nodes in the cluster exceeds the specified thresholds.   |
| <b>OcAvailableMemoryLowNode</b>      | For each node in the cluster, an alert is executed if the percent memory used over max memory available for that node exceeds the specified thresholds.   |
| <b>OcAvailableMemoryLowNodeSpike</b> | For each node in the cluster, an alert is executed if the percent memory used exceeds the specified threshold for the percent above average memory used in the previous 24 hours. For example, if the threshold is set to 50% of total memory used, and the average memory consumption on a particular node for the previous 24 hours is 40%, an alert will be executed if current memory usage exceeds 60% of the total.<br>NOTE: The 24 hour time span (86400 seconds) is controlled by the \$AVERAGE_MEMORY_TIME_WINDOW substitution.<br>The warning default setting is <b>115</b> (percent) of the previous 24 hours and the alarm default setting is <b>125</b> (percent) of the previous 24 hours.<br>By default the alert is disabled. |
| <b>OcBadCommunicationCluster</b>     | A single alert is executed if the average communication failure rate of all nodes in the cluster exceeds the specified thresholds.  |
| <b>OcBadCommunicationNode</b>        | For each node in the cluster, an alert is executed if the communication failure rate for that node exceeds the specified thresholds.  |

|   |   |
|---|---|
| <b>OcBadCommunicationNodesInTimeRange</b> | <p>Executes a single warning and a single alert if the percentage of nodes in a cluster exceeds the specified threshold for the BadCommunicationNode alert within a time range specified.</p> <p>To specify the time range, modify the \$BAD_COMMUNICATION_NODES_TIME_RANGE substitution.</p> <p>The default time range setting is 5 minutes (300 seconds), the warning default setting is <b>40</b> (percent) and the alarm default setting is <b>50</b> (percent).</p> <p>By default the alert is enabled.</p>  |
| <b>OcCacheHitPercentageLow</b>            | <p>This alert is executed when the current <b>Hit%</b> (total current hits/total current gets) is below the specified threshold for a sampling period and the specified cache(s).</p>   |
| <b>OcCacheQueueSizeHigh</b>               | <p>A single alert is executed if the CacheQueueSize for all nodes in the cluster exceeds the specified thresholds. By default the alert is disabled with the following default settings: Warning is <b>100</b> (seconds), Alarm is <b>200</b> (seconds) and Duration is <b>60</b> (seconds).</p>  |
| <b>OcCacheRateCacheMissesHigh</b>         | <p>Executes when the Misses per second exceed the specified threshold and duration. The rate is for a given tier of a cache for a given service in a cluster. The tier can be front, where appropriate, or back. Caches and services are named, and clusters are represented by their named monitoring connection. This alert has PerCluster, PerService, PerCache and overrides. This alert appears in the Other Category when triggered.</p> <p>This is a Key Metrics alert that is available with the RTView Enterprise Monitor when the Oracle Coherence Monitor is installed.</p> <p>By default the alert is disabled with the following default settings: Warning is <b>1000</b>, Alarm is <b>2000</b> and Duration is <b>0</b> (seconds). Before enabling this alert, you <b>MUST</b> change the default settings to values that are suitable for your environment.</p>                    |
| <b>OcCacheRateStoreReadsHigh</b>          | <p>Executes when the cache StoreReads rate per second exceeds the specified thresholds and durations. The rate is for a given tier of a cache for a given service in a cluster. The tier can be front, where appropriate, or back. Caches and services are named, and clusters are represented by their named monitoring connection. This alert has PerCluster, PerService, PerCache and overrides. This alert appears in the Other Category when triggered.</p> <p>This is a Key Metrics alert that is available with the RTView Enterprise Monitor when the Oracle Coherence Monitor is installed.</p> <p>By default the alert is disabled with the following default settings: Warning is <b>1000</b>, Alarm is <b>5000</b> and Duration is <b>0</b> (seconds). Before enabling this alert, you <b>MUST</b> change the default settings to values that are suitable for your environment.</p>  |
| <b>OcCacheRateStoreWritesHigh</b>         | <p>Executes when the cache StoreWrites rate per second exceeds the specified thresholds and durations. The rate is for a given tier of a cache for a given service in a cluster. The tier can be front, where appropriate, or back. Caches and services are named, and clusters are represented by their named monitoring connection. This alert has PerCluster, PerService, PerCache and overrides. This alert appears in the Other Category when triggered.</p> <p>This is a Key Metrics alert that is available with the RTView Enterprise Monitor when the Oracle Coherence Monitor is installed.</p> <p>By default the alert is disabled with the following default settings: Warning is <b>1000</b>, Alarm is <b>5000</b> and Duration is <b>0</b> (seconds). Before enabling this alert, you <b>MUST</b> change the default settings to values that are suitable for your environment.</p> |

- OcCacheRateTotalGets High** Executes when the cache total gets rate per second exceeds the specified thresholds and durations. The rate is for a given tier of a cache for a given service in a cluster. The tier can be front, where appropriate, or back. Caches and services are named, and clusters are represented by their named monitoring connection. This alert has PerCluster, PerService, PerCache and overrides. This alert appears in the Other Category when triggered.
- This is a Key Metrics alert that is available with the RTView Enterprise Monitor when the Oracle Coherence Monitor is installed.
- By default the alert is disabled with the following default settings: Warning is **1000**, Alarm is **5000** and Duration is **0** (seconds). Before enabling this alert, you **MUST** change the default settings to values that are suitable for your environment.
- OcCacheRateTotalPuts High** Executes when the cache DeltaTotalPuts rate per second exceeds the specified thresholds and durations. The rate is for a given tier of a cache for a given service in a cluster. The tier can be front, where appropriate, or back. Caches and services are named, and clusters are represented by their named monitoring connection. This alert has PerCluster, PerService, PerCache and overrides. This alert appears in the Other Category when triggered.
- This is a Key Metrics alert that is available with the RTView Enterprise Monitor when the Oracle Coherence Monitor is installed.
- By default the alert is disabled with the following default settings: Warning is **1000**, Alarm is **5000** and Duration is **0** (seconds). Before enabling this alert, you **MUST** change the default settings to values that are suitable for your environment.
- OcCapacityLimitAllCaches** An alert is executed if the percent cache used over cache capacity for any cache in the cluster exceeds the specified thresholds. There is one highWarning and one highAlert threshold. For example, if there are 3 caches in a cluster, where:
- cache1 val = 95**  
**cache2 val = 100**  
**cache3 val = 70**
- and the CapacityLimitAllCaches highWarning is **80** and highAlert is **90**, one high alert is executed.
- OcCapacityLimitCache** Executes when the average CPU usage for the cluster / storage class exceeds the specified thresholds and durations. This alert has a per cluster and a per (cluster) storage class override. This alert appears in the Other Category when executed.
- This is a Key Metrics alert that is available with the RTView Enterprise Monitor when the Oracle Coherence Monitor is installed.
- By default the alert is disabled with the following default settings: Warning is **95** (percent), Alarm is **95** (percent) and Duration is **60** (seconds).
- OcClusterNodesRcvdFailureRateHigh** Executes when the average network/packet received failure rate for the cluster/storage class exceeds the specified thresholds and durations. The metrics are averaged across all nodes of a storage class in a cluster.
- This is a Key Metrics alert that is available with the RTView Enterprise Monitor when the Oracle Coherence Monitor is installed.
- This alert has a per cluster and a per (cluster) storage class override. Note that this alert appears in the Network Category when executed.
- By default the alert is disabled with the following default settings: Warning is **95** (percent), Alarm is **95** (percent) and Duration is **60** (seconds).

|  |   |
|--|---|
| <b>OcClusterNodesSentFailureRateHigh</b> | <p>Executes when the average network/packet sent failure rate for the cluster / storage class exceeds the specified thresholds and durations. The metrics are averaged across all nodes of a storage class in a cluster.</p> <p>This is a Key Metrics alert that is available with the RTView Enterprise Monitor when the Oracle Coherence Monitor is installed.</p> <p>This alert has a per cluster and a per (cluster) storage class override. Note that this alert appears in the Memory Category when executed.</p> <p>By default the alert is disabled with the following default settings: Warning is <b>95</b> (percent), Alarm is <b>95</b> (percent) and Duration is <b>60</b> (seconds).</p>  |
| <b>OcDepartedNode</b>                    | <p>For each node in the cluster, an alert is executed if the time a node is absent from the cluster exceeds the specified thresholds. When the departed node rejoins the cluster, the alert is cleared.</p>   |
| <b>OcDepartedNodesPercentage</b>         | <p>This scalar alert executes a single warning and a single alert if the percentage of nodes departed from the cluster exceeds the specified thresholds within the specified time periods. The percentage is measured against the total number of nodes in the cluster, including both running and departed nodes.</p> <p>The time period is set in the <b>rtview.properties</b> file using the \$NODES_DEPARTED_TIME_WINDOW substitution. The time period can also be overridden using the command line interface. For example, the following sets a time window of 300 seconds:</p> <pre>-sub:\$NODES_DEPARTED_TIME_WINDOW:300</pre> <p>The time period default setting is <b>600</b> (10 minutes), the warning default setting is <b>90</b> (percent) and the alarm default setting is <b>95</b> (percent).</p> <p>By default the alert is disabled.</p> |
| <b>OcEndangeredAllCaches</b>             | <p>This alert is executed if the StatusHA for the cache service is NODE_SAFE (high warning) or ENDANGERED (high alert).</p>   |
| <b>OcEndangeredCache</b>                 | <p>For each node in the cluster, an alert is executed if the StatusHA value is ENDANGERED. By default the alert is disabled.</p>  |
| <b>OcExtendConnectionByteBacklogHigh</b> | <p>This limits alert executes a single warning and a single alert if the OutgoingByteBacklog for a Proxy Extend Connection exceeds the specified thresholds. By default the alert is disabled with the following default settings: Warning is <b>1000</b> (bytes), Alert is <b>5000</b> (bytes).</p>  |
| <b>OcHATargetFailed</b>                  | <p>This alert executes when the distributed service target status (HATarget) is not met. The HATarget value is determined using the PartitionAssignment MBean in Coherence Versions 12 and above. In prior Coherence versions, the default value of MACHINE-SAFE is used. The default value can be overridden by setting the substitution variable \$ocmDefaultHATarget to the desired value.</p>   |
| <b>OcHighGCDutyCycleNode</b>             | <p>This scalar alert executes a single warning and a single alert if a node exceeds the specified duty cycle threshold (the percent of time spent in Garbage Collection).</p> <p>By default the alert is enabled with the following default settings: Warning is <b>10</b> (percent), Alarm is <b>20</b> (percent) and Duration is <b>10</b> seconds.</p>   |
| <b>OcHighPendingRequestNode</b>          | <p>A single alert is executed if the RequestPendingCount amount exceeds the specified threshold. This alert allows for setting the warning level, alarm level and duration.</p> <p>By default the alert is disabled.</p>  |

|                                  |   |
|----------------------------------|---|
| <b>OcHighTaskBacklogNode</b>     | <p>A single warning and a single alert are executed if the number of backlogged tasks exceeds the specified user threshold. This alert allows for setting the warning level, alarm level and duration.</p> <p>The default setting executes a warning if the number of backlogged tasks exceeds <b>10</b>, and executes an alert if the number of backlogged tasks exceeds <b>20</b>.</p> <p>By default the alert is disabled.</p>   |
| <b>OcHighThreadAbandonedNode</b> | <p>A single alert is executed if the Coherence Thread Abandoned Count amount exceeds the specified threshold. This alert allows for setting the warning level, alarm level and duration.</p> <p>The default setting executes a warning and an alert if the Thread Abandoned Count amount exceeds <b>0</b>. The default duration setting is <b>60</b>.</p> <p>By default the alert is enabled.</p>   |
| <b>OcJmxProcessingTime</b>       | <p>This alert is executed if the sum of time for JMX queries and all data processing functions exceeds the specified threshold for the <b>jmxsampleperiod</b> property. By default the alert is disabled with the following default settings: Warning is <b>80</b> (percent), Alarm is <b>90</b> (percent) and Duration is <b>0</b> (seconds).</p> <p>NOTE: The OcJmxProcessingTime alert does not support overrides. For that alert the Override Count is displayed as <b>-1</b>.</p>  |
| <b>OcLongGCDurationNode</b>      | <p>A single warning and a single alert are executed if any of the last garbage collection times exceed the specified duration.</p> <p>The default setting executes a warning if the duration exceeds 1 second, and executes an alert if the duration exceeds 2 seconds.</p> <p>It is possible for GC times to exceed the specified duration and NOT execute an alert. This is possible if it occurs between the alert duration time and an alert condition time.</p> <p>For example, if your alert duration is 60 seconds, and there is also an alert condition set at 27 seconds into that 60 seconds, the following scenarios could occur (where XX:XX:XX is Hours:Minutes:Seconds):</p> <p><b>Scenario 1:</b></p> <p>12:00:00 GC amount is below the specified threshold. No alert executed.</p> <p>12:00:27 GC amount exceeds the specified threshold. Alert ignored for now.</p> <p>12:01:00 C amount is below the specified threshold. No alert executed.</p> <p><b>Scenario 2:</b></p> <p>12:00:00 GC amount is below the specified threshold. No alert executed.</p> <p>12:00:27 GC amount exceeds the specified threshold. Alert ignored for now.</p> <p>12:01:00 GC amount remains above the specified threshold. Alert executed.</p> <p>By default the alert is enabled.</p> |
| <b>OcLowClientNodeCount</b>      | <p>This alert executes if the total number of nodes being monitored, including storage enabled nodes, client nodes, and management (JMX) nodes, exceeds the specified threshold. When the count returns to above to above the threshold (departed nodes rejoin the cluster), the alert is cleared.</p> <p>By default the alert is disabled.</p>   |
| <b>OcLowStorageNodeCount</b>     | <p>This alert executes if the total number of storage nodes in the cluster exceeds the specified threshold. When the count returns to above to above the threshold (departed nodes rejoin the cluster), the alert is cleared.</p> <p>By default the alert is disabled.</p>  |

|                                      |  |
|--------------------------------------|--|
| <b>OcLowTotalNodeCount</b>           | This alert executes if the total number of client nodes being monitored exceeds the specified threshold. When the count returns to above the threshold (departed nodes rejoin the cluster), the alert is cleared.<br>By default the alert is disabled.   |
| <b>OcMemoryUsedPercentageAfterGC</b> | This alert is executed if the percent of memory used on a node after garbage collection exceeds the specified threshold. By default the alert is disabled with the following default settings: Warning is <b>70</b> (percent), Alarm is <b>80</b> (percent) and Duration is <b>30</b> (seconds).   |
| <b>OcNodeSafeCache</b>               | For each node in the cluster, an alert is executed if the StatusHA value is <b>NODE-SAFE</b> . By default the alert is disabled.   |
| <b>OcNoJmxConnection</b>             | This alert is executed if a JMX connection remains disconnected after a specified duration of time. The default duration of time is <b>60</b> seconds. By default, this alert is enabled.  |
| <b>OcObjectCountDeltaUpCache</b>     | This tabular alert executes a single warning and a single alert for each cache in the cluster if the cache object count delta increases and exceeds the specified threshold. In addition to setting the warning and alarm levels, this alert also allows for setting the duration for each cache.<br>When this alert is selected in the Active Alert Table, the Per Cache Alert Setting box is displayed (rather than the scalar alert box).<br>By default the alert is disabled.    |
| <b>OcObjectCountDeltaDownCache</b>   | This tabular alert executes a single warning and a single alert for each cache in the cluster where the cache object count delta decreases and exceeds the specified threshold. In addition to setting the warning and alarm levels, this alert also allows for setting the duration for each cache.<br>When this alert is selected in the Active Alert Table, the Per Cache Alert Setting box is displayed (rather than the scalar alert box).<br>By default the alert is disabled. |
| <b>OcProxyNodeByteBacklogHigh</b>    | This limits alert executes a single warning and a single alert if the OutgoingByteBacklog for a Proxy Node exceeds the specified threshold. This is often indicates overloaded capacity on an individual proxy node. By default the alert is disabled with the following default settings: Warning is <b>100</b> (bytes), Alarm is <b>50</b> (bytes).  |
| <b>OcSendQueueSize</b>               | For each node in the cluster, an alert is executed if the Send Queue for that node exceeds the specified thresholds. By default the alert is disabled with the following default settings: Warning is <b>100</b> (seconds), Alarm is <b>200</b> (seconds) and Duration is <b>60</b> (seconds).   |
| <b>OcStoreFailure</b>                | This alert is executed if the number of StoreFailures exceeds the specified threshold. By default the alert is disabled with the following default settings: Warning is <b>1</b> (second), Alarm is <b>10</b> (seconds) and Duration is <b>30</b> (seconds).   |
| <b>OcStoreReadMillisHigh</b>         | This alert is executed if the current average read per millisecond (total current StoreReadMillis/total current StoreReads) exceeds the specified threshold for a sampling period and the specified cache(s).  |

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## RTVMGR and RTRULES

If the RTVMGR Solution Package and the RTRULES Solution Package (which come with RTView Enterprise Monitor) are installed on your system you might see the following alert types for RTView Servers (Data Servers, Display Servers and Historian Servers):

**RTVMGR Solution Package Alert Types**

|                                    |   |
|------------------------------------|---|
| <b>JvmCpuPercentHigh</b>           | The percent JVM CPU usage exceeded the specified threshold.   |
| <b>JvJvmGcDutyCycleHigh</b>        | The JVM garbage collection contains an item that exceeded the specified duty cycle threshold (the percent of time spent in Garbage Collection). |
| <b>JvmMemoryUsedAfterGCHigh</b>    | The percentage of the memory used after garbage collection exceeded the specified threshold.  |
| <b>JvmMemoryUsedHigh</b>           | The percent JVM memory used exceeded the specified threshold.   |
| <b>JvmNotConnected</b>             | The JVM is not connected.   |
| <b>JvmStaleData</b>                | The JVM stopped receiving data.   |
| <b>TomcatAccessRateHigh</b>        | The Access Rate of a Tomcat application deployed on a Tomcat server exceeded the specified threshold.   |
| <b>TomcatActiveSessionsHigh</b>    | The number of active Tomcat Server sessions exceeded the specified threshold.   |
| <b>TomcatAppAccessRateHigh</b>     | The application deployed on a Tomcat Server exceeded the specified threshold.   |
| <b>TomcatAppActiveSessionsHigh</b> | The number of active Tomcat application sessions exceeded the specified threshold.  |

**RTVRULES Solution Package Alert Types**

|                                    |  |
|------------------------------------|--|
| <b>RtvEmServiceAlert</b>           | This discrete alert is generated when a Service has one or more alerts on any associated CIs.                                      |
| <b>RtvEmServiceAlertImpactHigh</b> | This limits alert is generated when a Service has an Alert Impact value that exceeds the specified threshold on any associated CI. |

## Solace

The following alerts are available with both the solution package and standalone versions for Solace.

| <b>Alert</b>   | <b>Warning Level</b> | <b>Alarm Level</b> | <b>Duration</b> | <b>Enabled</b> |
|--|----------------------|--------------------|-----------------|----------------|
| <b>SolMsgRouterActiveDiskUtilHigh</b><br>The utilization of the active disk partition for the message router is excessive.<br>Index Type: PerAppliance   | 70                   | 85                 | 30              | FALSE          |
| <b>SolMsgRouterByteEgressUtilHigh</b><br>The egress rate (bytes/sec) utilization (current egress rate divided by max allowed) for the message router is excessive.<br>Index Type: PerAppliance | 70                   | 85                 | 30              | FALSE          |

|   |        |        |    |       |
|---|--------|--------|----|-------|
| <b>SolMsgRouterByteIngressUtilHigh</b><br>The ingress rate (bytes/sec) utilization (current ingress rate divided by max allowed) for the message router is excessive.<br>Index Type: PerAppliance | 70     | 85     | 30 | FALSE |
| <b>SolMsgRouterConnectionUtilHigh</b><br>The connection utilization for the message router (current number of connections divided by max allowed) is excessive.<br>Index Type: PerAppliance       | 70     | 85     | 30 | FALSE |
| <b>SolMsgRouterCpuTemperatureHigh</b><br>CPU temperature margin is above threshold.<br>Index Type: PerApplianceSensor   | -30    | -15    | 30 | FALSE |
| <b>SolMsgRouterDelvrdUnAckMsgUtilHigh</b><br>The delivered unacked messages as a percentage of all messages delivered for the application is excessive.<br>Index Type: PerAppliance               | 70     | 85     | 30 | FALSE |
| <b>SolMsgRouterFailoverDetected</b><br>The backup message router in a HA pair has assumed control.<br>Index Type: PerAppliance  | 1      | NaN    | 30 | FALSE |
| <b>SolMsgRouterFanSensorCheckFailed</b><br>The speed measured for one or more fans is below threshold.<br>Index Type: PerApplianceSensor  | 5000   | 2657   | 30 | FALSE |
| <b>SolMsgRouterInboundByteRateHigh</b><br>The number of inbound bytes per second for the message router has reached its max threshold.<br>Index Type: PerAppliance                                | 400000 | 500000 | 30 | FALSE |
| <b>SolMsgRouterInboundMsgRateHigh</b><br>The number of inbound messages per second for the message router has reached its max threshold.<br>Index Type: PerAppliance                              | 400000 | 500000 | 30 | FALSE |
| <b>SolMsgRouterIngressFlowUtilHigh</b><br>The ingress flow utilization (current flows divided by max allowed) for the message router is excessive.<br>Index Type: PerAppliance                    | 70     | 85     | 30 | FALSE |
| <b>SolMsgRouterMsgCountUtilHigh</b><br>The message count utilization for the message router is excessive.<br>Index Type: PerAppliance   | 70     | 85     | 30 | FALSE |
| <b>SolMsgRouterMsgEgressUtilHigh</b><br>The message egress rate utilization (current message egress rate divided by max allowed) for the message router is excessive.<br>Index Type: PerAppliance | 70     | 85     | 30 | FALSE |

|  |        |        |    |       |
|--|--------|--------|----|-------|
| <b>SolMsgRouterMsgIngressUtilHigh</b><br>The message ingress rate utilization (current message ingress rate divided by max allowed) for the message router is excessive.<br>Index Type: PerAppliance   | 70     | 85     | 30 | FALSE |
| <b>SolMsgRouterOutboundByteRateHigh</b><br>The number of outbound bytes per second for the message router has reached its max threshold.<br>Index Type: PerAppliance   | 400000 | 500000 | 30 | FALSE |
| <b>SolMsgRouterOutboundMsgRateHigh</b><br>The number of outbound messages per second for the message router has reached its max threshold.<br>Index Type: PerAppliance   | 400000 | 500000 | 30 | FALSE |
| <b>SolMsgRouterPendingMsgsHigh</b><br>The total number of pending messages for this message router has reached its maximum.<br>Index Type: PerAppliance  | 400000 | 500000 | 30 | FALSE |
| <b>SolMsgRouterPowerSupplyFailed</b><br>A power supply has failed.<br>Index Type: PerAppliance   | 0      | NaN    | 30 | FALSE |
| <b>SolMsgRouterSpoolUtilization</b><br>The amount of spool space used for messages is excessive.<br>Index Type: PerAppliance   | 70     | 85     | 30 | FALSE |
| <b>SolMsgRouterStandbyDiskUtilHigh</b><br>The utilization of the standby disk partition for the message router is excessive.<br>Index Type: PerAppliance   | 70     | 85     | 30 | FALSE |
| <b>SolMsgRouterSubscriptionUtilHigh</b><br>The subscription utilization (current number of subscriptions divided by max allowed) for the message router is excessive.<br>Index Type: PerAppliance  | 70     | 85     | 30 | FALSE |
| <b>SolMsgRouterSwapUsedHigh</b><br>The amount of swap space used by the message router operating system is excessive.<br>Index Type: PerAppliance  | 70     | 85     | 30 | FALSE |
| <b>SolMsgRouterSyslog</b><br>This alert executes when a Solace Syslog Warning or Critical message is received. To get Syslog event alerts (in RTView Enterprise Monitor or the standalone Monitor), go to the Alert Administration display and enable the <b>SolMsgRouterSyslog</b> alert. | -      | -      | -  | -     |
| <b>SolMsgRouterTemperatureSensorCheckFailed</b><br>A chassis temperature measurement is above threshold.<br>Index Type: PerAppliance   | 40     | 45     | 30 | FALSE |
| <b>SolMsgRouterTranSessionCntUtilHigh</b><br>The transacted session count utilization for the message router is excessive.<br>Index Type: PerAppliance   | 70     | 85     | 30 | FALSE |

|  |         |          |    |       |
|--|---------|----------|----|-------|
| <b>SolMsgRouterTranSessionResUtilHigh</b><br>The transacted session resource utilization for the message router is excessive.<br>Index Type: PerAppliance      | 70      | 85       | 30 | FALSE |
| <b>SolMsgRouterVoltageSensorCheckFailed</b><br>A power supply voltage is high or low.<br>Index Type: PerApplianceSesor   | NaN     | NaN      | 30 | FALSE |
| <b>SolBridgeInboundByteRateHigh</b><br>The number of inbound bytes per second across the bridge has reached its maximum.<br>Index Type: PerBridge              | 8000000 | 10000000 | 30 | FALSE |
| <b>SolBridgeInboundMsgRateHigh</b><br>The number of inbound messages per second across the bridge as a whole has reached its maximum.<br>Index Type: PerBridge | 40000   | 50000    | 30 | FALSE |
| <b>SolBridgeOutboundByteRateHigh</b><br>The number of outbound bytes per second across the bridge has reached its maximum.<br>Index Type: PerBridge            | 8000000 | 10000000 | 30 | FALSE |
| <b>SolBridgeOutboundMsgRateHigh</b><br>The number of outbound messages per second across the bridge has reached its maximum.<br>Index Type: PerBridge          | 40000   | 50000    | 30 | FALSE |
| <b>SolClientInboundByteRateHigh</b><br>The number of outbound bytes per second for the client has reached its maximum.<br>Index Type: PerClient                | 8000000 | 10000000 | 30 | FALSE |
| <b>SolClientInboundMsgRateHigh</b><br>The number of outbound messages per second for the client as a whole has reached its maximum.<br>Index Type: PerClient   | 40000   | 50000    | 30 | FALSE |
| <b>SolClientOutboundByteRateHigh</b><br>The number of outbound bytes per second for the client has reached its maximum.<br>Index Type: PerClient               | 8000000 | 10000000 | 30 | FALSE |
| <b>SolClientOutboundMsgRateHigh</b><br>The number of outbound messages per second for the client as a whole has reached its maximum.<br>Index Type: PerClient  | 40000   | 50000    | 30 | FALSE |
| <b>SolClientSlowSubscriber</b><br>One or more clients are consuming messages too slowly; endpoints may drop messages!<br>Index Type: PerClient                 | 1       | NaN      | 30 | FALSE |
| <b>SolCspfNeighborDown</b><br>State is not "OK" for one or more CSPF neighbors.<br>Index Type: PerNeighbor   | 1       | NaN      | 30 | FALSE |

|   |         |          |    |       |
|---|---------|----------|----|-------|
| <b>SolEndpointPendingMsgsHigh</b><br>The number of pending messages on a queue has reached its maximum.<br>Index Type: PerEndpoint  | 8000    | 10000    | 30 | FALSE |
| <b>SolEndpointSpoolUsageHigh</b><br>The endpoint is consuming too much message router memory for storing spooled messages. (Threshold units are megabytes.)<br>Index Type: PerEndpoint    | 40      | 50       | 30 | FALSE |
| <b>SolGuaranteedMsgingHbaLinkDown</b><br>For Guaranteed Messaging only, the Operational State for each HBA Fibre-Channel should be Online (e.g., not Linkdown).<br>Index Type: PerHbaLink | 0       | NaN      | 30 | FALSE |
| <b>SolGuaranteedMsgingMatePortDown</b><br>For Guaranteed Messaging only, the Mate Link Ports for ADB should have status OK.<br>Index Type: PerADB   | 0       | NaN      | 30 | FALSE |
| <b>SolGuaranteedMsgingNoMsgSpoolAdActive</b><br>For Guaranteed Messaging only with Redundancy, at least one message router in an HA pair should show "AD-Active."<br>Index Type: PerPair  | 0       | NaN      | 30 | FALSE |
| <b>SolInterfaceDown</b><br>Link-detect = no for one or more enabled network interfaces.<br>Index Type: PerSolInterface  | NaN     | NaN      | 30 | FALSE |
| <b>SolNABUsageHigh</b><br>Network Acceleration Blade memory usage is excessive.<br>Index Type: PerNAB   | 60      | 80       | 30 | FALSE |
| <b>SolVpnConnectionCountHigh</b><br>The number of connections to the server has reached its maximum.<br>Index Type: PerVPN  | 60      | 80       | 30 | FALSE |
| <b>SolVpnInboundByteRateHigh</b><br>The number of inbound bytes per second for the vpn has reached its maximum.<br>Index Type: PerVPN   | 8000000 | 10000000 | 30 | FALSE |
| <b>SolVpnInboundDiscardRateHigh</b><br>The number of discarded inbound messages per second for the server is excessive.<br>Index Type: PerVPN   | 1       | 5        | 30 | FALSE |
| <b>SolVpnInboundMsgRateHigh</b><br>The number of inbound messages per second for the vpn as a whole has reached its maximum.<br>Index Type: PerVPN  | 40000   | 50000    | 30 | FALSE |

|   |         |          |    |       |
|---|---------|----------|----|-------|
| <b>SolVpnOutboundByteRateHigh</b><br>The number of outbound bytes per second for the VPN has reached its maximum.<br>Index Type: PerVPN                 | 8000000 | 10000000 | 30 | FALSE |
| <b>SolVpnOutboundDiscardRateHigh</b><br>The number of discarded outbound messages per second for the server is excessive.<br>Index Type: PerVPN         | 1       | 5        | 30 | FALSE |
| <b>SolVpnOutboundMsgRateHigh</b><br>The number of outbound messages per second for the server as a whole has reached its maximum.<br>Index Type: PerVPN | 40000   | 50000    | 30 | FALSE |
| <b>SolVpnPendingMsgsHigh</b><br>The total number of pending messages for this destination has reached its maximum.<br>Index Type: PerVPN                | 8000000 | 10000000 | 30 | FALSE |
| <b>SolVpnSubscriptionCountHigh</b><br>The number of endpoints in this VPN has reached its maximum.<br>Index Type: PerVPN                                | 8000    | 10000    | 30 | FALSE |

## TIBCO ActiveMatrix BusinessWorks

The following alerts are available with both the solution package and standalone versions for TIBCO® ActiveMatrix BusinessWorks™.

| Alert  | Warning Level | Alarm Level | Duration | Enabled |
|--|---------------|-------------|----------|---------|
| <b>Bw6AppNodeCpuUsedHigh</b><br>BW6 AppNode CPU usage exceeded limit.<br>Index Type: PerAppNode<br>Metric: CPU Usage%  | 50            | 80          | 30       | FALSE   |
| <b>Bw6AppNodeMemUsedHigh</b><br>BW6 AppNode memory usage exceeded limit.<br>Index Type: PerAppNode<br>Metric: Memory Usage%  | 50            | 80          | 30       | FALSE   |
| <b>Bw6AppProcessCreatedRateHigh</b><br>BW6 Process created rate for application exceeded limit.<br>Index Type: PerApp<br>Metric: App Created Rate                        | 50            | 80          | 30       | FALSE   |
| <b>Bw6AppProcessElapsedTimeHigh</b><br>BW6 Process delta elapsed time rate of increase for application exceeded limit.<br>Index Type: PerApp<br>Metric: App Elapsed Rate | 200           | 400         | 30       | FALSE   |

|  |     |     |    |       |
|--|-----|-----|----|-------|
| <b>Bw6AppProcessExecutionTimeHigh</b><br>BW6 Process delta execution time rate of increase for application exceeded limit.<br>Index Type: PerApp<br>Metric: App Execution Rate   | 200 | 400 | 30 | FALSE |
| <b>Bw6AppProcessFailedRateHigh</b><br>BW6 Process failed rate for application exceeded limit.<br>Index Type: PerApp<br>Metric: App Failed Rate   | 50  | 80  | 30 | FALSE |
| <b>Bw6ProcessActivityErrorRateHigh</b><br>BW6 Process error rate exceeded limit.<br>Index Type: PerProcess<br>Metric: Process Failed Rate  | 50  | 80  | 30 | FALSE |
| <b>Bw6ProcessCreatedRateHigh</b><br>BW6 Process error rate exceeded limit.<br>Index Type: PerProcess<br>Metric: Process Failed Rate  | 50  | 80  | 30 | FALSE |
| <b>Bw6ProcessElapsedTimeHigh</b><br>BW6 Process delta elapsed time rate of increase exceeded limit.<br>Index Type: PerProcess<br>Metric: Delta Exec Rate   | 200 | 400 | 30 | FALSE |
| <b>Bw6ProcessExecutionTimeHigh</b><br>BW6 Process delta execution time rate of increase exceeded limit.<br>Index Type: PerProcess<br>Metric: Delta Time Rate   | 200 | 400 | 30 | FALSE |
| <b>Bw6ProcessFailedRateHigh</b><br>BW6 Process suspended rate exceeded limit.<br>Index Type: PerProcess<br>Metric: Suspended Rate  | 50  | 80  | 30 | FALSE |
| <b>Bw6ProcessSuspendRateHigh</b><br>BW6 Process failed rate exceeded limit.<br>Index Type: PerProcess<br>Metric: Failed Rate   | 50  | 80  | 30 | FALSE |
| <b>BwActivityErrorRateHigh</b><br>BW5 Activity error rate exceeded limit. The rate is calculated by taking the delta of total error returns in this update period and dividing by the length of the period.<br>Index Type: PerActivity<br>Metric: RateErrorCount                             | 50  | 80  | 30 | FALSE |
| <b>BwActivityExecutionTimeHigh</b><br>BW5 Activity execution time rate of increase exceeded limit The rate is calculated by taking the delta of total execution time in this update period and dividing by the length of the period.<br>Index Type: PerActivity<br>Metric: RateExecutionTime | 200 | 400 | 30 | FALSE |

|  |     |     |    |       |
|--|-----|-----|----|-------|
| <p><b>BwEngineCpuUsedHigh</b><br/>         BW Engine CPU usage exceeded limit. CPU Usage is the CPU time used by the BW engine expressed as a percentage of the total CPU time available.<br/>         Index Type: PerEngine<br/>         Metric: CPU Usage%</p>   | 50  | 80  | 30 | FALSE |
| <p><b>BwEngineMemUsedHigh</b><br/>         BW Engine memory usage exceeded limit. Memory usage is taken from Memory Used% in the BW Engine table, which is "Percentage of allocated memory currently consumed by this engine from within the JVM."<br/>         Index Type: PerEngine<br/>         Metric: PercentUsed</p>                           | 50  | 80  | 30 | FALSE |
| <p><b>BwEngineStopped</b><br/>         BW Engine has stopped running.<br/>         Index Type: PerEngine<br/>         Metric: Stopped</p>  | NaN | NaN | 30 | FALSE |
| <p><b>BwProcessAbortRateHigh</b><br/>         BW Process aborted rate exceeded limit. The rate is calculated by taking the delta of total aborts in this update period and dividing by the length of the period.<br/>         Index Type: PerProcess<br/>         Metric: RateAborted</p>  | 50  | 80  | 30 | FALSE |
| <p><b>BwEngineCpuUsedHigh</b><br/>         BW Process aborted rate exceeded limit. The rate is calculated by taking the delta of total aborts in this update period and dividing by the length of the period.<br/>         Index Type: PerProcess<br/>         Metric: CPU %</p>   | 50  | 80  | 30 | FALSE |
| <p><b>BwEngineMemUsedHigh</b><br/>         BW Process aborted rate exceeded limit. The rate is calculated by taking the delta of total aborts in this update period and dividing by the length of the period.<br/>         Index Type: PerProcess<br/>         Metric: PercentUsed</p>   | 50  | 80  | 30 | FALSE |
| <p><b>BwProcessAvgElapsedTimeHigh</b><br/>         BW Process Average Elapsed Time exceeded limit. This is calculated by taking the elapsed time of all process instances over the interval and dividing by the number of instances completed in the interval.<br/>         Index Type: PerProcess<br/>         Metric: Process Avg Elapsed Time</p> | 100 | 200 | 30 | FALSE |
| <p><b>BwProcessCreatedRateHigh</b><br/>         BW Process creation rate exceeded limit. The rate is calculated by taking the number of process instances created in the interval and dividing by the length of the interval in seconds.<br/>         Index Type: PerProcess<br/>         Metric: Processes Created/sec</p>                          | 100 | 200 | 30 | FALSE |

|   |     |     |    |       |
|---|-----|-----|----|-------|
| <p><b>BwProcessTotalCpuPercentHigh</b><br/>         BW Process CPU percent utilization exceeded limit. This is the percent CPU used by all process instances executing over the interval.<br/>         Index Type: PerProcess<br/>         Metric: Process Total CPU Percent</p>  | 50  | 75  | 30 | FALSE |
| <p><b>BwProcessElapsedTimeHigh</b><br/>         BW Process elapsed time rate of increase exceeded limit. The rate is calculated by taking the delta of total elapsed time in this update period and dividing by the length of the period.<br/>         Index Type: PerProcess<br/>         Metric: RateTotalElapsed</p>   | 50  | 80  | 30 | FALSE |
| <p><b>BwProcessExecutionTimeHigh</b><br/>         BW Process execution time rate of increase exceeded limit. The rate is calculated by taking the delta of total execution time in this update period and dividing by the length of the period.<br/>         Index Type: PerProcess<br/>         Metric: RateTotalExecution</p>   | 50  | 80  | 30 | FALSE |
| <p><b>BwProcessSuspendRateHigh</b><br/>         BW Process suspended rate exceeded limit. The rate is calculated by taking the delta of total suspends in this update period and dividing by the length of the period.<br/>         Index Type: PerProcess<br/>         Metric: RateSuspended</p>   | 50  | 80  | 30 | FALSE |
| <p><b>BwServerCpuUsedHigh</b><br/>         BW Server CPU usage exceeded limit. CPU Usage is the CPU time in use by all processes expressed as a percentage of the total CPU time available.<br/>         Index Type: PerServer<br/>         Metric: CPU Usage%</p>  | 60  | 85  | 30 | FALSE |
| <p><b>BwServerFreeMemLow</b><br/>         BW Server free memory available is below limit. Free memory means available physical (RAM) memory.<br/>         Index Type: PerServer<br/>         Metric: Memory Free Mbytes</p>   | 15  | 5   | 30 | FALSE |
| <p><b>BwServerInactive</b><br/>         BW Server has become inactive. The period of time specified by the substitution variable \$bwserverExpirationTime has passed since data was last received from the server.<br/>         Index Type: PerServer<br/>         Metric: Expired</p>  | NaN | NaN | 30 | FALSE |
| <p><b>BwServerMemUsedHigh</b><br/>         BW Server memory usage exceeded limit. Memory usage is the virtual memory in use expressed as a percentage of the available virtual memory. The meaning of available virtual memory is system-dependent: on Windows it refers to pagefile space; on Unix systems it refers to swap space.<br/>         Index Type: PerServer<br/>         Metric: Virtual Memory Used%</p> | 50  | 80  | 30 | FALSE |

|  |     |     |    |       |
|--|-----|-----|----|-------|
| <p><b>HawkAlert</b><br/> Display Hawk alerts throughout the Monitor.<br/> To enable Hawk Alerts to be included in alert counts and displayed throughout the Monitor, scroll down to <b>HawkAlert</b> in the <b>Active Alert Table</b> and select the <b>Alert Enabled</b> checkbox. It is possible to filter unwanted alerts from the cache data so that those alerts are not included throughout the Monitor.</p> <p>To filter unwanted alerts out of the Hawk cache data, enter the following into the <b>sample.properties</b> file (located in the project directory you created). NOTE: Unwanted alerts are filtered out according to the AlertText.</p> <p><b>sl.rtvview.sub=\$hawkAlertTextFilterOut:AlertText</b></p> <p>For example, to filter out all Hawk Alerts in which the AlertText contains <b>Source</b> you would enter the following:<br/> <b>sl.rtvview.sub=\$hawkAlertTextFilterOut:Source</b></p> <p>The default time to remove cleared Hawk Alerts from the table is <b>3600</b> seconds. To adjust this setting, edit the following in <b>sample.properties</b>:<br/> <b>sl.rtvview.sub=\$hawkAlertTextFilterOut:3600</b></p> <p>Index Type: PerServer<br/> Metric: Hawk</p> | NaN | NaN | -1 | TRUE  |
| <p><b>JvmCpuPercentHigh</b><br/> The percentage of CPU that has been reached by the JVM is above the limit.<br/> Index Type: PerJVM<br/> Metric: CpuPercent</p>  | 50  | 75  | 30 | FALSE |
| <p><b>JvmGcDutyCycleHigh</b><br/> The duty cycle is out the upper limit.<br/> Index Type: PerGC<br/> Metric: DutyCycle</p>   | 50  | 75  | 30 | FALSE |
| <p><b>JvmMemoryUsedHigh</b><br/> The memory used out the upper limit<br/> Index Type: PerJVM<br/> Metric: MemoryUsedPercent</p>  | 50  | 75  | 30 | FALSE |
| <p><b>JvmNotConnected</b><br/> The JVM in not connected.<br/> Index Type: PerJVM<br/> Metric: Connected</p>  | NaN | NaN | 30 | FALSE |
| <p><b>JvmStaleData</b><br/> Cut in reception from that JVM.<br/> Index Type: PerJVM<br/> Metric: Expired</p>   | NaN | NaN | 30 | FALSE |

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## TIBCO BusinessEvents

The following alerts are available with both the solution package and standalone versions for TIBCO® BusinessEvents®.

|  |   |
|--|---|
| <b>TbeBackingStoreEraseRateHigh</b>            | This alert executes a single warning alert and a single alarm alert if the rate at which entries are erased from the backing store exceeds the specified threshold. The warning default threshold is <b>80</b> and the alarm default threshold is <b>95</b> .   |
| <b>TbeBackingStoreLoadRateHigh</b>             | This alert executes a single warning alert and a single alarm alert if the rate at which entries are loaded from the backing store exceeds the specified threshold. The warning default threshold is <b>80</b> and the alarm default threshold is <b>95</b> .   |
| <b>TbeBackingStoreStoreRateHigh</b>            | This alert executes a single warning alert and a single alarm alert if the rate at which entries are written to the backing store exceeds the specified threshold. The warning default threshold is <b>80</b> and the alarm default threshold is <b>95</b> .  |
| <b>TbeClusterMalformed</b>                     | <p>This alert executes for any cluster where the member count is not equal to the expected cluster size. The expected cluster size is a count of the number of nodes that have the same cluster name, as discovered by reading the cluster MBean for each node in the connection property file. The MemberCount attribute is also read from the same cluster MBean, and is the number of nodes in the (sub)cluster which the current node has joined.</p> <p>The condition where these counts differ can occur if there are missing connections in the property file (for example, some nodes are unmonitored). It can also occur if, due to network or other anomalies, some nodes do not join the "main" cluster, but instead form a "sub-cluster" of one or more nodes. This condition is commonly referred to as "split-brain".</p> |
| <b>TbeDestinationStatusRecvdEventsRateHigh</b> | This alert executes a single warning alert and a single alarm alert if the rate at which events are received from the channel exceeds the specified threshold. The warning default threshold is <b>80</b> and the alarm default threshold is <b>95</b> .  |
| <b>TbeNodeConceptsGetRateHigh</b>              | This alert executes a single warning alert and a single alarm alert if the rate at which concepts are received from the cache exceeds the specified threshold. The warning default threshold is <b>80</b> and the alarm default threshold is <b>95</b> .  |
| <b>TbeNodeConceptsPutRateHigh</b>              | This alert executes a single warning alert and a single alarm alert if the rate at which concepts are written to the cache exceeds the specified threshold. The warning default threshold is <b>80</b> and the alarm default threshold is <b>95</b> .   |
| <b>TbeNodeConceptsRemoveRateHigh</b>           | This alert executes a single warning alert and a single alarm alert if the rate which concepts are removed from the cache exceeds the specified threshold. The warning default threshold is <b>80</b> and the alarm default threshold is <b>95</b> .  |
| <b>TbeNodeConnectionLoss</b>                   | This discrete alert executes when the JMX Connection to the TIBCO BusinessEvents agent is lost (the TCP connection flag for an engine is <b>false</b> ).  |
| <b>TbeNodeEventsGetRateHigh</b>                | This alert executes a single warning alert and a single alarm alert if the rate at which events are received from the cache exceeds the specified threshold. The warning default threshold is <b>80</b> and the alarm default threshold is <b>95</b> .  |

|                                    |  |
|------------------------------------|--|
| <b>TbeNodeEventsPutRateHigh</b>    | This alert executes a single warning alert and a single alarm alert if the rate at which events are written to the cache exceeds the specified threshold. The warning default threshold is <b>80</b> and the alarm default threshold is <b>95</b> .  |
| <b>TbeNodeEventsRemoveRateHigh</b> | This alert executes a single warning alert and a single alarm alert if the rate which events are removed from the cache exceeds the specified threshold. The warning default threshold is <b>80</b> and the alarm default threshold is <b>95</b> .   |
| <b>TbeObjectTableExtIdSize</b>     | This alert executes a single warning alert and a single alarm alert if the number of external object IDs exceeds the specified threshold. The warning default threshold is <b>9000</b> and the alarm default threshold is <b>10000</b> .             |
| <b>TbeObjectTableSize</b>          | This alert executes a single warning alert and a single alarm alert if the number of objects maintained by the cache exceeds the specified threshold. The warning default threshold is <b>9000</b> and the alarm default threshold is <b>10000</b> . |
| <b>TbeRuleFiringRateHigh</b>       | This alert executes a single warning alert and a single alarm alert if the rate at which rules are executing exceeds the specified threshold. The warning default threshold is <b>80</b> and the alarm default threshold is <b>95</b> .              |

## TIBCO Enterprise Message Service

The following alerts are available with both the solution package and standalone versions for TIBCO® Enterprise Message Service™.

| Alert Name  | WARN. LEVEL | ALARM LEVEL | DURATION | ENABLED |
|---|-------------|-------------|----------|---------|
| <b>EmsConsumerStalled</b><br>Indicates consumers are stalled or are no longer consuming messages (have not received a message within a defined threshold). The server must be running for a minimum time (5 minutes by default) before this alert is triggered. Thresholds are in seconds.<br><b>Note:</b> This alert does not allow overrides.<br><b>Index Type(s):</b> PerConsumer: ID/<br>PerServerConsumer: URL; ID<br><b>Metric:</b> elapsedSinceLasAckInSec | 85          | 95          | 30       | FALSE   |
| <b>EmsQueueConsumerIdleTimeHigh</b><br>The idle time of the queue consumer has reached its maximum. This alert is triggered when there is no change in the number of incoming messages for a queue within a specified period of time (in seconds).<br><b>Index Type(s):</b> PerQueue; PerServerQueue<br><b>Metric:</b> ConsumerIdleTime   | 60          | 80          | 30       | FALSE   |
| <b>EmsQueueInboundDeltaHigh</b><br>The number of new incoming messages for the EMS Queue has reached its maximum.<br><b>Index Type(s):</b> PerQueue; PerServerQueue<br><b>Metric:</b> DeltainboundTotalMessages   | 60          | 80          | 30       | FALSE   |

|   |    |    |    |       |
|---|----|----|----|-------|
| <p><b>EmsQueueMsgLatencyHigh</b></p> <p>The time, in seconds, needed to process all pending messages based on the current outbound message rate exceeded its threshold. This alert does not take into account queues with outbound message rate equals to zero.</p> <p><b>Index Type(s):</b> PerServerQueue: URL; name</p> <p><b>Metric:</b> messageLatency</p> | 60 | 80 | 30 | FALSE |
| <p><b>EmsQueueProviderIdleTimeHigh</b></p> <p>The queue idle time exceeded the specified threshold. A queue is idle when the number of inbound messages remains unchanged.</p> <p><b>Index Type(s):</b> PerServerQueue: URL; name</p> <p><b>Metric:</b> ProviderIdleTime</p>  | 60 | 80 | 30 | FALSE |
| <p><b>EmsQueuesConsumerCountHigh</b></p> <p>The number of consumers of a queue exceeded the specified high threshold.</p> <p><b>Index Type(s):</b> PerServerQueue: URL; name/<br/>PerQueue: name</p> <p><b>Metric:</b> consumerCount</p>  | 60 | 80 | 30 | FALSE |
| <p><b>EmsQueuesConsumerCountLow</b></p> <p>The number of consumers of a queue is below the specified threshold.</p> <p><b>Index Type(s):</b> PerServerQueue: URL; name/<br/>PerQueue: name</p> <p><b>Metric:</b> consumerCount</p>  | 15 | 5  | 30 | FALSE |
| <p><b>EmsQueuesInMsgRateHigh</b></p> <p>The rate of inbound messages on the queue exceeded the specified threshold.</p> <p><b>Index Type(s):</b> PerServerQueue: URL; name/<br/>PerQueue: name</p> <p><b>Metric:</b> inboundMessageRate</p>   | 60 | 80 | 30 | FALSE |
| <p><b>EmsQueuesOutMsgRateHigh</b></p> <p>The number of outbound messages on the queue exceeded the specified threshold.</p> <p><b>Index Type(s):</b> PerServerQueue: URL; name</p> <p><b>Metric:</b> outboundMessageRate</p>  | 60 | 80 | 30 | FALSE |
| <p><b>EmsQueuesPendingMsgsHigh</b></p> <p>The number of pending messages on the queue exceeded the specified threshold.</p> <p><b>Index Type(s):</b><br/>PerServerQueue: name; PerServerQueue: URL; name</p> <p><b>Metric:</b> pendingMessageCount</p>  | 60 | 80 | 30 | FALSE |
| <p><b>EmsQueuesProducerCountHigh</b></p> <p>The number of producers to a queue exceeded the specified high threshold.</p> <p><b>Index Type(s):</b> PerQueue: name/<br/>PerServerQueue: URL; name</p> <p><b>Metric:</b> producerCount</p>  | 60 | 80 | 30 | TRUE  |

|  |     |     |    |       |
|--|-----|-----|----|-------|
| <p><b>EmsQueuesProducerCountLow</b></p> <p>The number of producers to a queue is below the specified threshold.</p> <p><b>Index Type(s):</b> PerQueue: name/<br/>PerServerQueue: URL; name</p> <p><b>Metric:</b> producerCount</p>   | 15  | 5   | 30 | TRUE  |
| <p><b>EmsServerAsyncDBSizeHigh</b></p> <p>The size of the Async database, in bytes, for the EMS Server reached its maximum.</p> <p><b>Index Type(s):</b> PerServer: URL</p> <p><b>Metric:</b> asyncDBSize</p>                        | 50  | 100 | 30 | FALSE |
| <p><b>EmsServerInboundDeltaHigh</b></p> <p>The number of new incoming messages for the EMS Server has reached its maximum</p> <p><b>Index Type(s):</b> PerServer</p> <p><b>Metric:</b> DeltainboundMessageCount</p>                  | 60  | 80  | 30 | FALSE |
| <p><b>EmsServerSyncDBSizeHigh</b></p> <p>The size of the Sync database, in bytes, for the EMS Server reached its maximum.</p> <p><b>Index Type(s):</b> PerServer: URL</p> <p><b>Metric:</b> syncDBSize</p>                           | 50  | 100 | 30 | FALSE |
| <p><b>EmsServerConnectionCountHigh</b></p> <p>Alert is triggered when the number of connections to the server reaches the specified threshold.</p> <p><b>Index Type(s):</b> PerServer: URL</p> <p><b>Metric:</b> connectionCount</p> | 60  | 80  | 30 | FALSE |
| <p><b>EmsServerInMsgRateHigh</b></p> <p>The number of inbound messages on the server exceeded the specified threshold.</p> <p><b>Index Type(s):</b> PerServer: URL</p> <p><b>Metric:</b> inboundMessageRate</p>                      | 2   | 80  | 30 | FALSE |
| <p><b>EmsServerMemUsedHigh</b></p> <p>The percent memory used on the server exceeded the specified threshold.</p> <p><b>Index Type(s):</b> PerServer: URL</p> <p><b>Metric:</b> messageMemoryPct</p>                                 | 60  | 80  | 30 | FALSE |
| <p><b>EmsServerNotStarted</b></p> <p>The server state is empty. The server is not started.</p> <p><b>Index Type(s):</b> PerServer: URL</p> <p><b>Metric:</b> NotStarted</p>  | NaN | NaN | 30 | FALSE |
| <p><b>EmsServerOutMsgRateHigh</b></p> <p>The number of outbound messages on the server exceeded the specified threshold.</p> <p><b>Index Type(s):</b> PerServer: URL</p> <p><b>Metric:</b> outboundMessageRate</p>                   | 60  | 80  | 30 | FALSE |

|   |     |     |    |       |
|---|-----|-----|----|-------|
| <p><b>EmsServerPendingMsgsHigh</b><br/>The number of pending messages in the server queue exceeded the specified threshold.<br/><b>Index Type(s):</b> PerServer:URL<br/><b>Metric:</b> pendingMessageCount</p>  | 60  | 80  | 30 | FALSE |
| <p><b>EmsServerPendingMsgSizeHigh</b><br/>The size, in KB, of the pending messages stored on this EMS Server reached its maximum.<br/><b>Index Type(s):</b> PerServer:URL<br/><b>Metric:</b> pendingMessageCount</p>  | 60  | 80  | 30 | FALSE |
| <p><b>EmsServerRouteState</b><br/>One or more routes on the server are not active.<br/><b>Index Type(s):</b> PerServer:URL<br/><b>Metric:</b> Alert State</p>   | NaN | NaN | 30 | FALSE |
| <p><b>EmsServerStaleData</b><br/>The server stopped receiving data.<br/><b>Index Type(s):</b> PerServer:URL<br/><b>Metric:</b> Expired</p>  | NaN | NaN | 30 | FALSE |
| <p><b>EmsTopicConsumerIdleTimeHigh</b><br/>The idle time of the topic consumer has reached its maximum. This alert is triggered when there is no change in the number of incoming messages for a topic within a specified period of time (in seconds).<br/><b>Index Type(s):</b> PerTopic; PerServerTopic<br/><b>Metric:</b> ConsumerIdleTime</p> | 60  | 80  | 30 | FALSE |
| <p><b>EmsTopicInboundDeltaHigh</b><br/>The number of new incoming messages for the EMS Topic has reached its maximum.<br/><b>Index Type(s):</b> PerTopic; PerServerTopic<br/><b>Metric:</b> DeltainboundTotalMessages</p>   | 60  | 80  | 30 | FALSE |
| <p><b>EmsTopicMsgLatencyHigh</b><br/>The time, in seconds, needed to process all pending messages based on the current outbound message rate exceeded its threshold. This alert does not take into account topics with outbound messages rates equal to zero.<br/><b>Index Type(s):</b> PerServerTopic<br/><b>Metric:</b> messageLatency</p>      | 60  | 80  | 30 | FALSE |
| <p><b>EmsTopicProviderIdleTimeHigh</b><br/>The topic idle time exceeded the specified threshold. A topic is idle when the number of inbound messages remains unchanged.<br/><b>Index Type(s):</b> PerServerTopic: URL; name<br/><b>Metric:</b> ProviderIdleTime</p>   | 60  | 80  | 30 | FALSE |
| <p><b>EmsTopicsConsumerCountHigh</b><br/>The number of consumers for the topic exceeded the specified threshold.<br/><b>Index Type(s):</b> PerServerTopic: URL; name<br/><b>Metric:</b> consumerCount</p>   | 60  | 80  | 30 | FALSE |

|   |    |    |    |       |
|---|----|----|----|-------|
| <b>EmsTopicsConsumerCountLow</b><br>The number of consumers for the topic is below the specified threshold.<br><b>Index Type(s):</b> PerServerTopic<br><b>Metric:</b> consumerCount   | 60 | 80 | 30 | FALSE |
| <b>EmsTopicsInMsgRateHigh</b><br>The number of inbound messages for the topic exceeded the specified threshold.<br><b>Index Type(s):</b> PerServerTopic<br><b>Metric:</b> inboundMessageRate  | 60 | 80 | 30 | FALSE |
| <b>EmsTopicsOutMsgRateHigh</b><br>The rate of outbound messages for the topic exceeded the specified threshold.<br><b>Index Type(s):</b> PerServerTopic<br><b>Metric:</b> outboundMessageRate   | 60 | 80 | 30 | TRUE  |
| <b>EmsTopicsPendingMsgsHigh</b><br>The number of pending messages on the queue for the topic exceeded the specified threshold.<br><b>Index Type(s):</b> PerTopic<br><b>Metric:</b> pendingMessageCount  | 50 | 75 | 30 | FALSE |
| <b>EmsTopicsProducerCountHigh</b><br>The number of active producers for this topic exceeded the specified high threshold.<br><b>Index Type(s):</b> PerTopic/PerServerTopic<br><b>Metric:</b> producerCount                                    | 60 | 80 | 30 | TRUE  |
| <b>EmsTopicsProducerCountLow</b><br>The number of producers for the topic is below the specified threshold.<br><b>Index Type(s):</b> PerTopic/PerServerTopic<br><b>Metric:</b> producerCount  | 60 | 80 | 30 | TRUE  |
| <b>EmsTopicsSubscriberCountHigh</b><br>The number of subscribers for the topic exceeded the specified threshold.<br><b>Index Type(s):</b> PerServerTopic<br><b>Metric:</b> subscriberCount  | 50 | 75 | 30 | FALSE |
| <b>JvmCpuPercentHigh</b><br>The percent JVM CPU usage exceeded the specified threshold.<br><b>Index Type(s):</b> PerJVM<br><b>Metric:</b> CpuPercent  | 30 | 40 | 30 | FALSE |
| <b>JvmGcDutyCycleHigh</b><br>The JVM Garbage Collection contains an item that exceeded the specified duty cycle threshold (the percent of time spent in Garbage Collection).<br><b>Index Type(s):</b> PerGC<br><b>Metric:</b> TimeUsedPercent | 50 | 75 | 30 | FALSE |

|   |     |     |    |       |
|---|-----|-----|----|-------|
| <b>JvmMemoryUsedHigh</b><br>The percent JVM memory used exceeded the specified threshold.<br><b>Index Type(s):</b> PerJVM<br><b>Metric:</b> MemoryUsedPercent | 50  | 75  | 30 | FALSE |
| <b>JvmNotConnected</b><br>The JVM is not connected.<br><b>Index Type(s):</b> PerJVM<br><b>Metric:</b> Connected   | NaN | NaN | 30 | FALSE |
| <b>JvmStaleData</b><br>The JVM stopped receiving data.<br><b>Index Type(s):</b> PerJVM<br><b>Metric:</b> Expired  | NaN | NaN | 30 | FALSE |

---

## UX

The following are the Monitor alerts you can enable to be aware of any web application that is unresponsive, performing slowly, generating errors or returning invalid information. By default, Monitor alerts are disabled.

Monitor alerts execute when the UX Robot performs its routine runs on URLs. The **uxmon.properties** file defines which URLs the UX Robot checks and reports on. There are two types of Monitor alerts, UX-ROBOT alerts and UX-URL alerts.

- UX-ROBOT alerts apply to multiple URLs.
- UX-URL alerts apply to a single URL.

---

|                              |  |
|------------------------------|--|
| <b>UXRobotError</b>          | <p>During a UX Robot run, this UX-ROBOT alert executes a single warning alert and a single alarm alert if the number of URL errors exceed the specified threshold. The warning default threshold is <b>1</b> and the alarm default threshold is <b>10</b>.</p> <p>For example, the URL error message "no such URL" indicates an issue at the Web Server that serves the URL. Using the default settings, a warning alert executes if the UX Robot encounters 1 or more URL errors and an alarm alert executes if the UX Robot encounters 10 or more URL errors.</p>                        |
| <b>UXRobotResponseSlow</b>   | <p>During a UX Robot run, this UX-ROBOT alert executes a single warning alert and a single alarm alert if the total response time for all specified URLs exceeds the specified threshold. The warning default threshold is <b>1000</b> milliseconds and the alarm default threshold is <b>2000</b> milliseconds.</p>   |
| <b>UXRobotSearchSentinel</b> | <p>During a UX Robot run, this UX-ROBOT alert executes a single warning alert and a single alarm alert if the number of false URL responses (responses without the specified <b>searchString</b> in the URL line) exceeds the specified threshold. The warning default threshold is <b>1</b> and the alarm default threshold is <b>10</b>.</p> <p>For example, using the default settings, a warning alert executes if the UX Robot encounters 1 or more false responses from URLs and an alarm alert executes if the UX Robot encounters 10 or more false responses from URLs.</p>        |
| <b>UXRobotTimeout</b>        | <p>During a UX Robot run, this UX-ROBOT alert executes a single warning alert and a single alarm alert if the number of URL timeouts exceeds the specified <b>maxTimeoutMS</b> threshold. The warning default threshold is <b>1</b> and the alarm default threshold is <b>15</b>.</p> <p>For example, the URL error message "no such URL" indicates an issue at the Web Server that serves the URL. Using the default settings, a warning alert executes if the UX Robot encounters 1 or more URL errors and an alarm alert executes if the UX Robot encounters 15 or more URL errors.</p> |

---

---

|                            |  |
|----------------------------|--|
| <b>UXURLError</b>          | During a UX Robot run, this UX-URL alert executes a single alert if the UX Robot receives an error message from a URL. The default setting is <b>TRUE</b> .<br>For example, the URL error message "no such URL" indicates an issue at the Web Server that serves the URL.                |
| <b>UXURLResponseSlow</b>   | During a UX Robot run, this UX-URL alert executes a single warning alert and a single alarm alert if the response time for a URL exceeds the specified threshold. The warning default threshold is <b>1000</b> milliseconds and the alarm default threshold is <b>2000</b> milliseconds. |
| <b>UXURLSearchSentinel</b> | During a UX Robot run, this UX-URL alert executes an alert if the UX Robot receives a false URL response (a response without the specified <b>searchString</b> in the URL line). The default setting is <b>FALSE</b> .   |
| <b>UXURLTimeout</b>        | During a UX Robot run, this UX-URL alert executes an alert if the URL response time exceeds the specified <b>maxTimeoutMS</b> threshold. UX Robot receives a false URL response (a response without the specified <b>searchString</b> ). The default setting is <b>TRUE</b> .            |

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## APPENDIX D Oracle Coherence JMX Connection Options

The RTView OC Monitor application collects capacity and performance metrics from an operational Coherence Cluster using standard JMX protocols. These metrics are made available to developers and support personnel for analysis and alerting using RTView desktop applications, Web browser clients, or passively via event-triggered alerts.

There are several modes by which the OC Monitor may connect to a Coherence cluster using JMX. With RTView, users have a choice as to which mode to use, either of which may be relevant or appropriate depending on the monitoring requirement. This is especially important in a situation where users are called on to monitor and manage multiple disparate clusters. This section includes:

- [“Connection to Cluster Using JMX Remote Port or RMI URL” on page 1021](#)
- [“Optimizing Data Retrieval Using JMX Tables” on page 1022](#)
- [“Direct Connection to Cluster as a Coherence Management Node” on page 1024](#)

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### Connection to Cluster Using JMX Remote Port or RMI URL

In this mode, the OC Monitor makes a connection to a remote JMX port or RMI URL exposed by a node in the cluster that has been configured as a Coherence “management” node on startup. This node must also have defined its JMX remote port or RMI URL using standard JMX configuration properties and may include a requirement for secure user authentication.

Once connected, the OC Monitor begins querying all (or a subset) of the MBeans from the Coherence management node at a regular interval.

NOTE: The management node may exist on the same machine as the OC Monitor; the “remote” designation simply means that the JMX connection is made to MBeans instanced in a separate process from the OC Monitor.

The information required for the OC Monitor to connect in this manner is minimal, only the host and port, or RMI URL. Typically, this makes it quick and easy to begin monitoring a cluster, a particular advantage in development environments where clusters come and go on a regular basis. There is no need to configure, then start and stop an agent in order to monitor the cluster.

Another advantage of remote JMX collection is that you do not have to install anything in the cluster or in a production environment – often the cluster itself is running behind a firewall and the monitor does not have easy access to the data. As long as a management node in the cluster exposes JMX MBeans, the connection process can be completely hands off.



This option is useful when monitoring large clusters (clusters with a large number of nodes, caches and/or services) using JMX, where the volume of data retrieved can affect the time taken to retrieve all the data, and thus limit the sampling rate for monitoring data.

Enabling this requires (unlike default JMX monitoring) that the custom MBeans (contained in a jar) are deployed and registered on all nodes in the cluster, and the monitoring is configured to query the custom MBeans.

The Oracle Coherence Documentation describes registering custom MBeans in a declarative manner in detail: [https://docs.oracle.com/cd/E18686\\_01/coh.37/e18682/custom\\_mbeans.htm#COHMG4712](https://docs.oracle.com/cd/E18686_01/coh.37/e18682/custom_mbeans.htm#COHMG4712).

To use this option:

- Configure the monitored Coherence cluster to use JMX Tables custom MBeans. Add the **ocjmxtables.jar** to the classpath of the cluster members. And set - **Dtangosol.coherence.mbeans=/sl-custom-mbeans.xml** for the cluster members JVM's.
- Configure your OC Monitoring system to use JMX Tables. Configure your monitoring system to use JMX as normal. And edit the **rtview.properties** file to use the **maincollector.sl.rtview.cmd\_line=-ocjmxtables** property for the OCM monitoring system.

Requirements:

- The Custom MBeans must be found at run time. You must place the library that contains the MBeans in the classpath of the Coherence nodes/members, including the JMX management-enabled member.
- The custom MBeans (contained in a jar) must be deployed and registered on all nodes in the cluster, and the monitoring configured to query the custom MBeans.
- The Custom MBeans must be specified using a MBean Configuration Override File.
- The Custom MBeans (CacheTable, ServiceTable, StorageManagerTable) are contained in the jar **ocjmxtables.jar**, located in the **rtvapl/ocmon/lib** directory of the OC Monitor installation. This jar file must be added to the classpath of the Coherence members to be monitored. This may require that the jar be copied to a location that is visible to all the Coherence members. This may vary based on your deployment. It may prove convenient to copy it to where the Coherence jars are deployed, so they can use the same classpath root.
- The **tangosol.coherence.mbeans** system property specifies an MBean configuration override file to be used instead of the default **custom-mbeans.xml** override file. The MBean configuration file to use is **sl-custom-mbeans.xml**, contained at the root of the **ocjmxtables.jar**. Thus when the **ocjmxtables.jar** is added to the Coherence members classpath, it can be specified by setting the **tangosol.coherence.mbeans** system property for the Coherence cluster members to reference it thus: - **Dtangosol.coherence.mbeans=/sl-custom-mbeans.xml**.

The above should be applied to all Coherence cluster members so that the **tangosol.coherence.mbeans** system property is set to **/sl-custom-mbeans.xml**.

If you have configured your Coherence cluster correctly, you should be able to connect to the cluster using JConsole, and see in addition to the previous Cache, Service, and StorageManager MBeans the new custom CacheTable, ServiceTable, and StorageManagerTable MBeans.

After you configure your OC Monitor system to use the Custom MBeans and configure your monitoring system to use JMX as normal, uncomment the following line in the **rtview.properties** file:

```
# JMX TABLES
```

```
#
```

```
# Uncomment the line below to use the JMX tables custom mbeans
```

```
#maincollector.sl.rtvview.cmd_line=-ocjmxtables
```

This sets the **-ocjmxtables** command line argument to be passed to the maincollector program (typically this is the Data Server), and the log file will then contain the following text at startup:

```
... using OC JMX Tabular Data
```

And at runtime, the previous JMX queries (as seen in the **JMX Metrics Administration** display in the **MBean Query Key** column of the **RTView JMX Query Statistics** table):

```
* Coherence:type=Cache,* 0 * -1 *-
* Coherence:type=Cluster 0 * -1 *-
* Coherence:type=Service,* 0 * -1 *-
```

become the following:

```
* Coherence:type=CacheTable,* 0 CacheTable -1 *-
* Coherence:type=ServiceTable,* 0 ServiceTable -1 *-
* Coherence:type=StorageManagerTable,* 0 StorageManagerTable -1 *-
```

The JMX queries should also have a reduced execution time leading to a reduced total (JMX Query) Execution time.

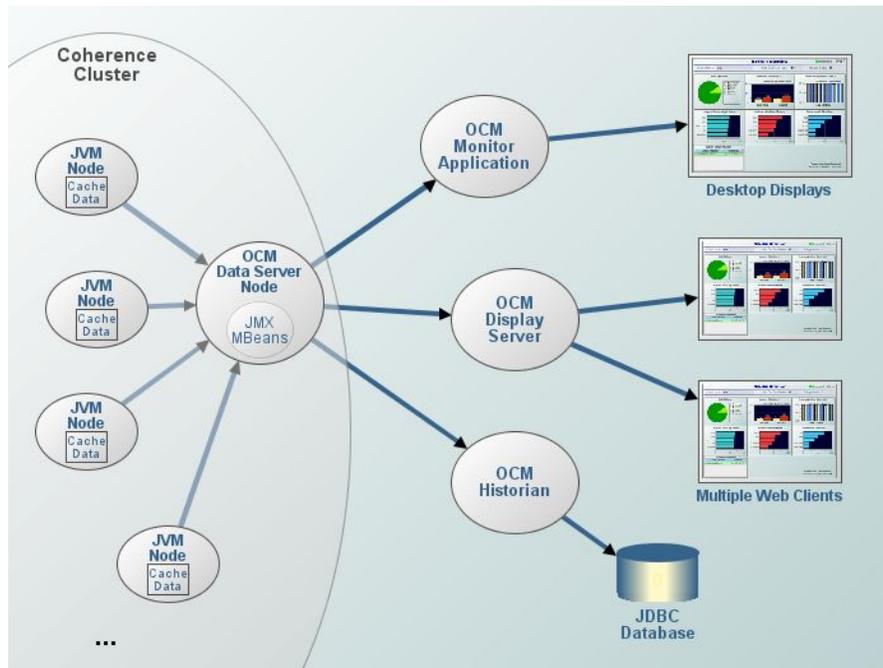
---

## Direct Connection to Cluster as a Coherence Management Node

In this mode, the OC Monitor itself joins the cluster and establishes itself as a management node. As a management node, it is configured with local data storage disabled so that it does not store any cache data and serves only as a monitoring node. In this role, it creates the JMX MBean server in-process and collects JMX monitoring data from other Coherence node using fast internal Coherence protocols.

The primary advantage for this mode is speed. In practice, this performance improvement can range from 2 to 10 times faster, depending a number of factors, in particular the network configuration environment.

However, there are tradeoffs. In order to use the direct connection mode, one must have access to all of the important cluster configuration parameters that are used by other nodes in the cluster. These include the Coherence override file, or specific settings like cluster name, well-known address, multicast ports, and Coherence mode. Having limited access to this information can make the configuration process time-consuming.





## APPENDIX E Custom Solution Packages - Best Practices

This section includes:

- "Overview" on page 1027
- "Functions" on page 1027: Describes property format, filters and naming conventions.
- "Include Files" on page 1028: Describes properties for modifying display behavior, such as drill-down targets.
- "Naming Conventions" on page 1028: Describes substitutions available for modifying display behavior.

---

### Overview

There are a number of guidelines and best practices that are good to be aware of when creating a new Solution Package. The goal of these guidelines is twofold:

- Segregation of graphical information from data manipulation.
- Improve efficiency and ease development.

The Demo CSP described in this document follows these Best Practices.

---

### Functions

Although caches can be connected to directly to graphical objects, one reference function to the corresponding table of the cache should be used instead in order to isolate graphical visualization from other data and improve performance. This also provides a convenient interface to the cache should one ever desire to aggregate the cache with data after being stored in the cache. These functions should filter out either the "current" table or the "history-combo" table and the files where they are stored should be named accordingly (i.e. \*\_current?\_include or \*\_history?\_include) which is discussed in more detail below. Functions are commented in more detail in the "The Custom SP Example" on page 931 and in the *RTView Core® User's Guide* at <http://www.sl.com/support/documentation/> under the heading "Functions".

---

## Include Files

Separating out graphical components from data handling allows improving efficiency by enclosing distinct types of functionality into different include files (files that will be "included" in other **\*.rtv** files). This allows each display to be optimized by only containing the data it needs. Therefore, one function that is used in multiple files will be defined in just one include file, which will be included as many times as needed.

---

## Naming Conventions

To systematically name all elements of a Solution Package, there is a complete set of rules defined. This section includes:

- "File Naming Conventions" on page 1028
- "Cache Naming Conventions" on page 1030
- "Alert Naming Conventions" on page 1031

### File Naming Conventions

This section includes:

- "Cache Definition Files" on page 1028
- "Alert Definition File" on page 1028
- "Include Current Files" on page 1029
- "Include History Files" on page 1029
- "Display Files" on page 1029
- "Common Files" on page 1030
- "Navigation Files" on page 1030

### Cache Definition Files

All files start with a prefix associated with package name and separator is underbar ('\_'). That is: **[pkg]\_[item]\_cache.rtv**

Examples:

gfs\_server\_cache.rtv, where **[pkg]** = 'gfs', and **[item]** = 'server'

wls\_servlet\_cache.rtv, where **[pkg]** = 'wls', and **[item]** = 'servlet'

bird\_cache.rtv, where **[pkg]** = bird, and **[item]** = empty

### Alert Definition File

As a general rule, there is one alert definition file per Solution Package. The name of this file should follow the pattern: **[pkg]\_alertdefs.rtv**

Examples:

gfs\_alertdefs.rtv

wls\_alertdefs.rtv

bird\_alertdefs.rtv

### **Include Current Files**

These files contain the functions extracting the current table of the cache. That is:  
[pkg]\_[item]\_current\_include.rtv

Examples:

gfs\_server\_current\_include.rtv

wls\_servlet\_current\_include.rtv

bird\_current\_include.rtv

To avoid transfer delays when the amount of data being transferred is large, it is recommended to create one-item current include files. These files use filtering substitutions that will be used to filter the current table. The naming convention for these files is as follows:  
[pck]\_[item]\_current1\_include.rtv

Examples:

gfs\_server\_current1\_include.rtv

wls\_app\_current1\_include.rtv

bird\_current1\_include.rtv

### **Include History Files**

These files contain the functions extracting the history and/or history-combo table of the cache. These files are for one item from the table. This improves performance - filtering all data from the history tables for all items is discouraged. These files define a variable that will be used to filter the history-combo table. In general, these files are included to reach the functions providing the past data for trend graphs. The naming convention for these files is as follows: [pck]\_[item]\_history[1]\_include.rtv

Examples:

gfs\_server\_history1\_include.rtv, where pkg = gfs, and item = server

wls\_app\_history1\_include.rtv, where pkg = wls, and item = app

bird\_history1\_include.rtv, where pkg = item = bird

### **Display Files**

All files start with a prefix associated with package name and separator is underbar ('\_').  
[pkg]\_[indexing|reference]\_[mainGraphObject|subject]

Examples:

gfs\_allservers\_heatmap.rtv, where [pkg] = 'gfs', [indexing] = 'allservers', and [mainGraphObject] = 'heatmap'

wls\_allapps\_table.rtv, where [pkg] = 'wls', [indexing] = 'allapps', and [mainGraphObject] = 'table'

bird\_summary.rtv, where [pkg] = bird, [indexing] = empty, and [subject] = 'summary', which shows a single bird at a time. In the Demo CSP, we have omitted [indexing|reference].

## Common Files

To maintain look-and-feel with the same filtering structure across the Solution Package, we use 'common' files. These files contain the standardized filtering mechanism to be used for a group of displays. The naming convention is as follows: [pkg]\_common\_[group].rtv

Examples:

gfs\_common\_allservers.rtv, where pkg = 'gfs', and group = 'allservers'

wls\_common\_server.rtv, where pkg = 'wls', and group = 'server'

bird\_common.rtv, where pkg = 'bird'

## Navigation Files

To define the displays of the Solution Package and its arrangement, two files, with the following naming conventions, are needed: [pkg]\_navtree.xml and [pkg]\_panels.xml

Examples:

custom\_navtree.xml

custom\_panels.xml

## Cache Naming Conventions

This section includes:

- ["Cache Names" on page 1030](#)
- ["Include Current Functions" on page 1030](#)
- ["Include History Functions" on page 1031](#)

### Cache Names

All cache names are camel case and start with the package prefix. The naming convention is: [Pkg][Item][Totals][By[Grouping]].rtv

Examples:

GfsWebModuleTotalsByApp, where Pkg = 'Gfs', and Grouping = 'App'

WlsSessionStats, where Pkg = 'Wls', and Item = 'SessionStats'

BirdData, where Pkg = Item = 'Bird'

### Include Current Functions

These functions extract the current table of the cache. The naming convention is: [cacheName]Current. All function names start with lowercase while cache names start with uppercase.

Examples:

gfsSessionTotalsCurrent, where cacheName = 'gfsSessionTotals'

wlsThreadPoolRuntimeCurrent, where cacheName = 'wlsTheadPoolRuntime'

birdDataCurrent, where cacheName = 'birdData'

When the amount of data being transferred is large, one needs to create the one-item current functions. These functions use a filtering variable that will be used to extract only the necessary data from the current table. The naming convention for these functions is as follows: [cacheName]CurrentFor[Item]

Examples:

gfsServerInfoCurrentForServer, where cacheName = 'gfsServerInfo', and Item = 'Server'

wlsJmsPooledConnectionRuntimeCurrentForServer, where cacheName = 'wlsJmsPooledConnectionRuntime', and Item = 'Server'

### **Include History Functions**

These functions extract the history and/or history-combo table of the cache filtered for one single item. The naming convention is: [cacheName]History[For[Item]].

Examples:

gfsSessionTotalsHistoryForServer, where cacheName = 'gfsSessionTotals', and Item = 'Server'

wlsServletTotalsByAppHistoryForServer, where cacheName = 'wlsServletTotalsByApp', Item = 'Server'

birdDataHistoryForBird, where cacheName = 'birdData', Item = 'Bird'

### **Alert Naming Conventions**

To be uniquely identified, alerts should start with the Solution Package prefix. File name should be camel case starting with uppercase and follow the pattern: [Pkg][Metric][AlertDirection]

Examples:

GfsActiveSessionCountHigh, where Pkg = 'Gfs', Metric = 'ActiveSessionCount', AlertDirection = 'High'

WlsHoggingThreadsHigh, where Pkg = 'Wls', Metric = 'HoggingThreads', and AlertDirection = 'High'

BirdTooHigh, where Pkg = 'Bird', and AlertDirection = 'TooHigh'



## APPENDIX F Limitations

This section includes:

- "iPad Safari Limitations"
- "TIBCO ActiveMatrix BusinessWorks"

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### iPad Safari Limitations

- In the iPad settings for Safari, **JavaScript** must be **ON** and **Block Pop-ups** must be **OFF**. As of this writing, the Thin Client has been tested only on iOS 4.3.5 in Safari.
- The iPad does not support Adobe Flash, so the Fx graph objects (obj\_fxtrend, obj\_fxpie, obj\_fxbar) are unavailable. The Thin Client automatically replaces the Fx graph objects with the equivalent non-Fx object (obj\_trendgraph02, obj\_pie, obj\_bargraph). Note that the replacement objects behave the same as the Fx objects in most cases but not in all. In particular, obj\_trendgraph02 does not support the sliding cursor object nor the **legendPosition** property. Custom Fx objects are not supported on the iPad.
- The Thin Client implements scrollbars for table objects and graph objects. However, unlike the scrollbars used on desktop browsers, the scrollbars used on the iPad do not have arrow buttons at each end. This can make it difficult to scroll precisely (for example, row by row) on objects with a large scrolling range.
- At full size, users may find it difficult to touch the intended display object without accidentally touching nearby objects and performing an unwanted drill-down, sort, scroll, and so forth. This is particularly true of table objects that support drill-down and also scrolling, and also in panel layouts that contain the tree navigation control. In those cases, the user may want to zoom the iPad screen before interacting with the Thin Client.
- If the iPad sleeps or auto-locks while a Thin Client display is open in Safari, or if the Safari application is minimized by clicking on the iPad's home button, the display is not updated until the iPad is awakened and Safari is reopened. In some cases it may be necessary to refresh the page from Safari's navigation bar.

Because the iPad uses a touch interface there are differences in the Thin Client appearance and behavior in iOS Safari as compared to the conventional desktop browsers that use a cursor (mouse) interface, such as Firefox and Internet Explorer. These are described below.

- **Popup browser windows:** An RTView object's drill-down target can be configured to open a display in a new window. In a desktop browser, when the RTView object is clicked the drill-down display is opened in a popup browser window. But in iOS Safari 4.3.5, only one page is visible at a time, so when the RTView object is touched a new page containing the drill-down display opens and fills the screen. The Safari navigation bar can be used to toggle between the currently open pages or close them.
- **Mouseover text:** When mouseover text and drill-down are both enabled on an RTView object (for example, a bar graph), in iOS Safari the first touch on an element in the object (for example, a bar) displays the mouseover text for that element and the second touch on the same element performs the drill-down.
- **Resize Mode and Layout:** By default, the Display Server runs with **resizeMode** set to **crop**. In **crop** mode, if a display is larger than the panel that contains it only a portion of the display is visible. In a desktop browser, scrollbars become available to allow the user to scroll to view the entire display. In iOS Safari, scrollbars do not appear but the display can be scrolled by dragging two fingers inside the display. (Dragging one finger scrolls the entire page, not the display).

If the Display Server is run with **resizeMode** set to **scale** or **layout**, the display is resized to fit into the panel that contains it. If a desktop browser is resized after a display is opened, the display is resized accordingly. On the iPad, the Safari browser can only be resized by reorienting the iPad itself, between portrait mode and landscape mode.

The panel layout feature is supported in the Thin Client. However, unlike a desktop browser which resizes to match the layout size, the size of Safari is fixed. So if the Display Server is run with **resizeMode** set to **crop** or **scale** mode, there may be unused space at the edges of the display(s) or, in **crop** mode, the panels and displays may be cropped.

This means that **layout** mode should be used for best results on the iPad. For layout mode to be most effective, displays should use the **anchor** and **dock** object properties. Please see RTView documentation for more information.

- **Scrolling:** The Thin Client implements scrollbars for table objects and graph objects. The scrollbars are activated by dragging with one finger.

If an RTView display is viewed in **crop** mode and is too large to be displayed entirely in Safari, scrollbars do not appear (as they would in a desktop browser) but the display can be scrolled by dragging with two fingers inside the display.

Scrollbars do not ever appear in a text area control. If the text area contains more text than is visible, use the two finger drag in the text area to scroll the text.

Regardless of the size of a listbox control, it can only display a single item (typically, the selected item). When the listbox is touched, the list of items appear in a popup list. In other words, on iOS Safari the listbox control and the combobox control behave identically.

- Context menu: The Thin Client context menu is opened by a right mouse button click in a desktop browser. It is opened in iOS Safari by touching any location on a display and holding that touch for 2 seconds. The menu appears in the top left corner of the display, regardless of where the display is touched. The items **Export Table to Excel**, **Drill Down**, and **Execute Command** are not included on the context menu in Safari. All other items are available. The **Export Table to HTML** item is enabled if a table object is touched (unless the table object's `drillDownTarget` is configured to open another display). After an **Export to PDF/HTML** is performed, the exported content opens on another page in Safari. From there, the content can either be opened by another application (for example, the iBooks application opens PDF) and emailed, or it can be copied and pasted into an email.

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## TIBCO ActiveMatrix BusinessWorks

### Servers

#### AIX

- Status will be **LIMITED**.
- CPU Usage, Free Memory and Virtual Memory Usage will not be available.

### Business Works 5.7.1 Engine Status

The BW Engine microagent has a method **GetExecInfo** that includes a field called **Status**, which may have the following values:

- ACTIVE
- SUSPENDED
- STANDBY
- STOPPING
- STOPPED

In Business Works 5.7.1 (but not earlier or later versions) this method fails to return any data and, in some cases when the Monitor starts, it may not know an engine's exact status. For example, if an engine is deployed but not active it could be SUSPENDED or STOPPED, or else it could be ACTIVE or STOPPING. In these cases the Monitor sets the status to UNKNOWN. An UNKNOWN status will be resolved once the engine is stopped and restarted; henceforth the status will display as STOPPED or ACTIVE.

### BWSE Components

- JVM memory metrics are available for BWSE components running in AMX 3.x environments only.
- The BW Version column in the All Engines Table display is blank for BWSE components.

- The Deployment column in the All Engines Table display is UNKNOWN for BWSE components. This is because the AMX environment controls in which node or nodes a BWSE component is running, therefore the concept of "deployment" in traditional BusinessWorks does not apply.
- BWSE components only appear in the All Engines Table display when they are running in a node.

## APPENDIX G Third Party Notice Requirements

This section includes:

- "RTView EM" on page 1037
- "RTView Core®" on page 1042

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### RTView EM

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Version 2.0, January 2004

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Version 3, 29 June 2007

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