

RTView® Monitor for Solace® User's Guide

Version 3.8



RTView Enterprise Monitor®

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RTView®

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Contents

Preface

Welcome to the *RTView® Monitor for Solace® 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 1](#)
- [“Contacting SL” on page 2](#)

About This Guide

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

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.
boldface	Within text, directory paths, file names, commands and GUI controls appear in bold typeface.
Courier	Code examples appear in Courier font: <pre>amnesiac > enable amnesiac # configure terminal</pre>
< >	Values that you specify appear in angle brackets: interface <ipaddress>

Additional Resources

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

- [“Release Notes” on page 2](#)
- [“Documentation and Support Knowledge Base” on page 2](#)

Release Notes

The Release Notes document, which is available on the SL Technical Support site at <http://www.sl.com/support/>, supplements the information in this user guide.

Documentation and Support Knowledge Base

For a complete list and the most current version of SL documentation, visit the SL Support Web site located at <http://www.sl.com/support/documentation/>. 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 the Monitor

This section contains the following:

- [“Overview” on page 3](#)
- [“System Requirements” on page 4](#)

Overview

The RTView Monitor for Solace is an easy to configure and use monitoring system that gives you extensive visibility into the health and performance of your Solace message routers and the applications that rely on them.

The RTView Monitor 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 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 RTView Monitor 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, high-transaction environments.

You can also install the monitor as a Solution Package (rather than a standalone product).

RTView Monitor for Solace On Premise Version

Go to [“Quick Start - On Premise Version” on page 17](#) for details on how to get up and running with RTView Monitor for Solace.

RTView Monitor for Solace AMI Version

The RTView Monitor for Solace is available pre-installed on an Amazon EC2 Amazon Machine Image (AMI) running Amazon Linux. It comes pre-installed with a 30-day license. The AMI includes an application stack with MySQL and Docker (among others) for convenience of quick deployment. Please refer to your instance's `/home/ec2-user/amibase/MANIFEST.txt` for the full version information.

Go to [“Quick Start - AMI Version” on page 7](#) for details on how to get up and running with RTView Monitor for Solace.

Solution Package Version

The RTView Monitor for Solace can also be installed as a Solution Package within the RTView Enterprise Monitor® product. RTView Enterprise Monitor is an end-to-end monitoring platform that allows application support teams to understand how infrastructure, middleware, and application performance data affect the availability and health of the entire system. Used as a Solution Package within RTView Enterprise Monitor, the Solace metrics are but one source of data, among many other sources (solution packages are available for EMS, OCM, AWS, BusinessWorks, SQL and many others), that determine the entire health state of the application.

For more information about RTView Enterprise Monitor®, see the *RTView Enterprise Monitor® User's Guide*, available at <http://www.sl.com/support/documentation/>.

System Requirements

For browser support, hardware requirements, JVM support and other system requirement information, 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.

Upgrading the Monitor

This section describes the steps necessary to upgrade existing RTView Monitor for Solace. 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. This section includes:

- “3.6,” next

3.6

Sender/receiver deployments

If you are using the sender/receiver deployment and upgrading from versions previous to RTView Monitor for Solace 3.6, you need to modify properties files after upgrading in the following cases:

1. If the project properties files overwrite the **sender.sl.rtvview.sub=\$rtvAgentTarget** property, change it to use the new **sender.sl.rtvapm.dataxfr.target** property using the URL you specified for the **\$rtvAgentTarget**. For example:

```
sender.sl.rtvview.sub=$rtvAgentTarget:'localhost:3172'
```

would be changed to

```
sender.sl.rtvapm.dataxfr.target=id=default url=localhost:3172 packages=all
```

2. If the project properties file adds additional targets using the **sender.sl.rtvview.cache.config** property, change it to use the new **sender.sl.rtvapm.dataxfr.target** property using the URL you specified for the **\$rtvAgentTarget** and a new unique ID. For example:

```
sender.sl.rtvview.cache.config=sol_rtvagent_sender.rtv  
$rtvAgentTarget:'otherhost:3172'
```

would be changed to

```
sender.sl.rtvapm.dataxfr.target=id=target2 url=otherhost:3172 packages=all
```

If your project properties file did not overwrite either of the above, the default sender/receiver properties values were used and therefore no changes are needed.

CHAPTER 2 Quick Start - AMI Version

This section describes how to create an AMI instance from the RTView Monitor for Solace, setup and use the RTView Monitor for Solace AMI using default settings (for evaluation purposes).

The RTView Monitor for Solace AMI is pre-installed on an Amazon EC2 Amazon Machine Image (AMI) running Amazon Linux. It includes the following application stack for convenience of quick deployment:

- Oracle Java 8
- Node.js
- Docker
- MySQL 5.7 (via Docker) for storage of historical data
- rtvHostAgent (via Docker) for providing host metrics to RTVMGR
- cadvisor-rtview (via Docker) for providing docker metrics to RTVMGR

RTView Monitor for Solace AMI is configured to start all RTView processes and supporting services on restart.

Please refer to your instance's **/home/ec2-user/amibase/MANIFEST.txt** for the full version info:

The scripts used to create the Docker containers are included in named subdirectories under **/home/ec2-user/amibase**, to be used as templates if you wish to recreate the containers with your preferred configuration.

The MySQL database data is stored external to the Docker container at **/home/ec2-user/amibase/mysql/DATA**.

If you wish to use the RTView Monitor for Solace On Premise version, see [Chapter 3, "Quick Start - On Premise Version"](#) .

Information you need:

- Login credentials for each Solace message router you will monitor.

Linux users:

- These instructions require a Bourne-compatible shell.
- JAVA_HOME is required to be in the PATH for Tomcat to start correctly.

For complete RTView® system requirements, see **README_sysreq.txt**.

This section includes:

- ["Create Instance from RTView Monitor for Solace,"](#) next
- ["Obtain SEMP Version" on page 11](#)
- ["Connect Your Message Routers" on page 11](#)
- ["Start the Monitor" on page 12](#)
- ["Stop the Monitor" on page 13](#)
- ["Troubleshooting" on page 14](#)

Create Instance from RTView Monitor for Solace

This section describes how to create obtain the RTView Monitor for Solace Amazon Machine Image (AMI).

Before you proceed: We recommended that you be logged into your Amazon AWS user account with administrative access before following the link to the AWS Instance Launch Wizard.

1. In a browser, go to <http://sl.com/solace-ami-free-trial/> and complete the form to gain access to the page of region links.
2. Click on the link for the AWS region appropriate for you to go to the AWS Instance Launch Wizard.
3. In the **Configure Instance Details** screen, choose an appropriate **Instance Type** and click **Next: Configure Instance Details**.

For information about Instance Types, refer to AWS documentation. We recommend starting with the t2 family, of at least t2.medium.

Step 2: Choose an Instance Type

Amazon EC2 provides a wide selection of instance types optimized to fit different use cases. Instances are virtual servers that can run applications. They have varying combinations of CPU, memory, storage, and networking capacity, and give you the flexibility to choose the appropriate mix of resources for your applications. [Learn more](#) about instance types and how they can meet your computing needs.

Filter by: All instance types Current generation Show/Hide Columns

Currently selected: t2.medium (Variable ECUs, 2 vCPUs, 2.5 GHz, Intel Xeon Family, 4 GiB memory, EBS only)

	Family	Type	vCPUs	Memory (GiB)	Instance Storage (GiB)	EBS-Optimized Available	Network Performance	IPv6 Support
<input type="checkbox"/>	General purpose	t2.nano	1	0.5	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	General purpose	t2.micro <small>Free tier eligible</small>	1	1	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	General purpose	t2.small	1	2	EBS only	-	Low to Moderate	Yes
<input checked="" type="checkbox"/>	General purpose	t2.medium	2	4	EBS only	-	Low to Moderate	Yes

[Cancel](#) [Previous](#) [Review and Launch](#) [Next: Configure Instance Details](#)

2. In the **Configure Instance Details** screen, configure the VPC, then click **Next: Add Storage**.

Step 3: Configure Instance Details
Configure the instance to suit your requirements. You can launch multiple instances from the same AMI, request Spot instances to take advantage of the lower pricing, assign an access management role to the instance, and more.

Number of instances ⓘ [Launch into Auto Scaling Group](#) ⓘ

Purchasing option ⓘ Request Spot instances

Network ⓘ [Create new VPC](#)

Subnet ⓘ [Create new subnet](#)

Auto-assign Public IP ⓘ

IAM role ⓘ [Create new IAM role](#)

Shutdown behavior ⓘ

Enable termination protection ⓘ Protect against accidental termination

Monitoring ⓘ Enable CloudWatch detailed monitoring
[Additional charges apply](#)

Tenancy ⓘ
[Additional charges will apply for dedicated tenancy.](#)

▶ **Advanced Details**

[Cancel](#) [Previous](#) [Review and Launch](#) [Next: Add Storage](#)

4. In the **Add Storage** screen, accept the **8 GB** storage size, or select a sufficiently-sized volume for the number of Solace message routers that you will be storing archival data for, and then click **Next: Tag Instance**.

Step 4: Add Storage
Your instance will be launched with the following storage device settings. You can attach additional EBS volumes and instance store volumes to your instance, or edit the settings of the root volume. You can also attach additional EBS volumes after launching an instance, but not instance store volumes. [Learn more](#) about storage options in Amazon EC2.

Volume Type ⓘ	Device ⓘ	Snapshot ⓘ	Size (GiB) ⓘ	Volume Type ⓘ	IOPS ⓘ	Throughput (MB/s) ⓘ	Delete on Termination ⓘ	Encrypted ⓘ
Root	/dev/xvda	snap-d894b2e9	<input type="text" value="8"/>	General Purpose SSD (GP2)	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypted

[Add New Volume](#)

5. In the **Tag Instance** screen, add tags as appropriate to keep your VMR instances organized, then click **Next: Configure Security Group**.

The following example uses Name, and Version but you can choose any tags that make sense for your application.

Step 5: Add Tags
A tag consists of a case-sensitive key-value pair. For example, you could define a tag with key = Name and value = Webservers. [Learn more](#) about tagging your Amazon EC2 resources.

Key (127 characters maximum)	Value (255 characters maximum)
Name	RTView Monitor for Solace
Version	v3.6.0

[Add another tag](#) (Up to 50 tags maximum)

- In the **Configure Security Group** screen, create or choose an appropriate security rule that allows SSH (22) and HTTP (80) access for the RTView Monitor for Solace, then click **Review and Launch**.

Step 6: Configure Security Group

A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a web server and allow internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one below. [Learn more](#) about Amazon EC2 security groups.

Assign a security group: Create a new security group Select an existing security group

Security group name:

Description:

Type	Protocol	Port Range	Source
SSH	TCP	22	Custom 0.0.0.0/0
HTTP	TCP	80	Custom 0.0.0.0,::/0

Warning

Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

- In the **Review** screen, verify your instance, ignore the warnings, and click **Launch**. The instance starts.
- In the dialog box that opens, choose an authentication key pair for the instance, which can be used for this first login to the instance, then click **Launch Instance**.

Select an existing key pair or create a new key pair ✕

A key pair consists of a **public key** that AWS stores, and a **private key file** that you store. Together, they allow you to connect to your instance securely. For Windows AMIs, the private key file is required to obtain the password used to log into your instance. For Linux AMIs, the private key file allows you to securely SSH into your instance.

Note: The selected key pair will be added to the set of keys authorized for this instance. [Learn more about removing existing key pairs from a public AMI.](#)

Key pair name

You have to download the private key file (*.pem file) before you can continue. Store it in a secure and accessible location. You will not be able to download the file again after it's created.

- Look for your RTView Monitor for Solace instance in the EC2 dashboard **Instances**. This is where you can see the external and internal IP address of the instance. For more information about IP Addressing in the Cloud, refer to Solace Corporation documentation.

10. To log into the Linux Host shell, enter the following command:

```
ssh -p 22 -i <auth_key> ec2-user@<public_ip>
```

Obtain SEMP Version

In order to properly request monitored data, the Monitor 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 settings. 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 managed instances.
6. Open the **soladmin.log** file and locate the semp-version tag in SEMP requests. The SEMP version that will be used by the Monitor replaces underscores (**_**) with dots (**.**). For example, if the SEMP request in the SolAdmin log file is **7_2VMR**, you use **7.2VMR** for the **\$solSempVersion** substitution of the Monitor connection property.

Proceed to "[Connect Your Message Routers](#)," next.

Connect Your Message Routers

Connect your own message routers and enable for data collection.

1. Log in to your AMI instance using the Secure Socket Shell (SSH) protocol.
2. Open the **sample.properties** file located in the **/home/ec2-user/RTViewSolaceMonitor/em-solmon/servers/solmon** directory.
3. Edit the following lines for each Solace message router or VMR you want to monitor (to enable the Monitor to collect data from them):

```
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 hostname>** 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 value you obtained for each Message Router or VMR from previous step.

Example:

(where **xxx.xxx.xxx.xxx** = IP address)

```
collector.sl.rtvew.http.conn=__name=example url=http://xxx.xxx.xxx.xxx:8080/SEMP
username=rtviewadmin password=rtview
collector.sl.rtvew.cache.config=sol_cache_source.rtv $solConn:example
$solSempVersion: 7.2VMR
```

4. If you do *not* have Syslog configured to capture event messages from your Solace message routers, skip this step. If you *do* have Syslog configured, uncomment and modify the following connection parameters as needed in your **sample.properties** file, located in the **RTViewSolaceMonitor/em-solmon/servers/solmon** directory:

```
#
# Configure connections to Syslog
#
#For messages sent via TCP, use
#collector.sl.rtvew.syslogds.conn=__name=syslogTCP protocol=TCP host=localhost
port=601
#collector.sl.rtvew.cache.config=sol_syslog_cache_source.rtv $conn:syslogTCP
#For messages sent via UDP, use
#collector.sl.rtvew.syslogds.conn=__name=syslogUDP protocol=UDP host=localhost
port=514
#collector.sl.rtvew.cache.config=sol_syslog_cache_source.rtv $conn:syslogUDP
```

NOTE: **host** refers to the 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 ["Start the Monitor,"](#) next.

Start the Monitor

Note: You must restart your AMI instance to see changes made in the **.properties** file.

Start the RTView Monitor for Solace

1. If not already logged in, log in to your AMI instance using the Secure Socket Shell (SSH) protocol.

2. Restart the AMI instance by typing: **sudo reboot**
3. Point your browser to: **<Your-AMI-IP>:8068/rtview-solmon**
Displays should now be populated with performance data.
4. In the Solace Monitor, go to the **Administration** > **"RTView Cache Tables"** display and verify that all caches are being populated with monitoring data (the number of rows in the table is greater than zero).

Start the RTView Monitor

1. If not already logged in, log in to your AMI instance using the Secure Socket Shell (SSH) protocol.
2. Restart the AMI instance by typing: **sudo reboot**
3. Point your browser to: **<Your-AMI-IP>:8068/rtview-rtvmgr**
Displays should now be populated with performance data.
4. In the RTView Monitor, go to the **Administration** > **"RTView Cache Tables"** display and verify that all caches are being populated with monitoring data (the number of rows in the table is greater than zero). If not, there is a problem with the connection to the Data Server. See **"Troubleshooting"** on page 14.

You have completed the Quick Start.

Stop the Monitor

These instructions describe how to stop the RTView Monitor for Solace, RTView Monitor and Tomcat by executing one command.

To stop the Monitors and Tomcat:

1. Open a command line window.
2. Change directory (**cd**) to the **RTViewSolaceMonitor/bin** directory.
3. Execute **sh stop_servers.sh** to stop all Monitor components, RTView Monitor and Tomcat.
4. Optionally, you can use **grep** or **Task Manager** to ensure that all RTView-related processes and Tomcat are stopped.
 - **UNIX:** Execute **ps -ef |grep rtv** to determine the Process Identifier of the 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.

Note: Alternatively, you can restart all Monitoring processes using the **sh start_servers.sh** script, located in the **RTViewSolaceMonitor/bin** directory.

Troubleshooting

This section includes:

- [“Log Files,”](#) next
- [“Network/DNS”](#) on page 14
- [“Data Not Received from Data Server”](#) on page 14
- [“Verify Port Assignments”](#) on page 15
- [“RTView Monitor does not show data for MySQL, Docker and Host Displays”](#) on page 15

Log Files

When any RTView Monitor for Solace component encounters an error, an error message is output to the console and/or to the corresponding log file. Logging is enabled by default. If you encounter issues with log files, verify the **logs** directory exists.

Solace Monitor Log Files

If you encounter issues, look for errors in the following log files, located in the **RTViewSolaceMonitor/em-solmon/servers/solmon/logs** directory:

- **dataserver.log**
- **displayserver.log**
- **historian.log**

RTView Monitor Log Files

If you encounter issues, look for errors in the following log files, located in the **RTViewSolaceMonitor/em-solmon/servers/rtvmgr/logs** directory:

- **dataserver.log**
- **displayserver.log**
- **historian.log**

Network/DNS

If any log file shows reference to an invalid URL, check your system's hosts file and check with your network administrator that your access to the remote system is not being blocked.

Data Not Received from Data Server

In the RTView Monitor for Solace, if you go to the **Administration** > [“RTView Cache Tables”](#) display and see that caches are not being populated with monitoring data (the number of rows in the table is zero), check for connection property errors that are provided to the Data Server:

1. Open your **RTViewSolaceMonitor/em-solmon/servers/solmon/sample.properties** file in a text editor and:
 - Verify the connection parameters associated with your message routers.
 - Verify the SEMP version is correct for each of your message routers (monitoring data cannot be collected if SEMP version is incorrect).

2. “[Stop the Monitor](#)” and all processes.
3. After all processes stop, “[Start the Monitor](#)” and all processes.
4. In the RTView Monitor for Solace, return to the **Administration**> “[RTView Cache Tables](#)” display and verify that all caches are being populated with monitoring data (the number of rows in the table is greater than zero).

Verify Port Assignments

In the RTView Monitor for Solace, if you go to the **Administration**> “[RTView Cache Tables](#)” display and see that caches are not being populated with monitoring data (the number of rows in the table is zero), check the SEMP port assignment connection properties of your message routers that are provided to the Data Server:

1. Open your **RTViewSolaceMonitor/em-solmon/servers/solmon/sample.properties** file in a text editor and:
 - Verify the assigned SEMP port for each of your message routers. (The examples provided are using the default SEMP port 8080).
2. “[Stop the Monitor](#)”.
3. After all processes stop, “[Start the Monitor](#)”.
4. In the RTView Monitor for Solace, return to the **Administration**> “[RTView Cache Tables](#)” display and verify that all caches are being populated with monitoring data (the number of rows in the table is greater than zero).

RTView Monitor does not show data for MySQL, Docker and Host Displays

Due to a Docker bug (see <https://github.com/docker/containerd/pull/410>), Docker might hang after an instance reboot due to containers that were not shut down completely.

When this happens, you will notice that MySQL, Docker and Host displays do not populate and cannot store historical data.

To Prevent Issue

To avoid this you can manually stop Docker containers before rebooting their instance by doing the following:

SSH into your Amazon EC2 instance.

```
$ docker stop MYSQL
```

```
$ docker stop rtvHostAgent
```

```
$ docker stop cadvisor-rtview
```

To Recover From Issue

To recover an instance if this has already occurred, you can manually clear the Docker container state.

NOTE: Do not try this if you are not comfortable working in a Linux shell environment, as it will involve deleting files as root user.

1. To manually clear the Docker container state SSH into your Amazon EC2 instance:

```
$ sudo su -
```

```
$ sudo service docker stop
```

```
$ sudo ls /var/run/docker/libcontainerd
```

```
$ sudo ls /var/run/docker/libcontainerd/containerd
```

2. Take note of any directories with very long names, such as:

```
7b9a95fd9de14456add57cdd7b74a833348a2cf81075b72121cd08bde552ff6d  
b2a3d5c0f4021609bf1ed4e3d2268978febe801f4355e75f451840d3e6497d77  
e97f5b0ae0af7731a3af90d78cb6d43c9313acaf1dad70220ab2874f3b44d53d
```

3. With a healthy shut down these types of directories do not exist if a container is not running. If you see these directories this indicates that the problem is caused by the Docker bug described above. In this case do the following:

```
$ sudo rm -rf /var/run/docker/libcontainerd
```

```
$ sudo service start docker
```

```
$ docker images
```

You should now see your three docker containers.

```
$ docker ps
```

Your containers might have already restarted. If you do not see all three containers, then you can manually start them by typing:

```
$ docker start MYSQL
```

```
$ docker start rtvHostAgent
```

```
$ docker start cadvisor-rtview
```

CHAPTER 3 Quick Start - On Premise Version

This section describes how to install, configure and start the RTView Monitor for Solace On Premise version using default settings (for evaluation purposes).

If you wish to use the RTView Monitor for Solace AMI version, see [Chapter 2, "Quick Start - AMI Version"](#) .

Information you need:

- Login credentials for each Solace message router you will monitor.

Linux users:

- These instructions require a Bourne-compatible shell.
- JAVA_HOME is required to be in the PATH for Tomcat to start correctly.

For complete RTView® system requirements, see **README_sysreq.txt**.

This section includes:

- ["Install & Setup,"](#) next
- ["Obtain SEMP Version" on page 18](#)
- ["Connect Your Message Routers" on page 18](#)
- ["Start the Monitor" on page 20](#)
- ["Stop the Monitor" on page 21](#)
- ["Troubleshooting" on page 21](#)

Install & Setup

1. Download the **RTViewSolaceMonitor_<VERSION>.zip** archive to your local Windows/UNIX/Linux server.
2. Extract the files:

Windows:

Type **unzip RTViewSolaceMonitor_<VERSION>.zip** and save the extracted files to a newly created directory (for example, **C:\RTView**).

UNIX/Linux:

Type **unzip -a RTViewSolaceMonitor_<VERSION>.zip** and save the extracted files to your home directory. For example, **/home/yourLoginUser/RTView** directory.

Important: In Linux use the **-a** flag from unzip to properly convert text files to the native format.

The **RTViewSolaceMonitor** directory is created under the destination directory.

3. On Windows, verify that either `JAVA_HOME` or `JRE_HOME` exist and are correctly set. On Linux, double check that the Java location is available in the `PATH`.
4. If you prefer not to use the pre-configured Apache Tomcat 7 application server, you must obtain another application server. This change implies additional configuration steps.

Proceed to [“Obtain SEMP Version,”](#) next.

Obtain SEMP Version

In order to properly request monitored data, the Monitor 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 settings. 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 managed instances.
6. Open the **soladmin.log** file and locate the **semp-version** tag in SEMP requests. The SEMP version that will be used by the Monitor replaces underscores (**_**) with dots (**.**). For example, if the SEMP request in the SolAdmin log file is **7_2VMR**, you use **7.2VMR** for the **\$solSempVersion** substitution of the Monitor connection property.

Proceed to [“Connect Your Message Routers,”](#) next.

Connect Your Message Routers

Connect your own message routers and enable for data collection.

1. Open the **sample.properties** file from your project directory (**RTViewSolaceMonitor/em-solmon/servers/solmon**).

2. Edit the following lines for each Solace message router or VMR you want to monitor (to enable the Monitor to collect data from them):

```
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 hostname>** 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 value you obtained for each Message Router or VMR from previous step.

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
```

3. If you do *not* have Syslog configured to capture event messages from your Solace message routers, skip this step. If you *do* have Syslog configured, uncomment and modify the following connection parameters as needed in your **sample.properties** file, located in the **RTViewSolaceMonitor/em-solmon/servers/solmon** directory:

```
#
# 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: **host** refers to the 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 ["Start the Monitor,"](#) next.

Start the Monitor

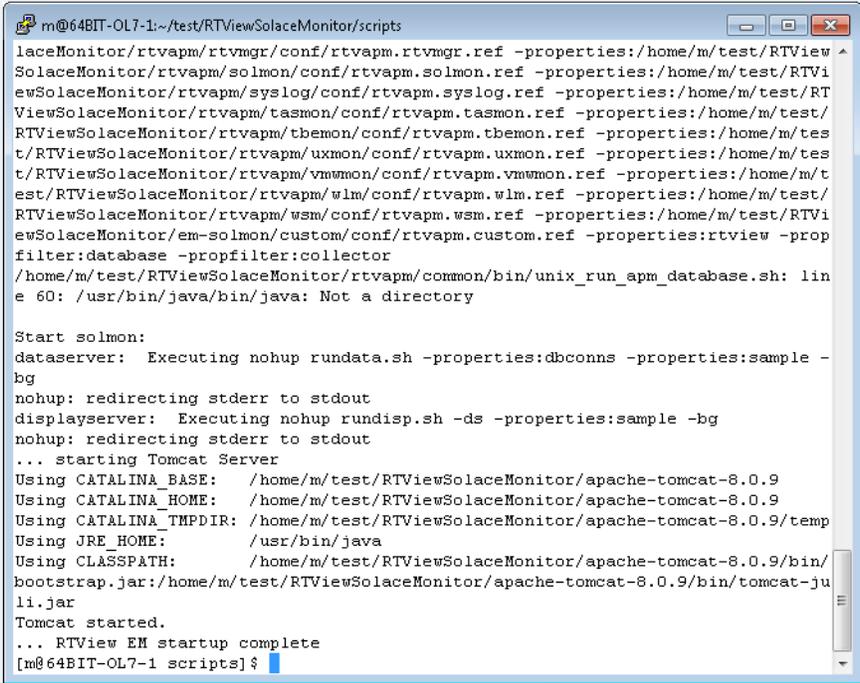
These instructions describe how to start the RTView Monitor for Solace (for tracking the health of your Solace resources) and the RTView Monitor (for tracking the health of RTView Solace Monitor processes and Tomcat) using the pre-configured settings.

You execute one command to start the RTView Monitor for Solace, RTView Monitor and Tomcat (the Monitor servlets are pre-deployed in Tomcat).

To start the Monitor and Tomcat:

1. Open a command line window.
2. Change directory (**cd**) to the **RTViewSolaceMonitor/bin** directory.
3. Execute **sh start_servers.sh** (or **start_servers.bat** for Windows) to start all Monitor components, RTView Monitor and Tomcat.

Important: UNIX/Linux - To make the script in the **bin** directory executable, use the **sh** command (as shown), or execute **chmod a+x start_servers.sh**, then execute **./start_servers.sh**.



```
m@64BIT-OL7-1:~/test/RTViewSolaceMonitor/scripts
laceMonitor/rtvapm/rtvagr/conf/rtvapm.rtvagr.ref -properties:/home/m/test/RTView
SolaceMonitor/rtvapm/solmon/conf/rtvapm.solmon.ref -properties:/home/m/test/RTVi
ewSolaceMonitor/rtvapm/syslog/conf/rtvapm.syslog.ref -properties:/home/m/test/RT
ViewSolaceMonitor/rtvapm/tasmon/conf/rtvapm.tasmon.ref -properties:/home/m/test/
RTViewSolaceMonitor/rtvapm/themon/conf/rtvapm.themon.ref -properties:/home/m/tes
t/RTViewSolaceMonitor/rtvapm/uxmon/conf/rtvapm.uxmon.ref -properties:/home/m/tes
t/RTViewSolaceMonitor/rtvapm/vmmon/conf/rtvapm.vmmon.ref -properties:/home/m/tes
t/RTViewSolaceMonitor/rtvapm/wlm/conf/rtvapm.wlm.ref -properties:/home/m/test/
RTViewSolaceMonitor/rtvapm/wsm/conf/rtvapm.wsm.ref -properties:/home/m/test/RTVi
ewSolaceMonitor/em-solmon/custom/conf/rtvapm.custom.ref -properties:rtview -prop
filter:database -propfilter:collector
/home/m/test/RTViewSolaceMonitor/rtvapm/common/bin/unix_run_apm_database.sh: lin
e 60: /usr/bin/java/bin/java: Not a directory

Start solmon:
datasever: Executing nohup rundata.sh -properties:dbconns -properties:sample -
bg
nohup: redirecting stderr to stdout
displayserver: Executing nohup rundisp.sh -ds -properties:sample -bg
nohup: redirecting stderr to stdout
... starting Tomcat Server
Using CATALINA_BASE: /home/m/test/RTViewSolaceMonitor/apache-tomcat-8.0.9
Using CATALINA_HOME: /home/m/test/RTViewSolaceMonitor/apache-tomcat-8.0.9
Using CATALINA_TMPDIR: /home/m/test/RTViewSolaceMonitor/apache-tomcat-8.0.9/temp
Using JRE_HOME: /usr/bin/java
Using CLASSPATH: /home/m/test/RTViewSolaceMonitor/apache-tomcat-8.0.9/bin/
bootstrap.jar:/home/m/test/RTViewSolaceMonitor/apache-tomcat-8.0.9/bin/tomcat-ju
li.jar
Tomcat started.
... RTView EM startup complete
[m@64BIT-OL7-1 scripts]$
```

4. Open a browser and go to **localhost:8068/rtview-solmon** (login ID/Password is **admin/admin**). The Solace Monitor opens.
5. Go to the **Administration > "RTView Cache Tables"** display and verify that all caches are populated with monitoring data (the number of rows in the table is greater than zero). If not, there is a problem with the connection to the Data Server and/or the connection properties you created. See **"Troubleshooting"** on page 21.

6. Open another browser window and go to **localhost:8068/rtview-rtvmgr** (login ID/ Password is **admin/admin**). The RTView Monitor opens. Verify that all caches are populated with data.

You have completed the Quick Start.

Stop the Monitor

These instructions describe how to stop the RTView Monitor for Solace, RTView Monitor and Tomcat by executing one command.

To stop the Monitor and Tomcat:

1. Open a command line window.
2. Change directory (**cd**) to the **RTViewSolaceMonitor/bin** directory.
3. Execute **sh stop_servers.sh** (or **stop_servers.bat** for Windows) to stop all Monitor components, RTView Monitor and Tomcat.
4. Optionally, you can use **grep** or **Task Manager** to ensure that all RTView-related processes and Tomcat are stopped.
 - **UNIX:** Execute **ps -ef |grep rtv** to determine the Process Identifier of the 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.

Troubleshooting

This section includes:

- [“Log Files for Solace,”](#) next
- [“JAVA_HOME”](#) on page 22
- [“Permissions”](#) on page 22
- [“Network/DNS”](#) on page 22
- [“Data Not Received from Data Server”](#) on page 22
- [“Verify Port Assignments”](#) on page 23

Log Files for Solace

When any RTView Monitor for Solace component encounters an error, an error message is output to the console and/or to the corresponding log file. Logging is enabled by default. If you encounter issues with log files, verify the **logs** directory exists.

Solace Monitor Log Files

If you encounter issues, look for errors in the following log files, located in the **RTViewSolaceMonitor/em-solmon/servers/solmon/logs** directory:

- **dataserver.log**
- **displayserver.log**
- **historian.log**

RTView Monitor Log Files

If you encounter issues, look for errors in the following log files, located in the **RTViewSolaceMonitor/em-solmon/servers/rtvmgr/logs** directory:

- **dataserver.log**
- **displayserver.log**
- **historian.log**

JAVA_HOME

If you encounter issues starting Solace Monitor or RTView Monitor processes on Linux, verify that **JAVA_HOME** is set correctly in the path as **JAVA_HOME** is required for Tomcat to start correctly. On Windows, **JAVA_HOME** or **JRE_HOME** should exist as environment variables indicating a valid Java path.

Permissions

If you encounter permissions-related errors in the response from the **start_servers** 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 check with your network administrator that your access to the remote system is not being blocked.

Data Not Received from Data Server

In the RTView Monitor for Solace, if you go to the **Administration > "RTView Cache Tables"** display and see that caches are not being populated with monitoring data (the number of rows in the table is zero), check for connection property errors that are provided to the Data Server:

1. Open your **RTViewSolaceMonitor/em-solmon/servers/solmon/sample.properties** file in a text editor and:
 - Verify the connection parameters associated with your message routers.
 - Verify the SEMP version is correct for each of your message routers (monitoring data cannot be collected if SEMP version is incorrect).
2. **"Stop the Monitor"** and all processes.
3. After all processes stop, **"Start the Monitor"** and all processes.
4. In the RTView Monitor for Solace, return to the **Administration > "RTView Cache Tables"** display and verify that all caches are being populated with monitoring data (the number of rows in the table is greater than zero).

Verify Port Assignments

In the RTView Monitor for Solace, if you go to the **Administration**> [“RTView Cache Tables”](#) display and see that caches are not being populated with monitoring data (the number of rows in the table is zero), check the SEMP port assignment connection properties of your message routers that are provided to the Data Server:

1. Open your **RTViewSolaceMonitor/em-solmon/servers/solmon/sample.properties** file in a text editor and:
 - Verify the assigned SEMP port for each of your message routers. (The examples provided are using the default SEMP port 8080).
2. [“Stop the Monitor”](#) .
3. After all processes stop, [“Start the Monitor”](#).
4. In the RTView Monitor for Solace, return to the **Administration**> [“RTView Cache Tables”](#) display and verify that all caches are being populated with monitoring data (the number of rows in the table is greater than zero).

CHAPTER 4 Production Configuration

This section describes how to configure RTView Monitor for Solace components for operation in your production environment.

For Linux, these instructions assume a Bourne-compatible shell. For details about RTView® system requirements, see **README_sysreq.txt**.

This section includes:

- [“Configure the Database,”](#) next: This section is for RTView Monitor for Solace On Premise version only. The Solace AMI version has a pre-configured MySQL Server (which is one of our supported platforms suitable for production environments).
- [“Enable Storage of Historical Data” on page 28:](#) This section is for both On Premise and AMI versions of the RTView Monitor for Solace.
- [“Configure Alert Notification” on page 29:](#) This section is for both On Premise and AMI versions of the RTView Monitor for Solace.
- [“Configure HA” on page 31:](#) This section is for both On Premise and AMI versions of the RTView Monitor for Solace.
- [“Setup Data Persistence” on page 32:](#) This section is for both On Premise and AMI versions of the RTView Monitor for Solace.
- [“Configure Sender / Receiver” on page 33:](#) This section is for both On Premise and AMI versions of the RTView Monitor for Solace.

Information you need:

- Login credentials for each Solace message router you will monitor.
- Defined connection string names that uniquely identify each Solace message router you will Monitor.

Configure the Database

This section is for RTView Monitor for Solace On Premise version only. The Solace AMI version has a preconfigured MySQL Server installed within the AMI instance.

The RTView Monitor for Solace On Premise version is delivered with a default memory resident HSQLDB database which is suitable for evaluation purposes. However, for production deployments, we recommend that you deploy one of our supported databases. For details about supported databases, see the *RTView Core® User's Guide*.

This section describes how to configure an alternate supported database for your production environment. You configure the database by copying and pasting properties from the **database.properties** file, located in the **RTViewSolaceMonitor/rtvapm/common/dbconfig** directory, to the **emcommon.properties** file, located in the **RTViewSolaceMonitor/em-solmon/servers/conf** directory.

Database Connections

The Monitor requires two database connections that provide access to the following information:

- Alert Settings

Alert administration and alert auditing information is contained in the ALERTDEFS database. The values in the database are used by the alert engine at runtime. If this database is not available, the Self-Service Alerts Framework, under which alerts are executed, will not work correctly.

- Historical Data

Historical data that is used to track system behavior for future analysis, and to show historical data in displays, is contained in the RTVHISTORY database.

To Configure the RTView Monitor for Solace Database:

1. Install a database engine of your choice. Supported database engines are Oracle, Sybase, Microsoft SQL Server, MySQL and DB2.

IMPORTANT: The default page size of DB2 is 4k. It is required that you create a DB2 database with a page size of 8k. Otherwise, table indexes will not work.

2. Open the **emcommon.properties** file, located in the **RTViewSolaceMonitor/em-solmon/servers/conf** directory, in a text editor.

3. Copy/paste the following property **at the end** of the **emcommon.properties** file:

collector.sl.rtvview.cp=JDBCClassPath

Note: You paste the property at the end of the file so that the property overrides the default setting to the HSQLDB.

4. Edit the **collector.sl.rtvview.cp=JDBCClassPath** property, where **JDBCClassPath** is the location of the jar where the JDBC driver file (used to connect to your database) resides in your environment. For example:

collector.sl.rtvview.cp=/opt/oracle/ora92/jdbc/lib/ojdbc14.jar

5. Save the **emcommon.properties** file and keep the file open for pasting and editing properties.
6. Open the **database.properties** file, located in the **RTViewSolaceMonitor/rtvapm/common/dbconfig** directory, in a text editor.
7. In the **database.properties** file, locate the **Define the ALERTDEFS DB** section and select (for copying) the line that corresponds to your supported database.
8. Paste the line into the **emcommon.properties** file.
9. In the **emcommon.properties** file, add the property filter prefix **ConfigClient** to the property you just pasted. For example, if your database is **Oracle** you should have this in your **emcommon.properties** file:

Oracle

```
ConfigClient.sl.rtvview.sql.sqlldb=ALERTDEFS myusername mypassword
jdbc:oracle:thin:@myhost:1521:myinstance oracle.jdbc.driver.OracleDriver - false
false
```

10. Edit parameters in the line you just pasted as appropriate for your environment, as follows:

- **myusername** - User name to enter into this database when making a connection.
- **myhost** - Full database URL to use when connecting to this database using the specified JDBC driver.
- **myinstance** – Instance name to use when connecting to this database
- **JDBCClass** - Fully qualified name of the JDBC driver class to use when connecting to this database. In the example above the driver class is **com.mysql.jdbc.Driver**.
- **mypassword** - Password to enter into this database when making a connection. If there is no password, use “-”.

Encrypt Password

If you need to provide an encrypted password (rather than expose server password names in a clear text file), use the **encode_string** command window option in an initialized command window with the following syntax:

```
encode_string sql mypassword
```

where **mypassword** is your plain text password.

For example:

```
encode_string sql mypassword
```

You then receive an encrypted password that you enter as your password. For example:

```
013430135501346013310134901353013450134801334
```

11. In the **database.properties** file, locate the **Define the RTVHISTORY DB** section and select (for copying) the lines that correspond to your database.

12. Paste the lines into the **emcommon.properties** file. For example, if your database is Oracle you should have this in your **emcommon.properties** file:

```
#historian.sl.rtvview.historian.driver=oracle.jdbc.driver.OracleDriver  
#historian.sl.rtvview.historian.url=jdbc:oracle:thin:@myhost:1521:myinstance  
#historian.sl.rtvview.historian.username=myusername  
#historian.sl.rtvview.historian.password=mypassword
```

13. Edit parameters in the lines you just pasted as appropriate for your environment (as you did previously) for **driver**, **url**, **username** and **password**.

14. Save the **emcommon.properties** file.

15. Create the database tables using the **.sql** template files provided. If your configured database user has table creation permissions, you only need to create the ALERTDEFS tables. If your configured database user does *not* have table creation permission, you must create both the ALERTDEFS and RTVHISTORY tables.

Use the **.sql** template file that corresponds to your database platform, located in the following directories:

- **RTViewSolaceMonitor/rtvapm/common/dbconfig/** for ALERTDEFS tables named **create_common_alertdefs_tables_<db>.sql**, where **<db>** is the prefix of the Data Base (**db2**, **mysql**, **oracle**, **sqlserver** or **sybase**).
- **RTViewSolaceMonitor/rtvapm/solmon/dbconfig/** for RTVHISTORY tables named **create_solmon_history_tables_<db>.sql**, where **<db>** is the prefix of the Data Base (**db2**, **mysql**, **oracle**, **sqlserver** or **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.

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 first create the database:

```
create database myDBName;
```

before loading the .sql file:

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

If you need to manually create the Historical Data tables, repeat the same process. 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 two above 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.

Enable Storage of Historical Data

This section is for both On Premise and AMI versions of the RTView Monitor for Solace.

By default, all history tables are disabled except those for message routers, VPNs, and CSPF Neighbor caches (SOL_APPLIANCE, SOL_VPN and SOL_CSPF_NEIGHBOR). To enable the collection of this historical data, perform the following steps.

To enable storage of historical data

1. Navigate to **rtvapm/solmon/conf/** and open the **rtvapm.solmon.properties** file.
2. Find the **Configure Database Tables** section in the file.
3. Copy the following lines from the **rtvapm/solmon/conf/rtvapm.solmon.properties** file and paste them into your **sample.properties** file:

```

collector.sl.rtvview.sub=$SOL_APPLIANCE_TABLE:SOL_APPLIANCE
collector.sl.rtvview.sub=$SOL_INTERFACE_TABLE:SOL_INTERFACE
collector.sl.rtvview.sub=$SOL_VPN_TABLE:SOL_VPN
collector.sl.rtvview.sub=$SOL_BRIDGE_STATS_TABLE:SOL_BRIDGE_STATS
collector.sl.rtvview.sub=$SOL_CLIENT_STATS_TABLE:SOL_CLIENT_STATS
collector.sl.rtvview.sub=$SOL_ENDPOINT_TABLE:SOL_ENDPOINT
collector.sl.rtvview.sub=$SOL_ENDPOINT_STATS_TABLE:SOL_ENDPOINT_STATS
collector.sl.rtvview.sub=$SOL_MESSAGE_SPOOL_TABLE:SOL_MESSAGE_SPOOL
collector.sl.rtvview.sub=$SOL_CSPF_NEIGHBOR_TABLE:SOL_CSPF_NEIGHBOR

```

4. Save your **sample.properties** file.

Configure Alert Notification

This section is for both On Premise and AMI versions of the RTView Monitor for Solace.

This section describes how to configure alert notification. This section includes:

- [“Substitutions for Batch Files or Shell Scripts” on page 30](#)
- [“Notification Persistence” on page 31](#)

The Monitor provides alerts concerning conditions in your system through RTView alerts. This section describes how to configure the alerts to execute an automated action. 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 (such as sending an email alert).

There are two options for configuring Monitor alert notification: Batch/Shell Script files and Customization of the Java Command Handler. This document describes the configuration of Alert Notification through Batch/Shell Script files, which requires switching to an OS-specific set of alert definitions that execute the appropriate file type.

Windows and UNIX alert definition files are provided with the Monitor.

A sample batch file, **my_alert_actions.bat**, and a sample shell script, **my_alert_actions.sh**, located in the **RTViewSolaceMonitor/rtvapm/common/bin** directory, are provided as templates that you can modify as needed. Use the appropriate file for the platform that hosts Monitor processes. By default, both scripts send alert information to standard output.

To configure alert notification:

1. Copy the **my_alert_actions.sh|.bat** file, located in the **RTViewSolaceMonitor/rtvapm/common/bin** directory, into your **RTViewSolaceMonitor/em-solmon/servers/solmon** directory.
2. Open the **my_alert_actions.sh|.bat** file you just copied to **RTViewSolaceMonitor/em-solmon/servers/solmon** 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).
3. Open the **sample.properties** file, located in your **RTViewSolaceMonitor/em-solmon/servers/solmon** directory, and uncomment the lines that apply in the **Configure Alert Notification** section:

For UNIX/Linux:

```
#sl.rtvew.cmd_line=-sub: $scriptEnding: bat
sl.rtvew.cmd_line=-sub: $scriptEnding: sh
sl.rtvew.cmd_line=-sub: $alertActionScript: my_alert_actions
```

For Windows:

```
sl.rtvew.cmd_line=-sub: $scriptEnding: bat
#sl.rtvew.cmd_line=-sub: $scriptEnding: sh
sl.rtvew.cmd_line=-sub: $alertActionScript: my_alert_actions
```

4. Save the **sample.properties** file.
5. Stop the Monitor as described in [“Stop the Monitor” on page 21](#).
6. Start the Monitor as described in [“Start the Monitor” on page 20](#).

Substitutions for Batch Files or Shell Scripts

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.rtvew.alert.notifiercommandnew** and **sl.rtvew.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:

Argument	Description	Values
\$alertId	This substitution specifies the unique ID for the alert. For example: alertId = 1004	Text or Numeric
\$alertIndex	This substitution specifies which source triggered the alert. With tabular objects, the first column of data is typically the Index column. The value in the Index column is a name that uniquely identifies each table row. The alertIndex uses the Index column name. For example, if the CapacityLimitAllCaches alert is configured to monitor all of your caches, and to trigger when any of the caches exceed the specified capacity threshold, the alertIndex indicates specifically which cache triggered the alert. With scalar objects, which do not have a table and therefore do not have a column (the useTabularDataFlag property is False), the alertIndex is blank. For example: alertIndex = MyCache01	Text or Numeric
\$alertName =	This substitution specifies the name of the alert. For example: alertName = CapacityLimitAllCaches	Values vary.

\$alertSeverity	This substitution specifies the severity level of the alert. 0 : The alert limit has not been exceeded therefore the alert is not activated. 1 : The alert warning limit has been exceeded. 2 : The alert alarm limit has been exceeded. For example: alertSeverity = 1	Numeric
\$alertText	This substitution specifies the text that is displayed when the alert executes. For example: alertText = High Warning Limit exceeded, current value: 0.9452 limit: 0.8	Text
\$alertTime	This value is the time the alert was initially generated.	Text

Notification Persistence

To prevent duplication and missed notifications after restart or failover, you must configure the Data Server for alert persistence. To do so, add the following property to your **sample.properties** file, located in the **RTViewSolaceMonitor/em-solmon/servers/solmon** directory:

```
collector.sl.rtvview.alert.persistAlerts=true
```

Configure HA

This section is for both On Premise and AMI versions of the RTView Monitor for Solace.

High Availability (HA) mitigates single point of failure within the Monitor by providing a means of defining redundant system components, together with failover capability, for users of those components.

To setup HA you designate two components: the PRIMARY and the BACKUP. If the PRIMARY component fails, failover occurs to the BACKUP component. And when the PRIMARY component is subsequently restarted, the BACKUP component allows the newly restarted component to take the primary role and returns to its backup role.

The Monitor is available with a HA Data Server configuration. The **RTViewSolaceMonitor/em-solmon/servers** directory provides an example of HA for the Data Server. The property values controlling HA are defined in the **ha.properties** file located in the **RTViewSolaceMonitor/em-solmon/servers/solmon** directory.

The example assumes the availability of two machines which are defined by two environment variables: PRIMARYHOST and BACKUPHOST. You define these two environment variables on the PRIMARY and BACKUP machines that will host the Data Servers. HA configuration will not work if they are incorrectly defined.

The Monitor is configured by using the **solmon-primary** and **solmon-backup** configurations in the **rtvservers.dat** file located in the **RTViewSolaceMonitor/em-solmon/servers** directory.

The PRIMARY Data Server runs on **PRIMARYHOST**; the **BACKUP** Data Server runs on **BACKUPHOST**; the other Monitor applications failover between the Data Servers as appropriate. Assuming the environment variables **PRIMARYHOST** and **BACKUPHOST** are set correctly, Monitor components on the PRIMARYHOST are started as normal using the **solmon-primary** configuration (instead of the default configuration) with the **start_rtv** command. The **BACKUP** Monitor Data Server on the BACKUPHOST is started using the **solmon-backup** configuration with the **start_rtv** command.

To start the HA configuration, first start the PRIMARY Monitor components on the **PRIMARYHOST** using the **solmon-primary** configuration with the **start_rtv** command. For example, if you configured the connections of your Solace message routers in **sample.properties** file from the **RTViewSolaceMonitor\em-solmon\servers\solmon** directory:

UNIX

```
start_rtv.sh solmon-primary --properties:sample
```

Windows

```
start_rtv solmon-primary --properties:sample
```

Then start the BACKUP Monitor Data Server on the backup machine using the **solmon-backup** configuration with the **start_rtv** command. For example:

UNIX

```
start_rtv.sh solmon-backup --properties:sample
```

Windows

```
start_rtv solmon-backup --properties:sample
```

Setup Data Persistence

This section is for both On Premise and AMI versions of the RTView Monitor for Solace.

To enable storage of historical data:

Edit the **start_servers.sh|.bat** and **stop_servers.sh|.bat** scripts, located in the **RTViewSolaceMonitor/bin** directory, by uncommenting the following two lines as follows:

```
start_rtv.sh solmon historian $*
```

and

```
stop_rtv.sh solmon historian $*
```

By default, storage of historical data is only enabled for the **SolAppliances** and **SolVpns** caches. If you want to enable storage of historical data for all caches, comment out the property associated with the cache in the **sample.properties** file, located in the **RTViewSolaceMonitor/em-solmon/servers/solmon** directory:

- To persist data for the **SolApplianceInterfaces** cache, comment out the following line:

```
#collector.sl.rtvview.sub=$SOL_INTERFACE_TABLE:"
```

- To persist data for the **SolBridgeStats** cache, comment out the following line:

```
#collector.sl.rtvview.sub=$SOL_BRIDGE_STATS_TABLE:"
```

- To persist data for the **SolClientStats** cache, comment out the following line:

```
#collector.sl.rtvview.sub=$SOL_CLIENT_STATS_TABLE:"
```

- To persist data for the **SolEndpoints** cache, comment out the following line:

```
#collector.sl.rtvview.sub=$SOL_ENDPOINT_TABLE:"
```

- To persist data for the **SolEndpointStats** cache, comment out the following line:

```
#collector.sl.rtvview.sub=$SOL_ENDPOINT_STATS_TABLE:"
```

- To persist data for the **SolApplianceMessageSpool** cache, comment out the following line:

```
#collector.sl.rtvview.sub=$SOL_MESSAGE_SPOOL_TABLE:"
```

Configure Sender / Receiver

This section is for both On Premise and AMI versions of the RTView Monitor for Solace.

If you wish to deploy the RTView Monitor for Solace as a Sender/Receiver configuration, continue with instructions in this section. Otherwise, skip these steps.

This section describes how to configure the sender/receiver deployment. This type of deployment is useful in cases where you need a Data Server to collect data on a system that your system cannot otherwise access.

The sender Data Server collects data and stores the data in its local caches. The sender then sends the cached data to the receiver Data Server. Note that the receiver Data Server can also be configured to collect data, and the sender does not generate alerts or store history (those occur on the receiver). You can configure a single sender to send to multiple receivers and/or multiple senders to send to a single receiver.

Depending on the network architecture and accessibility of the hosts that are to execute the sender and the receiver, there are two options for sending data to a receiver Data Server.

- **“Connect Via Hostname or IP and Port”**: With this option you connect to the receiver Data Server using the host name or IP address and port number. This option requires a higher degree of accessibility between sender and receiver as the sender communicates with the receiver via a socket connection.
- **“Connect Via RTVAgent Servlet”**: With this option you connect to the receiver Data Server using the RTVAgent Servlet. This option requires an application server running in the receiver host with the RTVAgent Servlet deployed. The sender uses HTTP to send data to the receiver RTVAgent Servlet which uses a socket connection to send the data to the receiver Data Server.

Connect Via Hostname or IP and Port

Perform the following steps to configure sender/receiver by connecting to the receiver Data Server using the host name or IP address and port number:

- **“Receiver Data Server Setup”**
- **“Sender Data Server Setup”**

Receiver Data Server Setup

These instructions assume you followed the previous configuration instructions in this *Guide* for the Data Server you will be using as a receiver. Continue modifying the **sample.properties** file from those steps.

1. Confirm that both the sender and receiver Data Servers are running the same version of RTView Monitor for Solace. This is required for the sender/receiver deployment.
2. Open the RTView Monitor for Solace properties file, located here:
RTVAPM_HOME\solmon\conf\rtvapm.solmon.properties.
Locate the **receiver.sl.rtvview.rtvagent.port=4172** property (where **4172** is the port number) and note the port number.
3. If the port number (noted in the previous Step) is already in use, override this property by copying and pasting the property into your project's properties file (**sample.properties**) and setting an unused port number. For example:
receiver.sl.rtvview.rtvagent.port=5678
4. Start the Data Server as a receiver (include the **-propfilter:receiver** command line argument).

Sender Data Server Setup

These instructions assume you followed the previous configuration instructions in this *Guide* for the Data Server you will be using as a sender. Continue modifying the **sample.properties** file from in those steps. These instructions also assume that you have setup the receiver Data Server and confirmed that the sender and receiver Data Servers are running the same version of RTView Monitor for Solace.

1. Add the following to your project properties file:

sender.sl.rtvapm.dataxfr.target=id=default url=< HostName-IP>:<ReceiverPort> packages=all

where

<HostName-IP> is the host name or IP address of the machine where the Data Server receiver is running

and

<ReceiverPort> is the port assigned to communicate sender and receiver

Example 1:

sender.sl.rtvapm.dataxfr.target=id=default url=localhost:5678 packages=all

Example 2:

sender.sl.rtvapm.dataxfr.target=id=default url=194.165.202.194:5678 packages=all

2. Specify a unique name for your sender by adding the following property to your project properties file and replacing **MyUniqueSenderName** with a unique name for your sender:
sender.sl.sub=\$rtvAgentName:<MyUniqueSenderName>
For example:
sender.sl.sub=\$rtvAgentName:solmon-sender
3. Start your sender Data Server as a sender (include the **-propfilter:sender** command line argument).

Connect Via RTVAgent Servlet

Perform the following steps to configure sender/receiver by connecting to the receiver Data Server through the RTVAgent Servlet:

- [“Receiver Data Server Setup”](#)
- [“Sender Data Server Setup”](#)

Receiver Data Server Setup

These instructions assume you followed the previous configuration instructions in this *Guide* for the Data Server you will be using as a receiver. Continue modifying the **sample.properties** file from those steps.

1. Confirm that both the sender and receiver Data Servers are running the same version of RTView Monitor for Solace. This is a requirement for the sender/receiver deployment.

2. Open the **rtvapm.solmon.properties** file, located here:
RTVAPM_HOME\solmon\conf.

Locate the **receiver.sl.rtvview.rtvagent.port=4172** property (where **4172** is the port number) and note the port number.

3. If the port number (noted in the previous Step) is already in use, override this property by copying and pasting the property into your project's properties file (**sample.properties**) and setting an unused port number. For example:

receiver.sl.rtvview.rtvagent.port=5678

4. If your receiver will be receiving data through the RTVAgent Servlet (Option 2) and you changed the **rtvagent.port** property in the previous Step, update the port in the RTVAgent Servlet as follows:

- Edit the **update_wars.bat/.sh** file in your project directory and change the port to match the **port** value used in previous Step. For example:

make_rtvagent_war -appname:solmon -host:localhost -port:5678 -package:solmon

or, if you are configuring the receiver on Linux:

make_rtvagent_war.sh -appname:solmon -host:localhost -port:5678 -package:solmon

- Generate the war file for the RTVAgent Servlet by executing **update_wars** (for UNIX, execute with the **.sh** suffix).
 - Install the generated **solmon_rtvagent.war** file in your local Application Server.
5. Start the Data Server as a receiver (include the **-propfilter:receiver** command line argument).

Sender Data Server Setup

These instructions assume you followed the previous configuration instructions in this *Guide* for the data server you will be using as a sender. Continue modifying the **sample.properties** file you created in those steps. These instructions also assume that you have setup the receiver and confirmed that the sender and receiver Data Servers are running the same version of RTView Monitor for Solace.

1. Add the following to your project properties file:

```
sender.sl.rtvapm.dataxfr.target=id=default url=< ReceiverURL  
>:<AppServerPort>/solmon_rtvagent packages=all
```

where

<ReceiverURL> is the URL of the machine where the Data Server receiver is running,

<AppServerPort> is the port used by the Application Server to expose the deployed servlets,

and

solmon_rtvagent is the name of the war file you deployed in the Application Server where the Data Server Receiver is running.

Example 1:

```
sender.sl.rtvapm.dataxfr.target=id=default url=localhost:8068/  
solmon_rtvagent packages=all
```

Example 2:

```
sender.sl.rtvapm.dataxfr.target=id=default url=194.165.202.194/  
solmon_rtvagent packages=all
```

2. Specify a unique name for your sender by adding the following property to your project properties file replacing **MyUniqueSenderName** with a unique name for your sender:

```
sender.sl.sub=$rtvAgentName:<MyUniqueSenderName>
```

For example:

```
sender.sl.sub=$rtvAgentName:solmon-sender
```

3. Start your sender Data Server as a sender (include the **-propfilter:sender** command line argument).

CHAPTER 5 Using the Monitor

The RTView® Monitor for Solace® is an advanced messaging platform that allows customer applications to efficiently exchange messages over dedicated VPNs. The RTView® Monitor for Solace® provides pre-configured alerts and dashboards to monitor current status and manage history for the Solace message router. The RTView® Monitor for Solace® can help operators avoid or detect many problems relating to configuration, topology, and performance. This section describes Monitor features, graphs and functionality as well as Monitor displays. This section includes:

- [“Overview”](#): This section describes the Monitor GUI elements.
- [“Solace Monitor Views/Displays”](#): This section describes RTView® Monitor for Solace® displays.
- [“RTView Monitor Views/Displays”](#): This section describes RTView Monitor displays. Use the RTView Monitor to track the health and performance of your Solace Monitor components. Note that the [“MySQL Database”](#) and [“Docker Engines”](#) displays are populated with performance data only if you are using the RTView Monitor for Solace AMI version.

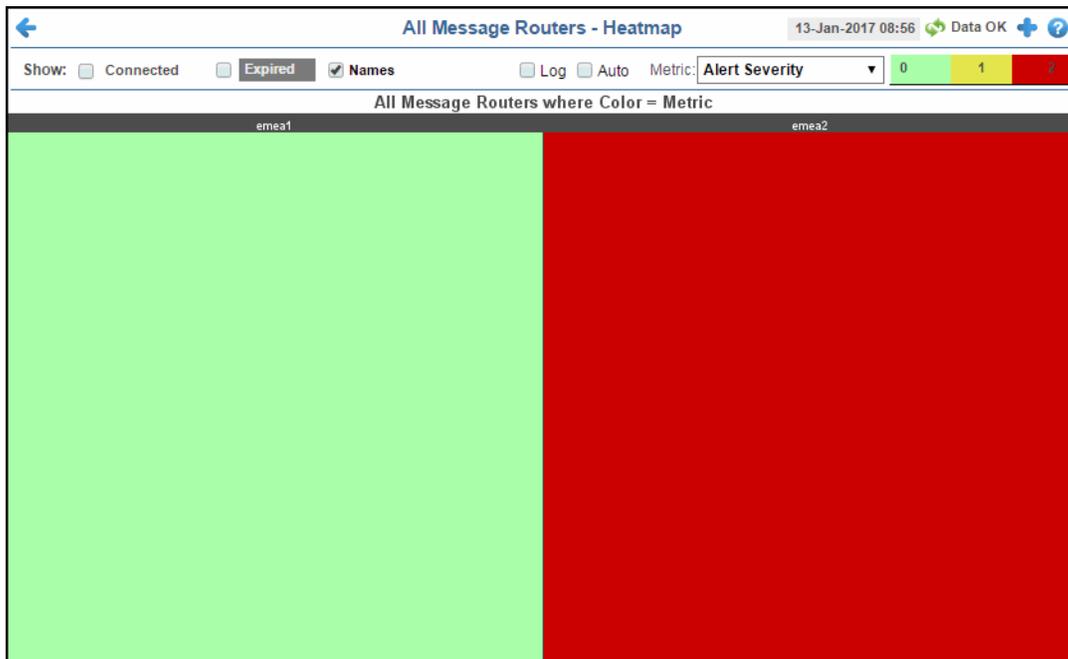
Overview

This section describes the general operation of the Solace Monitor and the user interface. This section includes:

- [“Heatmaps” on page 38](#): Describes how to read heatmaps.
- [“Tables” on page 40](#): Describes how to read tables.
- [“Trend Graphs” on page 46](#): Describes how to read trend graphs.
- [“Title Bar Functionality” on page 46](#): Describes the top layer of the title bar shared by Monitor displays.
- [“Export Report” on page 47](#): Allows you to quickly export reports for displays, or for tables and grid objects in a display, to a PDF file.

Heatmaps

Heatmaps organize your Solace resources (instances, databases, and collections) 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 Solace resources in the rectangle; a larger size is a larger value. Heatmaps include drop-down menus by which to filter data. The filtering options vary among heatmaps (the **All Message Routers Heatmap** is shown below).



For example, the **All Instances Heatmap** (shown above) contains a **Metric** drop-down menu with options such as **Alert Severity** and **Alert Count**. Menu options vary according to the data populating the heatmap. **Alert Severity** is selected and its corresponding color gradient bar is shown. Each rectangle represents a connection. A red rectangle in the heatmap indicates that one or more resources associated with that connection currently has an alert in an alarm state. The yellow rectangles in the heatmap indicate that one or more resources associated with that host currently have an alert in a warning state. A green rectangle would indicate that no alert is in a warning or alarm state.

In most heatmaps, you can also drill-down to more detail by clicking a rectangle in the heatmap. Or, open a new window by using the button and then drill-down. The drill-down opens a display that contains relevant and more detailed data.

Note: Typically, it takes about 30 seconds after a server is started to appear in an Solace Monitor display. By default, data is collected every 15 seconds, and the display is refreshed 15 seconds afterward.

As previously mentioned, each Metric drop-down menu option has a color gradient bar that maps relative values to colors. The following summarizes the heatmap color code translation for typical heatmaps:

Alert Impact

The product of the maximum **Alert Severity** multiplied by the maximum **Criticality** of alerts in a given 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 alert level in the item (index) associated with the rectangle. Values range from **0** - **2**, as indicated in the color gradient bar, where **2** is the highest **Alert Severity**.

- Metrics that have exceeded their specified **ALARM LEVEL** threshold have an **Alert Severity** value of **2**. For a given rectangle, this indicates that one or more metrics have reached their alert thresholds.
- Metrics that have exceeded their specified **WARNING LEVEL** threshold have an **Alert Severity** value of **1**. For a given rectangle, this indicates that one or more metrics have reached their warning thresholds.
- Metrics that have not exceeded either specified threshold have an **Alert Severity** value of **0**. For a given rectangle, this indicates that no metrics have reached their warning or alert thresholds.

Alert Count

The total number of critical and warning alerts in a given item (index) associated with the rectangle. The color gradient bar  numerical values range from **0** to the maximum count of alerts currently in the heatmap. The middle value in the gradient bar indicates the average alert count.

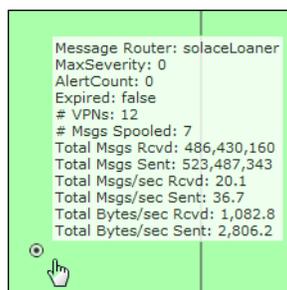
Criticality

The maximum level of **Criticality** (rank of importance) in a given item (index) associated with the rectangle. Values range from **0** to **5**, as indicated in the color gradient bar,  where **5** is the highest Criticality.

Criticality is specified in the Service Data Model by your administrator. **Criticality** values 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 a tool-tip 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 alert count, number of connections, and pending messages.

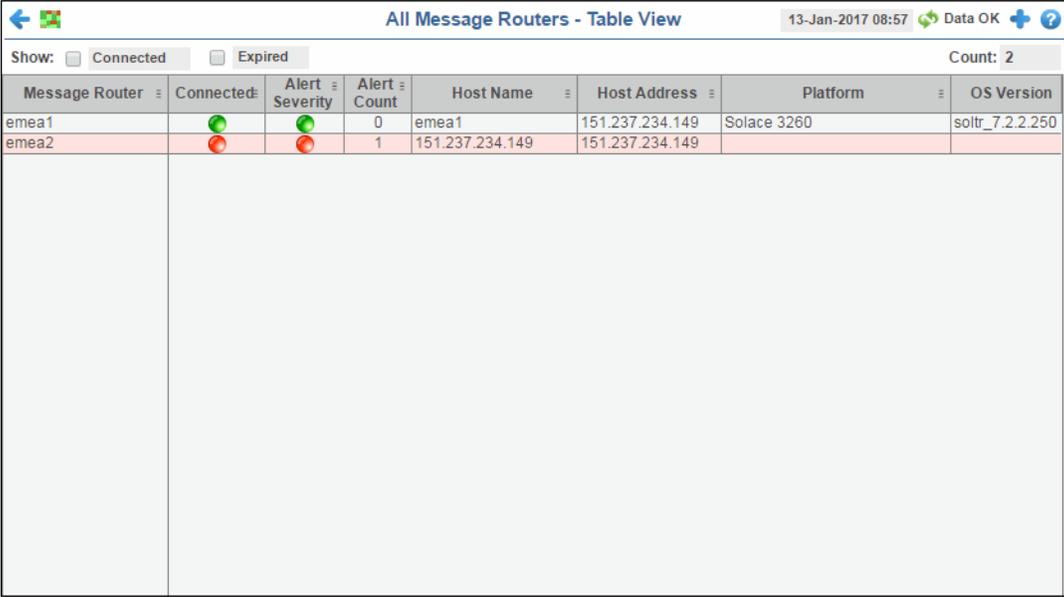


Log Scale

Typically, heat maps provide the Log Scale option, which enables visualization on a logarithmic scale. This option 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.

Tables

Solace Monitor tables contain the same data that is shown in the heatmap in the same View, and additional data not included the heatmap. For example, the **All Message Routers Table** display (shown below) shows the same data as the **All Message Routers Heatmap** display (shown above).



Message Router	Connected	Alert Severity	Alert Count	Host Name	Host Address	Platform	OS Version
emea1	●	●	0	emea1	151.237.234.149	Solace 3260	soltr_7.2.2.250
emea2	●	●	1	151.237.234.149	151.237.234.149		

Tables support advanced HTML, interactive features: sorting on multiple columns, filtering on multiple columns, column resizing, column reordering, and hiding columns. Many of these features are accessed from the column menu, shown in the screen shot above, which you open by clicking on the menu icon in a column's header.

Additional features are:

- ["Multiple Column Sorting,"](#) next
- ["Column Visibility"](#) on page 41
- ["Column Filtering"](#) on page 41
- ["Column Locking"](#) on page 43
- ["Column Reordering"](#) on page 43
- ["Saving Settings"](#) on page 44
- ["Row Paging"](#) on page 44
- ["Row Color Code"](#) on page 45
- ["Row Keyboard Selection"](#) on page 45

Multiple Column Sorting

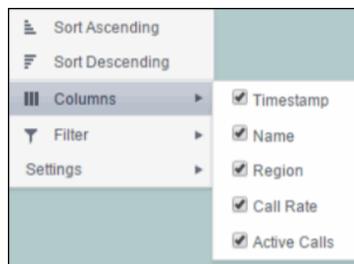
Click on a column header to sort the table by that column. On the first click, the column is sorted in ascending order (smallest value at the top), on the second click the sort is in descending order, and on the third click, the column is returned to its original unsorted state. A sort on a string column is case-insensitive.

To sort multiple columns, click on the column header for each column you want to sort. The sorting is performed in the order that the column headers were clicked. Multiple column sorting is a very useful feature, but can also cause confusion if you intend to sort on a single column, but forget to "unsort" any previously selected sort columns first. You should check for the up/down sort icon in other column headers if a sort gives unexpected results.

The grid's row selection is cleared if the sort is changed or if columns are resized or reordered. Column sorting is reflected in an export to HTML and Excel.

Column Visibility

You can hide or show columns in the table by clicking on any column's menu icon, and choosing **Columns** from the menu. This opens a submenu with a check box for each column that toggles the visibility of the column. All columns in the data table appear in the Columns menu, even those that are initially hidden.



The leftmost column (the row header column) cannot be hidden.

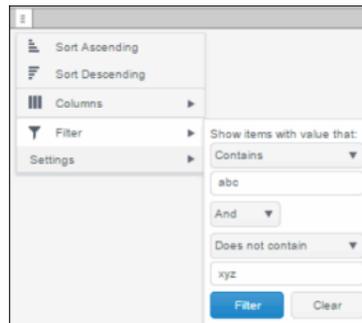
Column visibility changes are NOT reflected in an export to HTML and Excel.

Column Filtering

You can create a filter on any column. If filters are created on multiple columns, then only the rows that pass all of the filters are displayed. That is, if there are multiple filters they are logically "ANDed" together to produce the final result.

The background of a column's menu icon changes to white to indicate that a filter is defined on that column. This is intended to remind you which columns are filtered.

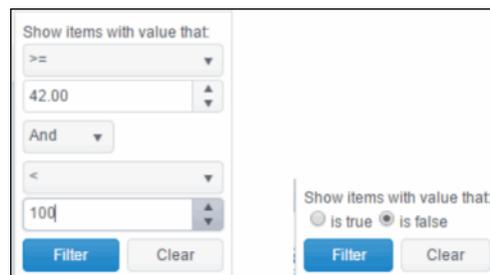
You can configure a filter on any column by clicking on the column's menu icon and choosing **Filter** from the menu. This opens the **Column Filter** dialog:



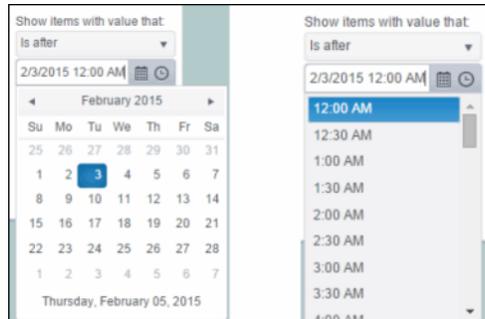
Options in the **Column Filter** dialog vary according to the data type of the selected column:

- **String columns:** You can enter a filter string such as "abc" and, from the dropdown list, select the operator (equal to, not equal to, starts with, contains, etc) to be used when comparing the filter string to each string in the column. All of the filter comparisons on strings are case-insensitive. You can optionally enter a second filter string (e.g. "xyz") and specify if an AND or OR combination should be used to combine the first and second filter results on the column.
- **Numeric columns:** You can enter numeric filter values and select arithmetic comparison operators, (=, !=, >, >=, <, <=). You can optionally enter a second filter value and comparison operator, and specify if an AND or OR combination should be used to combine the first and second filter results.
- **Boolean columns:** You simply select whether matching items should be true or false.

The numeric and boolean filter dialogs are shown below.



- Date columns:** You can select a date and time and choose whether matching items should have a timestamp that is the same as, before, or after the filter time. The date is selected by clicking on the calendar icon and picking a date from a calendar dialog. The time is selected by clicking on the time icon and picking a time from a dropdown list:



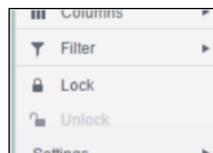
Alternatively, a date and time can be typed into the edit box. The strings shown in a date column are formatted by the Display Server using its time zone. But if a filter is specified on a date column, the date and time for the filter are computed using the client system's time zone. This can be confusing if the Display Server and client are in different time zones.

Data updates to the grid are suspended while the filter menu is opened. The updates are applied when the menu is closed.

Column filtering is reflected in an export to HTML and Excel.

Column Locking

The leftmost column is "locked" in position, meaning that it does not scroll horizontally with the other columns in the table. If the row header is enabled, then two items labeled **Lock** and **Unlock** appear in the column menu. These can be used to add or remove additional columns from the non-scrolling row header area.



If the row header is enabled, at least one column must remain locked.

Column locking is NOT reflected in an export to HTML and Excel.

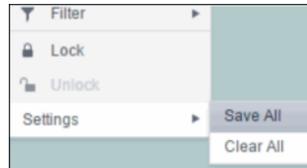
Column Reordering

You can reorder the grid columns by dragging and dropping a column's header into another position. Dragging a column into or out of the row header area (the leftmost columns) is equivalent to locking or unlocking the column.

Column reordering is NOT reflected in an export to HTML and Excel.

Saving Settings

You can permanently save all of the custom settings made to the grid, including filtering, sorting, column size (width), column order, column visibility, and column locking. This is done by opening any column menu, clicking **Settings**, and then clicking **Save All**:



The grid's settings are written as an item in the browser's local storage. The item's value is a string containing the grid's settings. The item uses a unique key comprised of the URL path name, the display name, and the table's RTView object name. If the Thin Client's login feature is enabled, the key will also include the username and role, so different settings can be saved for each user and role for a grid on any given display, in the same browser and host.

If you save the grid settings and navigate away from the display or close the browser, then the next time you return to the display in the same browser the settings are retrieved from the browser's local storage and applied to the grid. The browser's local storage items are persistent, so the grid settings are preserved if the browser is closed and reopened or if the host system is restarted.

Note that each browser has its own local storage on each host. The local storage items are not shared between browsers on the same host or on different hosts. So, if a user logs in as Joe with **role = admin**, in Internet Explorer on host H1, and saves grid settings for display X, then those grid settings are restored each time a user logs in as Joe, role admin, on host H1 and opens display X in Internet Explorer. But if all the same is true except that the browser is Chrome, then the settings saved in Internet Explorer are not applied. Or if the user is Joe and role is admin and the browser is IE and the display is X, but the host system is H2 not H1, then the grid settings saved on H1 are not applied.

Revert Table Settings

You can delete the grid's item from local storage by clicking **Settings > Clear All** in any column menu. This permanently deletes the saved settings for the grid and returns the grid to the state defined in the display file.

Row Paging

If the data table contains more than one 200 rows, page controls appear at the bottom of the grid.

217	emreference	sl.rtvew.sql.sqldb	RTVWIDTORT root my-secret-pw jdbc:mysql://oz
229	emreference	sl.rtvew.sub	\$rtvConfigDataServer:CONFIG_SERVER
216	emreference	sl.rtvew.properties.queryTimeOut	10
		sl.rtvew.sql.sqldb	ALERTDEFS --- _none ---

Page 1 of 2 1 - 200 of 235 items

Row Color Code

Table rows sometimes use color to indicate the current most critical alert state for all CIs associated with the row. In this example, the **Severity Level** column is sorted in descending order (from high to low values).

JVM	localhostGLASSFISH_SERVER_8	●	1	10
JVM	localhostMYDEMO_DATASERVER	●	1	8
JVM	localhostMYDEMO_DISPLAYSERVER	●	1	8
JVM	sl.demos.com.213415_RTVD0	●	1	10
JVM	localhostBWM_DB-1	●	1	5
WAS	SLHOST12Node01Cell:SLHOST12Node01.server1	●	1	5
JVM	localhostRTVMGR_DATABASE	●	1	5
JVM	localhostRTVMGR_DATASERVER	●	0	0
JVM	localhostWLM_DATABASE	●	0	0
EMS	tcp:SLHOST10.7021	●	0	0
EMS	tcp:SLHOST10.7020	●	0	0
WLS	TestDomainManagedServer2	●	0	0

The yellow row color indicates that one or more alerts exceeded their warning threshold for one or more CIs 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). To summarize:

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.

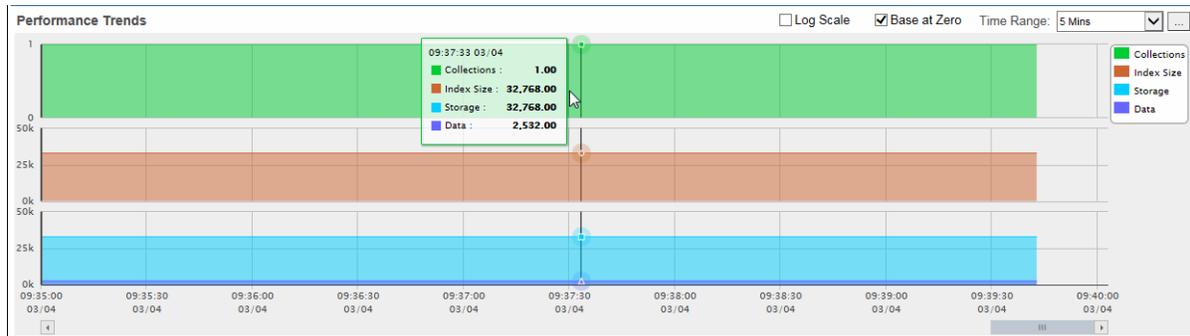
Row Keyboard Selection

You can use the mouse to select a row and use the arrow keys to change the focus (highlighted) row, but to select the focus row, you must then press the space bar.

8	C:\rtvdemos\rtvapm\common\conf\rtvapm	sl.rtvview.sql.dbretry
9	C:\rtvdemos\rtvapm\common\conf\rtvapm	sl.rtvview.global
10	C:\rtvdemos\rtvapm\common\conf\rtvapm	sl.rtvview.global
11	C:\rtvdemos\rtvapm\common\conf\rtvapm	sl.rtvview.xml.xmlsource
12	C:\rtvdemos\rtvapm\common\conf\rtvapm	sl.rtvview.jmx.jmxconn
13	C:\rtvdemos\rtvapm\common\conf\rtvapm	sl.rtvview.dsenable

Trend Graphs

Solace Monitor trend graphs enable you to view and compare various important metrics over time, such as server memory and virtual memory utilization.



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 .

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 are 'OK', 'Apply', and 'Cancel' buttons.

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.

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 the example above, when you mouse-over a single dot, or data point, in the Index Size trend graph, a pop-up window shows data for that data point. In this case, the X-axis value is 9:37:30 hours on March 4th, and the Y-axis value is 32768.00 bytes.

Title Bar Functionality

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



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

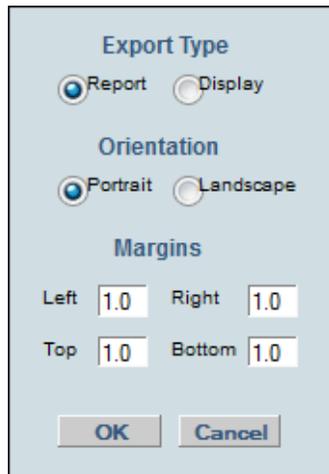
	Opens the previous display.
	Opens the display that is up one level.
	Navigates to a display that is most commonly accessed from the current display. The target display differs among displays.
	Navigates to displays that are most commonly accessed from the current display. The drop-down menu options 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 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, 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 Data OK indicator is green, this is a strong indication that the platform is receiving current and valid data.
	The number of items currently in the display.
	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.
	Opens the online help page for the current display.

Export 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.

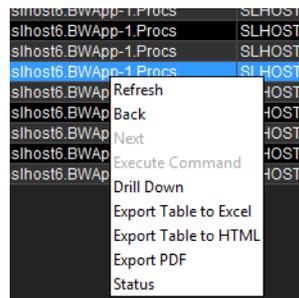


Set the margins and choose the **Export Type**:

- **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**.



Solace Monitor Views/Displays

The RTView® Monitor for Solace® has the following Views:

- [“Message Routers” on page 50](#): The displays in this View present 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.
- [“Neighbors” on page 76](#): The displays in this View present metrics for neighbor message routers and their configuration settings.
- [“VPNs” on page 82](#): The displays in this View present VPN-level metrics.
- [“Clients” on page 96](#): The displays in this View present metrics for all clients of the message router. These views can be filtered to limit the displays to clients for a single VPN.
- [“Bridges” on page 107](#): The displays in this View present metrics for a message router bridges. These views can be filtered to limit the displays to bridges for a single VPN.
- [“Endpoints” on page 116](#): The displays in this View present metrics for topics and queues on the message router, which can be filtered to limit the displays to topics and queues for a single VPN.
- [“Capacity Analysis” on page 126](#): The displays in this View present current metrics, alert count and severity at the message router level.
- [“Syslog” on page 134](#): View all Syslog events for your Solace message routers.
- [“Alert Views” on page 136](#): Track and manage all alerts that have occurred in the system, add comments, acknowledge or assign Owners to alerts.
- [“Administration” on page 140](#): Set alert thresholds, observe how alerts are managed, and view internal data gathered and stored by RTView.

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 50](#): A color-coded heatmap view of the current status of each of your message routers.
- [“All Message Routers Table” on page 53](#): A tabular view of all available message router performance data.
- [“Message Router Summary” on page 61](#): Current and historical metrics for a single message router.
- [“Environmental Sensors” on page 65](#): 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 67](#): Provides message router host, chassis, redundancy, memory, and fabric data for a particular message router.
- [“Interface Summary” on page 69](#): 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 72](#): Provides status and usage data for message spools associated with one or all message router(s).
- [“Message Router VPN Activity” on page 74](#): 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.

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 check-boxes to include or exclude labels in the heatmap, show only connected or expired message routers, and you can mouse over a rectangle to see additional metrics for a 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 (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- open commonly accessed displays.
- The number of items currently in the display.

- Data OK** Data connection state. Red indicates 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.
- Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the **Alert Views - RTView Alerts Table** display.

Fields and Data:

- Connected** Select this check box to only show connected message routers in the heatmap.
- Expired** Select this check box to only show expired message routers in the heatmap.
- Names** Select this check box to include labels 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 are preconfigured to auto-scale automatically, even when **Auto** is not selected.
- Metric** Choose a metric to view in the display.

Alert Severity	<p>The current alert severity. Values range from 0 - 2, as indicated in the color gradient  bar, where 2 is the highest Alert Severity:</p> <ul style="list-style-type: none">  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	<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 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average alert count.</p>
# Msgs Spooled	<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 SolAppliancePendingMsgsHigh. The middle value in the gradient bar indicates the middle value of the range.</p> <p>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.</p>
Total Msgs Rcvd	<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 0 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 Auto flag does not have any impact on this metric.</p>
Total Msgs Sent	<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 0 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 Auto flag does not have any impact on this metric.</p>
Total Msgs/sec Rcvd	<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 SolMsgRouterInboundMsgRateHigh. The middle value in the gradient bar indicates the middle value of the range.</p> <p>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.</p>
Total Msgs/sec Sent	<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 SolMsgRouterOutboundMsgRateHigh. The middle value in the gradient bar indicates the middle value of the range.</p> <p>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.</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**

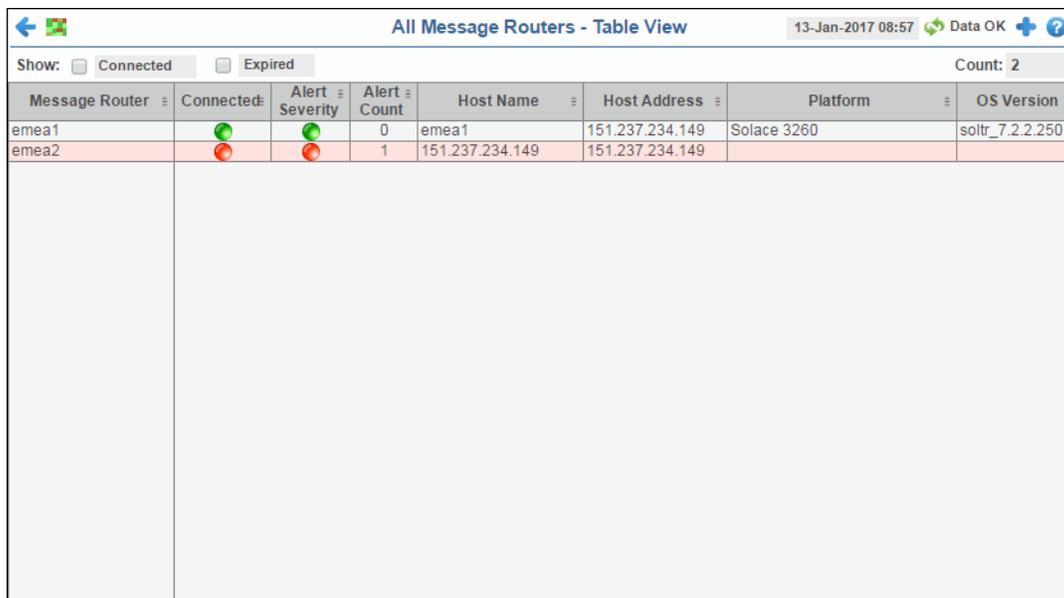
The total number of bytes sent per second in the message router. The color gradient  bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the defined alert threshold of **SolMsgRouterOutboundByteRateHigh**. The middle value in 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.

Double-click a row to drill-down and investigate in the [“Message Router Summary”](#) display



Message Router	Connected	Alert Severity	Alert Count	Host Name	Host Address	Platform	OS Version
emea1			0	emea1	151.237.234.149	Solace 3260	soltr_7.2.2.250
emea2			1	151.237.234.149	151.237.234.149		

Title Bar (possible features are):

-   Open the previous and upper display.
-  Open an instance of this display in a new window.
-  Open the online help page for this display.
- open commonly accessed displays.
- The number of items currently in the display.

 **Data OK** Data connection state. Red indicates 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.

Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.

 Open the **Alert Views - RTView Alerts Table** 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.
Connected	The message router state: <ul style="list-style-type: none">  Red indicates that the message router is NOT connected.  Green indicates that the message router is connected.
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: <ul style="list-style-type: none">  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.
# Remote Bridges	The total number of remote bridges configured on the message router.
# Remote Bridge Subscriptions	The total number of remote bridge subscriptions configured on the message router.
Routing Enabled	This check box is checked when the message router is configured to route messages to other message routers.
Routing Interface	The name of the interface configured to support message routing.
Total # Conflicting Destinations	The total number conflicting destinations.
Pending Messages	The number of pending messages on the message router.
Total Client Msgs Rcvd	The total number of client messages received on the message router.
Total Client Msgs Sent	The total number of client messages sent by the message router.
Total Client Msgs Rcvd/sec	The total number of client messages received per second by the message router.
Total Client Msgs Sent/sec	The total number of client messages sent by the message router.
Total Client Bytes Rcvd	The total number of client bytes received by the message router.
Total Client Bytes Sent	The total number of client bytes sent by the message router.
Total Client Bytes Rcvd/sec	The total number of client bytes received per second by the message router.
Total Client Bytes Sent/sec	The total number of client bytes sent per second by the message router.
Total Client Direct Msgs Rcvd	The total number of direct client messages received by the message router.
Total Client Direct Msgs Sent	The total number of direct client messages sent from the message router.
Total Client Direct Msgs Rcvd/sec	The total number of direct client messages received per second by the message router.
Total Client Direct Msgs Sent/sec	The total number of direct client messages sent per second by the message router.

Total Client Direct Bytes Rcvd	The total number of direct client bytes received by the message router.
Total Client Direct Bytes Sent	The total number of direct client bytes sent by the message router.
Total Client Direct Bytes Rcvd/sec	The total number of direct client bytes received per second by the message router.
Total Client Direct Bytes Sent/sec	The total number of direct client bytes sent per second by the message router.
Total Client Non-Persistent Msgs Rcvd	The total number of non-persistent client messages received by the message router.
Total Client Non-Persistent Msgs Sent	The total number of non-persistent client messages sent by the message router.
Total Client Non-Persistent Msgs Rcvd/sec	The total number of non-persistent client messages received per second by the message router.
Total Client Non-Persistent Msgs Sent/sec	The total number of non-persistent client messages sent per second by the message router.
Total Client Non-Persistent Bytes Rcvd	The total number of non-persistent client bytes received by the message router.
Total Client Non-Persistent Bytes Sent	The total number of non-persistent client bytes sent by the message router.
Total Client Non-Persistent Bytes Rcvd/sec	The total number of non-persistent client bytes received per second by the message router.
Total Client Non-Persistent Bytes Sent/sec	The total number of non-persistent client bytes sent per second by the message router.
Total Client Persistent Msgs Rcvd	The total number of persistent client messages received by the message router.
Total Client Persistent Msgs Sent	The total number of persistent client messages sent by the message router.

Total Client Persistent Msgs Rcvd/sec	The total number of persistent client messages received per second by the message router.
Total Client Persistent Msgs Sent/sec	The total number of persistent client messages sent per second by the message router.
Total Client Persistent Bytes Rcvd	The total number of persistent client bytes received by the message router.
Total Client Persistent Bytes Sent	The total number of persistent client bytes sent by the message router.
Total Client Persistent Bytes Rcvd/sec	The total number of persistent client bytes received per second by the message router.
Total Client Persistent Bytes Sent/sec	The total number of persistent client bytes sent per second by the message router.
Avg Egress Bytes/min	The average number of outgoing bytes per minute.
Avg Egress Compressed Msgs/min	The average number of outgoing compressed messages per minute.
Avg Egress Msgs/min	The average number of outgoing messages per minute.
Avg Egress SSL Msgs/min	The average number of outgoing messages per minute being sent via SSL-encrypted connections.
Avg Egress Uncompressed Msgs/min	The average number of uncompressed outgoing messages per minute.
Avg Ingress Bytes/min	The average number of incoming bytes per minute.
Avg Ingress Compressed Msgs/min	The average number of compressed incoming message per minute.
Avg Ingress Msgs/min	The average number of incoming messages per minute.
Average Ingress SSL Msgs/min	The average number of incoming messages per minute being received via SSL-encrypted connections.
Avg Ingress Uncompressed Msgs/min	The average number of uncompressed messages per minute.
Current Egress Bytes/sec	The current number of outgoing bytes per second.

Current Egress Compressed Msgs/sec	The current number of outgoing compressed messages per second.
Current Egress Msgs/sec	The current number of outgoing messages per second.
Current Egress SSL Msgs/sec	The current number of outgoing messages per second sent via SSL-encrypted connections.
Current Egress Uncompressed Msgs/sec	The current number of outgoing uncompressed messages per second.
Current Ingress Bytes/sec	The current number of incoming bytes per second.
Current Ingress Compressed Msgs/sec	The current number of incoming compressed messages per second.
Current Ingress Msgs/sec	The current number of incoming messages per second.
Current Ingress SSL Msgs/sec	The current number of incoming messages per second received via SSL-encrypted connections.
Current Ingress Uncompressed Msgs/sec	The current number of incoming uncompressed messages per second.
Ingress Comp Ratio	The percentage of incoming messages that are compressed.
Egress Comp Ratio	The percentage of outgoing messages that are compressed.
Egress Compressed Bytes	The number of outgoing compressed bytes.
Egress SSL Bytes	The number of outgoing compressed bytes being sent via SSL-encrypted connections.
Egress Uncompressed Bytes	The number of outgoing uncompressed bytes.
Ingress Compressed Bytes	The number of incoming compressed bytes.
Ingress SSL Bytes	The number of incoming bytes via SSL-encrypted connections.
Ingress Uncompressed Bytes	The number of incoming uncompressed bytes.
Total Egress Discards	The total number of outgoing messages that have been discarded by the message router.

Total Egress Discards/sec	The total number of outgoing messages per second that have been discarded by the message router.
Total Ingress Discards	The total number of incoming messages that have been discarded by the message router.
Total Ingress Discards/sec	The total number of incoming messages per second that have been discarded by the message router.
Client Authorization Failures	The number of failed authorization attempts
Client Connect Failures (ACL)	The number of client connection failures caused because the client was not included in the defined access list.
Subscribe Topic Failures	The number of failed attempts at subscribing to topics.
TCP Fast Retrans Sent	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).
Memory (KB)	The total available memory (in kilobytes) on the message router.
Memory Free (KB)	The total amount of available memory (in kilobytes) on the message router.
Memory Used (KB)	The total amount of memory used (in kilobytes) on the message router.
Memory Used %	The percentage of total available memory that is currently being used.
Swap (KB)	The total available swap (in kilobytes) on the message router.
Swap Free (KB)	The total amount of available swap (in kilobytes) on the message router.
Swap Used (KB)	The total amount of swap used (in kilobytes) on the message router.
Swap Used %	The percentage of total available swap that is currently being used.
Subscription Mem Total (KB)	The total amount of available memory (in kilobytes) that can be used by queue/topic subscriptions.
Subscription Mem Free (KB)	The current amount of available memory (in kilobytes) that can be used by queue/topic subscriptions.
Subscription Mem Used (KB)	The current amount of memory (in kilobytes) being used by queue/topic subscriptions.
Subscription Mem Used %	The percentage of available memory being used by queue/topic subscriptions.
Chassis Product Number	The product number of the chassis in which the router is contained.
Chassis Revision	The revision number of the chassis.
Chassis Serial	The serial number of the chassis.

BIOS Version	The basic input/output system used by the chassis.
CPU-1	The name of the central processing unit (CPU 1) used by the message router.
CPU-2	The name of the central processing unit (CPU 2) used by the message router.
Operational Power Supplies	The number of available power supplies that are operational on the chassis.
Power Redundancy Config	The configuration used by the backup message router.
Max # Bridges	The maximum number of bridges allowed on the message router.
Max # Local Bridges	The maximum number of local bridges allowed on the message router.
Max # Remote Bridges	The maximum number of remote bridges allowed on the message router.
Max # Remote Bridge Subscriptions	The maximum number of remote bridge subscriptions allowed on the message router.
Redundancy Config Status	The status of the redundancy configuration.
Redundancy Status	The status of the redundant message router.
Redundancy Mode	Refer to Solace documentation for more information.
Auto-revert	Refer to Solace documentation for more information.
Mate Router Name	If redundancy is configured, this field lists the redundant router name (mate router name).
ADB Link Up	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.
ADB Hello Up	Refer to Solace documentation for more information.
Pair Primary Status	The primary status of the message router and its redundant (failover) mate.
Pair Backup Status	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\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 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=$solRowExpirationTime:45
collector.sl.rtvview.sub=$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 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:

**[?]** A message router is disconnected when the drop-down menu name is appended with **[?]**.

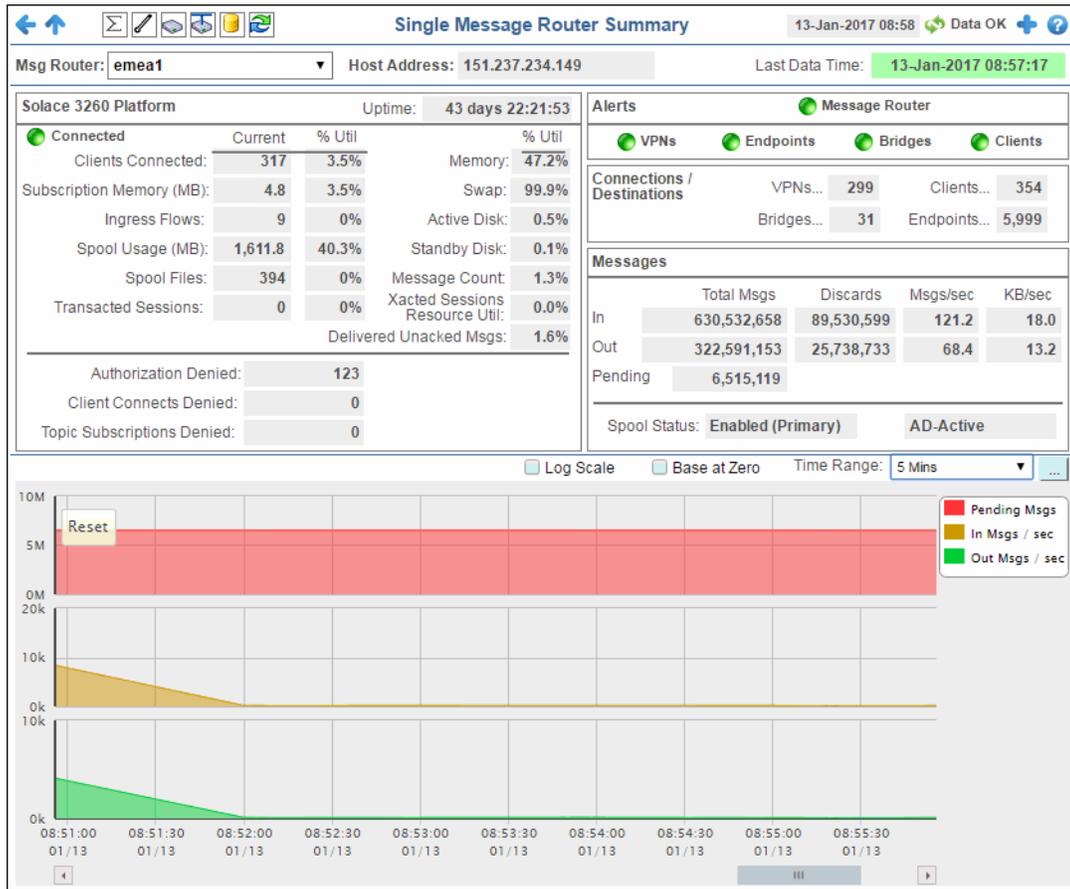
**[X]** A message router is expired when the drop-down menu name is appended with **[X]**.

- When the display background color is light red  the data is stale.
- The **Last Data Time** | Last Data Time: 15-Aug-2016 14:34:00 | shows the date and time the selected message router was last updated.

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 (possible features are):**

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- open commonly accessed displays.
- The number of items currently in the display.

**Data OK** Data connection state. Red indicates 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.

Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.

Open the Alert Views - RTView Alerts Table 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.

**Fields and Data:**

**Host Address** The host address.

**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.

**Platform****Platform Name**

The Solace platform name.

**Uptime**

The amount of time the message router has been up and running.

**Connected**

The message router state:

- Red indicates that the message router is NOT connected.
- Green indicates that the message router is connected.

**Clients Connected**

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).

**Subscription Memory (MB)**

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).

**Ingress Flows**

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).

**Spool Usage (MB)**

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).

**Spool Files**

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).

**Transacted Sessions**

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).

**Memory Used**

The total percentage of memory used on the message router.

**Swap Used**

The total percentage of swap used on the message router.

**Active Disk Used**

The amount of active disk space used.

**Stndby Disk Used**

The amount of standby disk space used.

**Msg Cnt Util**

The number of messages.

**Xacted Sessions Resource Util**

The percent resource utilization for transacted sessions, in percent.

**Delivered Unacked Msgs**

The percentage of delivered messages that have not been acknowledged.

**Authorization Denied**

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**

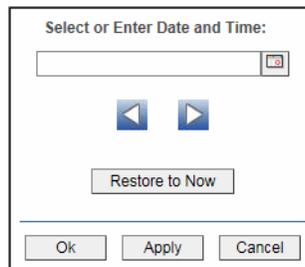
|                           |                                                                   |
|---------------------------|-------------------------------------------------------------------|
| <b>Total Msgs In</b>      | The total number of incoming messages on the message router.      |
| <b>Total 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. |

**Active Disk Usage (MB)** 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.

- Pending Msgs** Traces the number of currently pending messages.
- In Msgs/sec** Traces the number of incoming messages per second.
- Out Msgs/sec** Traces 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.

## 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. This display does not show data for VMRs as it only applies to message routers.

### Data Quality Indicators:

**[?]** A message router is disconnected when the drop-down menu name is appended with **[?]**.

[X] A message router is expired when the drop-down menu name is appended with [X].

| Environmental Sensors          |                         |                   |         |           |        |                          |                      | 13-Jan-2017 08:58 | Data OK |
|--------------------------------|-------------------------|-------------------|---------|-----------|--------|--------------------------|----------------------|-------------------|---------|
| Msg Router: <span>emea1</span> |                         |                   |         |           |        |                          |                      |                   |         |
| Sensor Readings                |                         |                   |         |           |        |                          |                      |                   |         |
| Message Router                 | Type                    | Sensor Name       | Value   | Units     | Status | Expired                  | Time Stamp           |                   |         |
| emea1                          | Voltage                 | BB +1.5V          | 1.469   | volts     | OK     | <input type="checkbox"/> | 13-Jan-2017 08:57:15 |                   |         |
| emea1                          | Voltage                 | BB +1.5V AUX      | 1.498   | volts     | OK     | <input type="checkbox"/> | 13-Jan-2017 08:57:15 |                   |         |
| emea1                          | Voltage                 | BB +1.5V ESB      | 1.482   | volts     | OK     | <input type="checkbox"/> | 13-Jan-2017 08:57:15 |                   |         |
| emea1                          | Voltage                 | BB +1.8V          | 1.803   | volts     | OK     | <input type="checkbox"/> | 13-Jan-2017 08:57:15 |                   |         |
| emea1                          | Voltage                 | BB +12V AUX       | 12.028  | volts     | OK     | <input type="checkbox"/> | 13-Jan-2017 08:57:15 |                   |         |
| emea1                          | Voltage                 | BB +3.3V          | 3.320   | volts     | OK     | <input type="checkbox"/> | 13-Jan-2017 08:57:15 |                   |         |
| emea1                          | Voltage                 | BB +3.3V STB      | 3.302   | volts     | OK     | <input type="checkbox"/> | 13-Jan-2017 08:57:15 |                   |         |
| emea1                          | Voltage                 | BB +5V            | 5.044   | volts     | OK     | <input type="checkbox"/> | 13-Jan-2017 08:57:15 |                   |         |
| emea1                          | ThermalMargin           | CPU1 Therm Margin | -53.000 | degrees C |        | <input type="checkbox"/> | 13-Jan-2017 08:57:15 |                   |         |
| emea1                          | ThermalMargin           | CPU2 Therm Margin | -50.000 | degrees C |        | <input type="checkbox"/> | 13-Jan-2017 08:57:15 |                   |         |
| emea1                          | Temperature             | Chassis Temperatu | 29.000  | degrees C | OK     | <input type="checkbox"/> | 13-Jan-2017 08:57:15 |                   |         |
| emea1                          | Fan speed               | Chassis Fan 1     | 7543    | RPM       | OK     | <input type="checkbox"/> | 13-Jan-2017 08:57:15 |                   |         |
| emea1                          | Fan speed               | Chassis Fan 2     | 7800    | RPM       | OK     | <input type="checkbox"/> | 13-Jan-2017 08:57:15 |                   |         |
| emea1                          | Fan speed               | Chassis Fan 3     | 7629    | RPM       | OK     | <input type="checkbox"/> | 13-Jan-2017 08:57:15 |                   |         |
| emea1                          | Fan speed               | Chassis Fan 4     | 7457    | RPM       | OK     | <input type="checkbox"/> | 13-Jan-2017 08:57:15 |                   |         |
| emea1                          | Fan speed               | Chassis Fan 5     | 7200    | RPM       | OK     | <input type="checkbox"/> | 13-Jan-2017 08:57:15 |                   |         |
| emea1                          | Fan speed               | Chassis Fan 6     | 7114    | RPM       | OK     | <input type="checkbox"/> | 13-Jan-2017 08:57:15 |                   |         |
| emea1                          | Power system redundancy | Power Redundancy  | no      |           |        | <input type="checkbox"/> | 13-Jan-2017 08:57:15 |                   |         |

#### Title Bar (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- Menu** , **Table** open commonly accessed displays.
- 6,047** The number of items currently in the display.

- Data OK** Data connection state. Red indicates 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.
- 23-Mar-2017 12:04** Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the Alert Views - RTView Alerts Table 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 `$solRowExpirationTime` field in the `conf\rtv\pm_solmon.properties` file. The `$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:

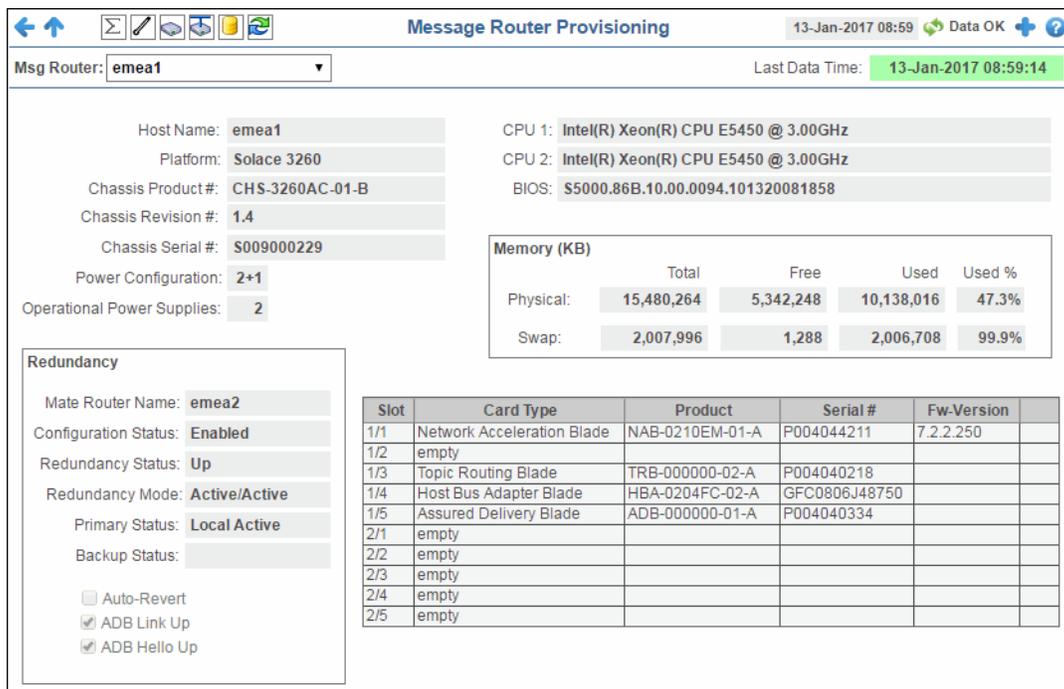
[?] A message router is disconnected when the drop-down menu name is appended with [?].

[X] A message router is expired when the drop-down menu name is appended with [X].

- When the display background color is light red  the data is stale.
- The **Last Data Time** | Last Data Time: **15-Aug-2016 14:34:00** | shows the date and time the selected message router was last updated.

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** 13-Jan-2017 08:59 Data OK

Msg Router: **emea1** Last Data Time: **13-Jan-2017 08:59:14**

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: **\$5000.86B.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: | 15,480,264 | 5,342,248 | 10,138,016 | 47.3%  |
| Swap:     | 2,007,996  | 1,288     | 2,006,708  | 99.9%  |

**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    | 7.2.2.250  |
| 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** (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- Menu** **Table** open commonly accessed displays.
- 6,047** The number of items currently in the display.

**Data OK** Data connection state. Red indicates 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.

**23-Mar-2017 12:04** Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.

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

##### Platform

The platform on which the message router is running.

##### Chassis Product #

The product number of the chassis in which the router is contained.

##### Chassis Revision #

The revision number of the chassis.

##### Chassis Serial #

The serial number of the chassis.

##### Power Configuration

The power configuration used by the chassis.

##### Operational Power Supplies

The number of available power supplies that are operational on the chassis.

##### CPU 1

The name of the central processing unit (CPU 1) used by the message router.

##### CPU 2

The name of the central processing unit (CPU 2) used by the message router.

##### BIOS

The basic input/output system used by the chassis.

##### Memory (KB)

**Physical** Lists the **Total** amount, the **Free** amount, the **Used** amount, and the **Used %** of physical memory.

**Swap** Lists the **Total** amount, the **Free** amount, the **Used** amount, and the **Used %** of swap memory.

##### Redundancy

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.                                                                                                      |

### Fabric

|                   |                                                    |
|-------------------|----------------------------------------------------|
| <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.   |
| <b>Serial #</b>   | The serial number of the product.                  |
| <b>Fw-Version</b> | 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).

### Data Quality Indicators:

**[?]** A message router is disconnected when the drop-down menu name is appended with **[?]**.

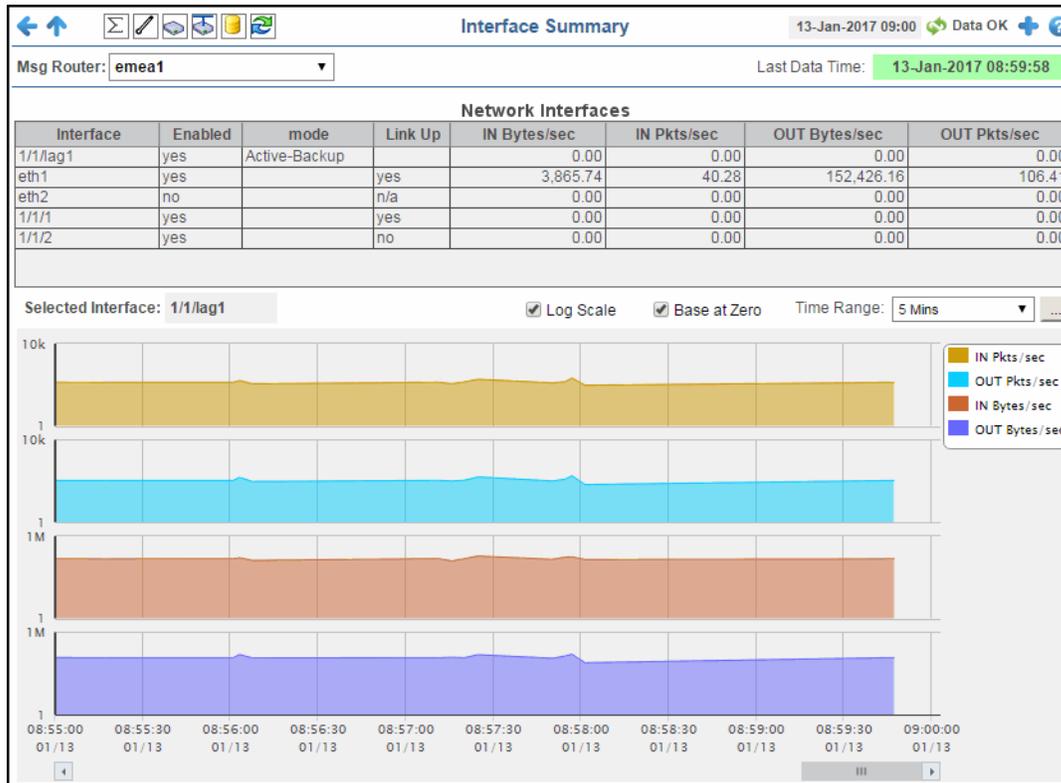
**[X]** A message router is expired when the drop-down menu name is appended with **[X]**.

- When the display background color is light red  the data for the selected network interface is stale.
- The **Last Data Time** | Last Data Time: **15-Aug-2016 14:34:00** | shows the date and time the selected network interface was last updated.

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 (possible features are):**

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- Open an instance of this display in a new window.
- Open the online help page for this display.
- Menu** **Table** open commonly accessed displays.
- 6,047** The number of items currently in the display.
- Data OK** Data connection state. Red indicates 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.
- 23-Mar-2017 12:04** Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the Alert Views - RTView Alerts Table 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.

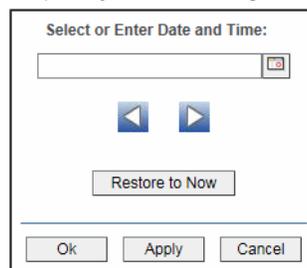
**Interface** The name of the network interface.

|                      |                                                                                       |
|----------------------|---------------------------------------------------------------------------------------|
| <b>Enabled</b>       | Displays whether or not the network interface is enabled.                             |
| <b>mode</b>          | Describes how the interface is configured to support networking operations.           |
| <b>Link Up</b>       | Indicates whether the interface is electrically signaling on the transmission medium. |
| <b>IN Bytes/sec</b>  | The number of bytes per second contained in incoming messages.                        |
| <b>IN Pkts/sec</b>   | The number of incoming packets per second.                                            |
| <b>OUT Bytes/sec</b> | The number of bytes per second contained in the outgoing messages.                    |
| <b>OUT Pkts/sec</b>  | 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.

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>IN Pkts/sec</b>   | Traces the number of incoming packets per second.                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>OUT Pkts/sec</b>  | Traces the number of outgoing packets per second.                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>IN Bytes/sec</b>  | Traces the number of bytes per second contained in the incoming messages.                                                                                                                                                                                                                                                                                                                                                                              |
| <b>OUT Bytes/sec</b> | Traces the number of bytes per second in the outgoing messages.                                                                                                                                                                                                                                                                                                                                                                                        |
| <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  .                                                                                                                                                                                         |



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.

### Data Quality Indicators:

**[?]** A message router is disconnected when the drop-down menu name is appended with **[?]**.

**[X]** A message router is expired when the drop-down menu name is appended with **[X]**.

| Connection | Config Status     | Operational Status | Current Spool Usage (MB) | Msg Spool Used By Queue | Msg Spool Used By DTE | Message Count % Utilization | De |
|------------|-------------------|--------------------|--------------------------|-------------------------|-----------------------|-----------------------------|----|
| emea1      | Enabled (Primary) | AD-Active          | 1,611.79                 | 5,935                   | 64                    | 1.29                        |    |

### Title Bar (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- Menu** **Table** open commonly accessed displays.
- 6,047** The number of items currently in the display.

- Data OK** Data connection state. Red indicates 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.
- 23-Mar-2017 12:04** Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the **Alert Views - RTView Alerts Table** 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.

|                                             |                                                                                                                           |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| <b>Current Spool Usage (MB)</b>             | The current amount of spool used in megabytes on the message router (calculated by summing spool used for each endpoint). |
| <b>Msg Spool Used By Queue</b>              | The amount of spool used by the queue.                                                                                    |
| <b>Msg Spool Used By DTE</b>                | The amount of spool used by DTE.                                                                                          |
| <b>Message Count % Utilization</b>          | The percentage of total messages that use the message spool.                                                              |
| <b>Delivered UnAcked Msgs % Utilization</b> | The percentage of messages delivered via the spool that have not been acknowledged.                                       |
| <b>Ingress Flow Count</b>                   | The current incoming flow count.                                                                                          |
| <b>Ingress Flows Allowed</b>                | The total number of incoming flows allowed.                                                                               |
| <b>Queue/Topic Subscriptions Used</b>       | The number of queue/topic subscriptions used.                                                                             |
| <b>Max Queue/Topic Subscriptions</b>        | The maximum number of queue/topic subscriptions available.                                                                |
| <b>Sequenced Topics Used</b>                | 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:

**[?]** A message router is disconnected when the drop-down menu name is appended with **[?]**.

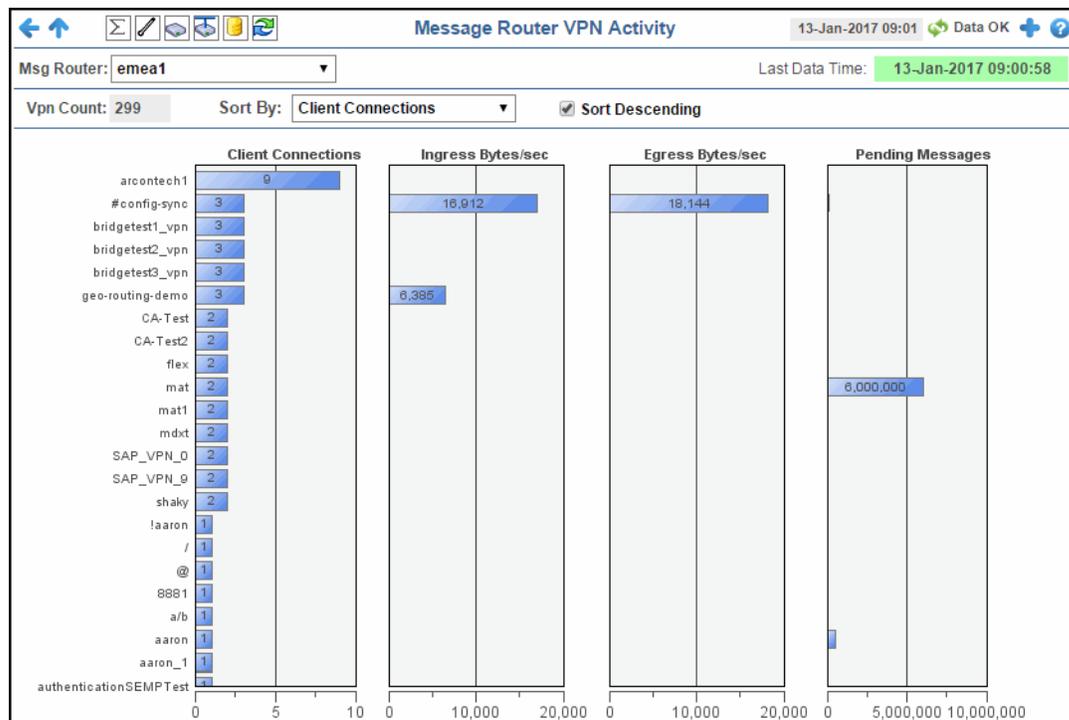
**[X]** A message router is expired when the drop-down menu name is appended with **[X]**.

- When the display background color is light red  the data is stale.
- The **Last Data Time** | Last Data Time: 15-Aug-2016 14:34:00 | shows the date and time the selected message router was last updated.

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 (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- open commonly accessed displays.
- 6,047** The number of items currently in the display.

- Data OK** Data connection state. Red indicates 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.
- 23-Mar-2017 12:04** Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the **Alert Views - RTView Alerts Table** 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:**

|                                         |                                                                                                                                                                                                                                   |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Clients</b>                          | 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.                                 |
| <b>Average Ingress Bytes per Minute</b> | 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. |
| <b>Average Egress Bytes per Minute</b>  | 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. |

## Neighbors

These displays provide detailed data and statuses for CSPF neighbor message routers. Check trends on network traffic among CSPF neighbors. Displays in this View are:

- [“CSPF Neighbors” on page 76](#): 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.
- [“Neighbor Summary” on page 78](#): View detailed performance metrics for a single Solace neighbor message router that uses the CSPF routing protocol.

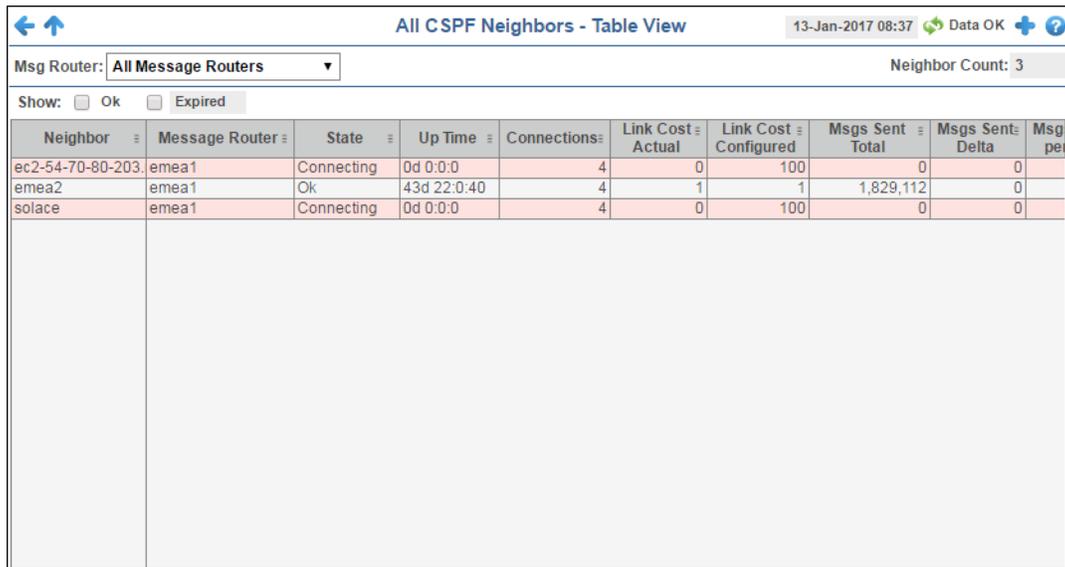
### CSPF Neighbors

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.

**Data Quality Indicators:**

**[?]** A message router is disconnected when the drop-down menu name is appended with **[?]**.

[X] A message router is expired when the drop-down menu name is appended with [X].



| Neighbor         | Message Router | State      | Up Time     | Connections | Link Cost Actual | Link Cost Configured | Msgs Sent Total | Msgs Sent Delta | Message Router |
|------------------|----------------|------------|-------------|-------------|------------------|----------------------|-----------------|-----------------|----------------|
| ec2-54-70-80-203 | emea1          | Connecting | 0d 0:0:0    | 4           | 0                | 100                  | 0               | 0               |                |
| emea2            | emea1          | Ok         | 43d 22:0:40 | 4           | 1                | 1                    | 1,829,112       | 0               |                |
| solace           | emea1          | Connecting | 0d 0:0:0    | 4           | 0                | 100                  | 0               | 0               |                |

#### Title Bar (possible features are):

-   Open the previous and upper display.
-  Open an instance of this display in a new window.
-  Open the online help page for this display.
-   open commonly accessed displays.
-  6,047 The number of items currently in the display.

-  Data OK Data connection state. Red indicates 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.
-  23-Mar-2017 12:04 Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green Data OK icon is a strong indication that data is current and valid.
-  Open the Alert Views - RTView Alerts Table display.

#### Filter By:

The display might include these filtering options:

**Msg Router:** Choose a message router or **All Message Routers** to show data for in the display.

#### Fields and Data:

**Neighbor Count:** The number of neighbor message routers connected to the selected **Msg Router**.

**Show: OK** Select to *only* show neighbor message routers that are connected (**State** is **OK**). By default, this option is not selected (all neighbor message routers are shown).

**Expired** Select to show *both* expired and non-expired neighbor message routers. By default, this option is not selected (only non-expired neighbor message routers are shown).

#### Table:

Each table role is a different neighbor message router.

**Neighbor** The name of the neighbor message router.

**Message Router** The name of the message router.

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>State</b>                | The current state of the message router.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Up Time</b>              | The amount of time the message router has been up and running.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Connections</b>          | The number of connections.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Link Cost Actual</b>     | Refer to Solace documentation for more information.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Link Cost Configured</b> | Refer to Solace documentation for more information.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Data Port</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 <code>\$solRowExpirationTime</code> field in the <code>conf\rtvapp_solmon.properties</code> file. The <code>\$solRowExpirationTimeForDelete</code> 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 <code>.properties</code> 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

## Neighbor Summary

View neighbor message router current configuration details and message throughput rates.

Select a message router and a neighbor message router from the drop down menus. Check message throughput rates to the neighbor message router, as well as neighbor **Up Time**, **State**, **Data Port**, number of connections and link costs.

### Data Quality Indicators:

**[?]** A message router is disconnected when the drop-down menu name is appended with **[?]**.

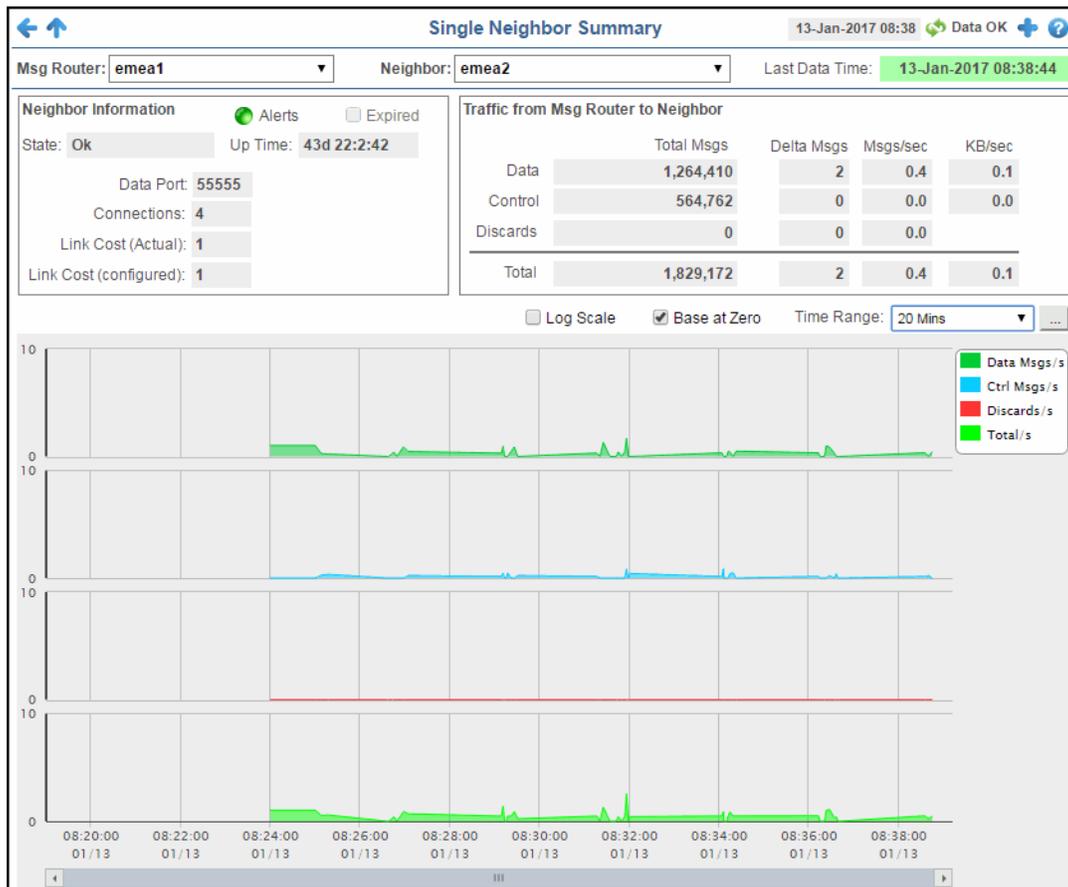
**[X]** A message router is expired when the drop-down menu name is appended with **[X]**.

- When the display background color is light red  the data is stale.
- The **Last Data Time** | Last Data Time: 15-Aug-2016 14:34:00 | shows the date and time the neighbor message router was last updated.

If the **Last Data Time** background is:

-  (Red) the neighbor message router is offline or expired.
-  (Green) the neighbor message router is connected and receiving data.

The trend graph traces the current and historical message throughput (**Data**, **Control**, **Discards** and **Total**).



#### Title Bar (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- Menu** **Table** open commonly accessed displays.
- 6,047** The number of items currently in the display.

**Data OK** Data connection state. Red indicates 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.

**23-Mar-2017 12:04** Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.

Open the Alert Views - RTView Alerts Table 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.
- Neighbor:** Choose the neighbor 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.

**Neighbor Information****Alerts**

Indicates the severity level for the neighbor 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.

**Expired**

When checked, performance data about the message router has not been received within the time specified (in seconds) in the `$solRowExpirationTime` field in the `conf\rtvapm_solmon.properties` file. The `$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 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=$solRowExpirationTime:45
collector.sl.rtvview.sub=$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.

**State**

The current state of the neighbor message router.

**Up Time**

The amount of time the neighbor message router has been up and running.

**Data Port**

Refer to Solace documentation for more information.

**Connections**

The number of connections on the neighbor message router.

**Link Cost (Actual)**

Refer to Solace documentation for more information.

**Link Cost (configured)**

Refer to Solace documentation for more information.

**Traffic from Message Router to Neighbor**

|             |                   |                                                                                                                                                                 |
|-------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Data</b> | <b>Total Msgs</b> | The total number of messages sent from the selected <b>Msg Router</b> to the selected <b>Neighbor</b> message router since the message router was last started. |
|             | <b>Delta Msgs</b> | The total number of messages sent from the selected <b>Msg Router</b> to the selected <b>Neighbor</b> message router since the last data update.                |
|             | <b>Msgs/sec</b>   | The number of messages sent, per second, from the selected <b>Msg Router</b> to the selected <b>Neighbor</b> message router.                                    |

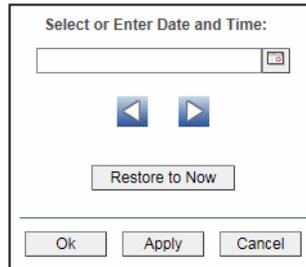
|                 |                   |                                                                                                                                                                           |
|-----------------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 | <b>KB/sec</b>     | The amount of messages sent, in kilobytes, from the selected <b>Msg Router</b> to the selected <b>Neighbor</b> message router.                                            |
| <b>Control</b>  | <b>Total Msgs</b> | Refer to Solace documentation for more information.                                                                                                                       |
|                 | <b>Delta Msgs</b> | Refer to Solace documentation for more information.                                                                                                                       |
|                 | <b>Msgs/sec</b>   | Refer to Solace documentation for more information.                                                                                                                       |
|                 | <b>KB/sec</b>     | Refer to Solace documentation for more information.                                                                                                                       |
| <b>Discards</b> | <b>Total Msgs</b> | The total number of discarded messages sent from the selected <b>Msg Router</b> to the selected <b>Neighbor</b> message router since the message router was last started. |
|                 | <b>Delta Msgs</b> | The total number of discarded messages sent from the selected <b>Msg Router</b> to the selected <b>Neighbor</b> message router since the last data update.                |
|                 | <b>Msgs/sec</b>   | The number of discarded messages sent, per second, from the selected <b>Msg Router</b> to the selected <b>Neighbor</b> message router.                                    |
|                 | <b>KB/sec</b>     | The amount of discarded messages sent, in kilobytes, from the selected <b>Msg Router</b> to the selected <b>Neighbor</b> message router.                                  |
| <b>Total</b>    | <b>Total Msgs</b> | The sum total of messages sent from the selected <b>Msg Router</b> to the selected <b>Neighbor</b> message router since the message router was last started.              |
|                 | <b>Delta Msgs</b> | The sum total of messages sent from the selected <b>Msg Router</b> to the selected <b>Neighbor</b> message router since the last data update.                             |
|                 | <b>Msgs/sec</b>   | The sum total of messages sent, per second, from the selected <b>Msg Router</b> to the selected <b>Neighbor</b> message router.                                           |
|                 | <b>KB/sec</b>     | The sum total of messages sent, in kilobytes, from the selected <b>Msg Router</b> to the selected <b>Neighbor</b> message router.                                         |

### Trend Graphs

Traces the rates of messages sent from the selected **Msg Router** to the selected **Neighbor** message router.

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Data Msgs</b>      | Refer to Solace documentation for more information.                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Ctrl Msgs/ sec</b> | Refer to Solace documentation for more information.                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Discards/ sec</b>  | Traces the number of discarded messages sent, per second, from the selected <b>Msg Router</b> to the selected <b>Neighbor</b> message router.                                                                                                                                                                                                                                                                                                          |
| <b>Total</b>          | Traces the sum total of messages sent from the selected <b>Msg Router</b> to the selected <b>Neighbor</b> message router since the message router was last started.                                                                                                                                                                                                                                                                                    |
| <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.

## 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 82](#): A color-coded heatmap view of the current status of all VPNs configured on a specific message router.
- [“All VPNs Table” on page 86](#): A tabular view of all available data for all VPNs configured on a specific router.
- [“Top VPNs Grid” on page 91](#): Lists VPNs configured on a specific message router, in ascending or descending order, based on a selected metric.
- [“Single VPN Summary” on page 92](#): Current and historical metrics for a single VPN.

### All VPNs Heatmap

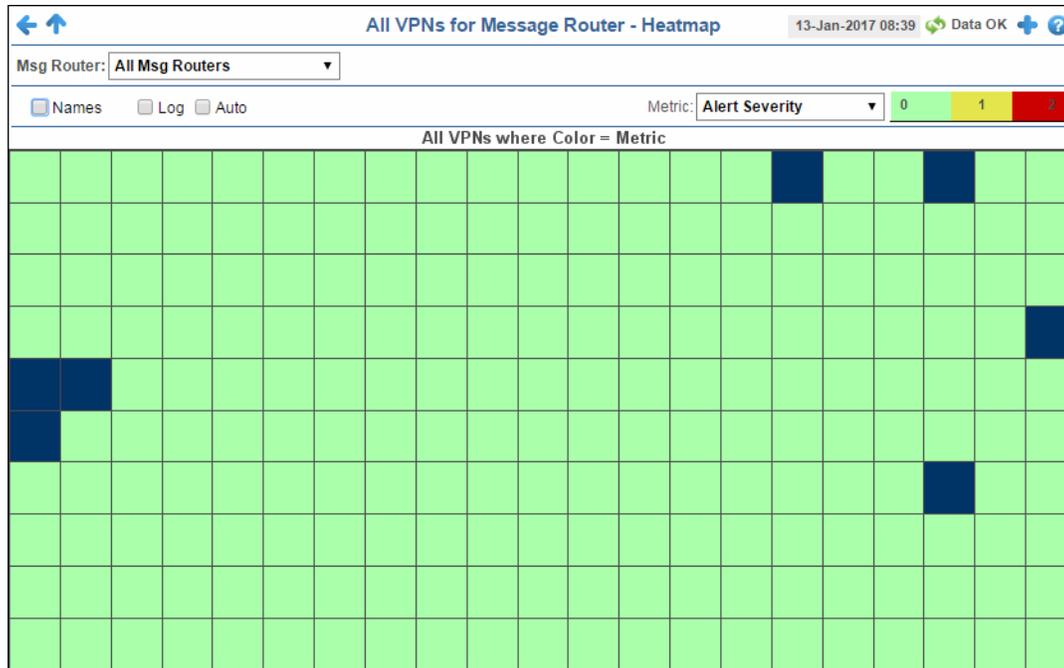
View the status of all VPNs configured on a specific message router in a heatmap format, which allows you to quickly identify VPNs with critical alerts. Each rectangle in the heatmap represents a VPN. The rectangle color indicates the alert state for each VPN.

#### Data Quality Indicators:

**[?]** A message router is disconnected when the drop-down menu name is appended with **[?]**.

**[X]** A message router is expired when the drop-down menu name is appended with **[X]**.

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 (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- open commonly accessed displays.
- The number of items currently in the display.

- Data OK** Data connection state. Red indicates 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.
- Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the **Alert Views - RTView Alerts Table** display.

#### Filter By:

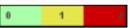
The display might include these filtering options:

**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.

|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <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>Visually displays the level at which the VPN has or has not exceeded its alarm level threshold. 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. 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>Connections</b>     | <p>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 <b>SolVpnConnectionCountHigh</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>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>SolAppliancePendingMsgsHigh</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 <b>0</b> 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/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/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/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 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 <b>0</b> 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 Outbound 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 <b>0</b> 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 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>SoIVpnInboundDiscardRateHigh</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 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>SoIVpnOutboundDiscardRateHigh</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.

Each table row is a different VPN. 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.

### Data Quality Indicators:

**[?]** A message router is disconnected when the drop-down menu name is appended with **[?]**.

**[X]** A message router is expired when the drop-down menu name is appended with **[X]**.

Double-click a row to drill-down and investigate in the “Single VPN Summary” display.

| All VPNs Table                                                                      |                |                |             |                          |                                     |              |                                     |                                     |           |                |
|-------------------------------------------------------------------------------------|----------------|----------------|-------------|--------------------------|-------------------------------------|--------------|-------------------------------------|-------------------------------------|-----------|----------------|
| Msg Router: All Msg Routers                                                         |                |                |             |                          |                                     |              |                                     |                                     |           | VPN Count: 299 |
| Show: <input type="checkbox"/> Expired <input checked="" type="checkbox"/> Disabled |                |                |             |                          |                                     |              |                                     |                                     |           |                |
| VPN Name                                                                            | Message Router | Alert Severity | Alert Count | Mgmt Msg VPN             | Enabled                             | Local Status | Operational                         | Locally Configured                  | Dist Mgmt |                |
| laaron                                                                              | emea1          |                | 0           | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Up           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |           |                |
| /                                                                                   | emea1          |                | 0           | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Up           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |           |                |
| @                                                                                   | emea1          |                | 0           | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Up           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |           |                |
| #config-sync                                                                        | emea1          |                | 0           | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Up           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |           |                |
| 8881                                                                                | emea1          |                | 0           | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Up           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |           |                |
| a/b                                                                                 | emea1          |                | 0           | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Up           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |           |                |
| aaron                                                                               | emea1          |                | 0           | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Up           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |           |                |
| aaron_1                                                                             | emea1          |                | 0           | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Up           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |           |                |
| aaron_jpmc_dev                                                                      | emea1          |                | 0           | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Up           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |           |                |
| aaron_jpmc_prd                                                                      | emea1          |                | 0           | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Up           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |           |                |
| aaron_queue_test                                                                    | emea1          |                | 0           | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Up           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |           |                |
| aaron_test                                                                          | emea1          |                | 0           | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Up           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |           |                |
| adaptris1                                                                           | emea1          |                | 0           | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Up           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |           |                |
| aonther-dr                                                                          | emea1          |                | 0           | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Up           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |           |                |
| arcontech1                                                                          | emea1          |                | 0           | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Up           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |           |                |
| asdf                                                                                | emea1          |                | 0           | <input type="checkbox"/> | <input type="checkbox"/>            | Down         | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |           |                |
| atg1                                                                                | emea1          |                | 0           | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Up           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |           |                |
| authenticationSEMPTest                                                              | emea1          |                | 0           | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Up           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |           |                |
| B                                                                                   | emea1          |                | 0           | <input type="checkbox"/> | <input type="checkbox"/>            | Down         | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |           |                |
| barracuda_fx                                                                        | emea1          |                | 0           | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Up           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |           |                |
| bridgetest3_vpn                                                                     | emea1          |                | 0           | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Up           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |           |                |
| BT                                                                                  | emea1          |                | 0           | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Up           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |           |                |
| BT1                                                                                 | emea1          |                | 0           | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Up           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |           |                |
| BT2                                                                                 | emea1          |                | 0           | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Up           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |           |                |
| buhler                                                                              | emea1          |                | 0           | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Up           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |           |                |
| cafx1                                                                               | emea1          |                | 0           | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Up           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |           |                |

#### Title Bar (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- Menu , Table open commonly accessed displays.
- 6,047 The number of items currently in the display.

- Data OK Data connection state. Red indicates 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.
- 23-Mar-2017 12:04 Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green Data OK icon is a strong indication that data is current and valid.
- Open the Alert Views - RTView Alerts Table 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.

**Show:** **Expired** Select to include expired VPNs in the display and in the total **VPN Count**. An endpoint is expired when data has not been received for the time specified.

**Disabled** Select to include down VPNs in the display and in the total **VPN Count**. An endpoint is down when data has not been received for the time specified.

Blue indicates that the VPN is **Disabled**.

**Table:**

Column values describe the message router and its associated VPN.

● Gray indicates that the VPN is **Expired**.

● Blue indicates that the VPN is **Disabled**.

|                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>VPN Name</b>                    | The name of the VPN.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Message Router</b>              | The name of the message router.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Alert 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: <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>     | Indicates whether the distributed cache management has been enabled.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <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 NonPersistant 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 NonPersistant 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\rtvvpn_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

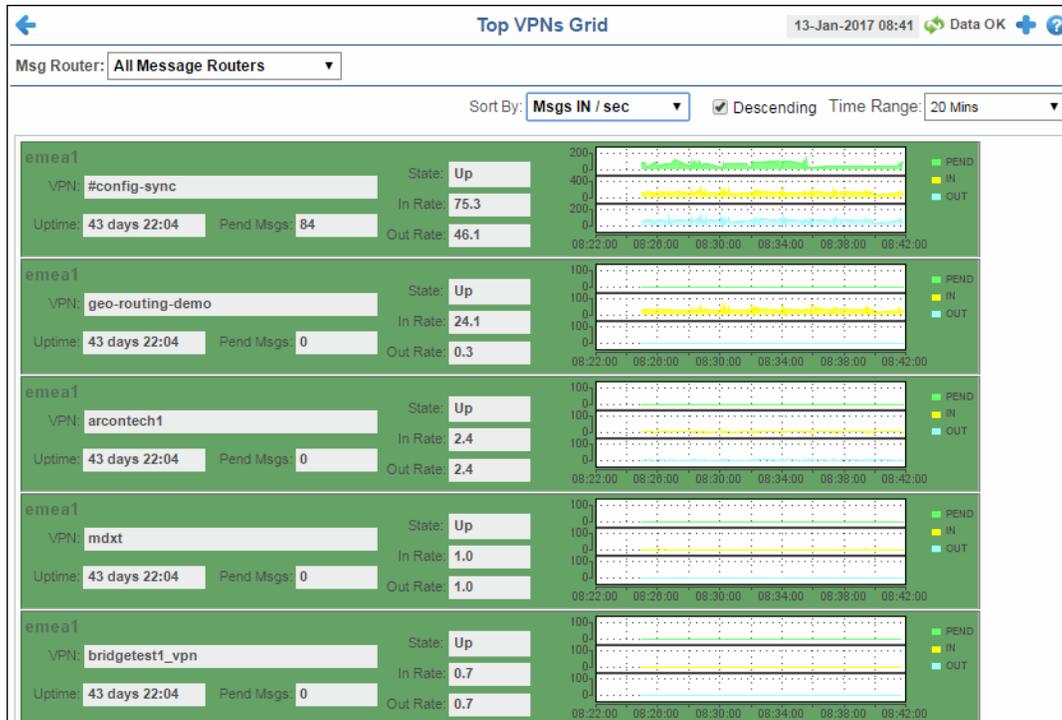
View the VPNs in ascending or descending order based on the number of pending messages, the number of incoming messages per second, or the number of outgoing messages per second.

### Data Quality Indicators:

**[?]** A message router is disconnected when the drop-down menu name is appended with **[?]**.

**[X]** A message router is expired when the drop-down menu name is appended with **[X]**.

Drill-down and investigate by clicking a row to view details for the selected VPN in the “[Single VPN Summary](#)” display.



### Title Bar (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- open commonly accessed displays.
- 6,047** The number of items currently in the display.

- Data OK** Data connection state. Red indicates 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.
- 23-Mar-2017 12:04** Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the **Alert Views - RTView Alerts Table** 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:

|                    |                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>VPN</b>         | 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. |

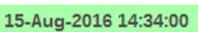
## Single VPN Summary

View alert, connection/destination, incoming message, outgoing message, and pending message information for a VPN.

#### Data Quality Indicators:

**[?]** A message router is disconnected when the drop-down menu name is appended with **[?]**.

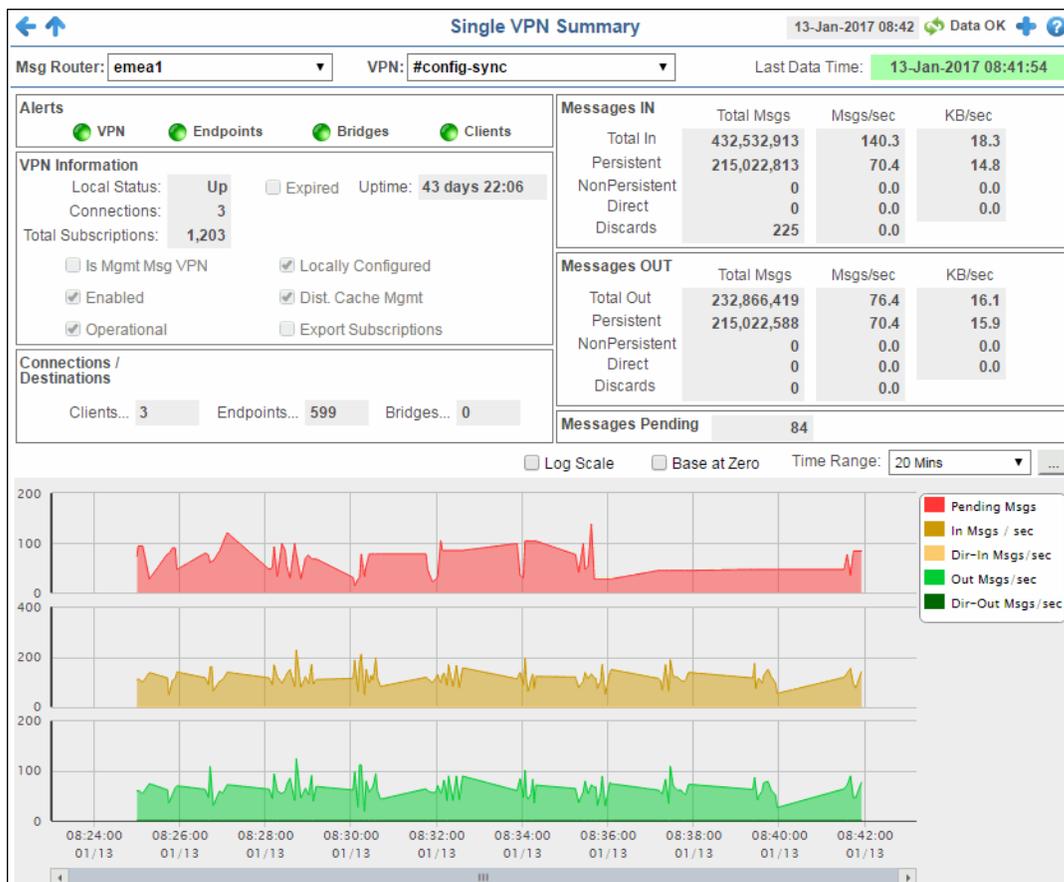
**[X]** A message router is expired when the drop-down menu name is appended with **[X]**.

- When the display background color is light red  the data is stale.
- The **Last Data Time** | Last Data Time:  | shows the date and time the selected message router was last updated.

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 (possible features are):

- ← ↑ Open the previous and upper display.
- + Open an instance of this display in a new window.
- ? Open the online help page for this display.
- Menu Table open commonly accessed displays.
- 6,047 The number of items currently in the display.

- Data OK Data connection state. Red indicates 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.
- 23-Mar-2017 12:04 Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green Data OK icon is a strong indication that data is current and valid.
- Open the Alert Views - RTView Alerts Table 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.

|                  |                                                                     |
|------------------|---------------------------------------------------------------------|
| <b>VPN</b>       | The current alert status for the VPN.                               |
| <b>Endpoints</b> | The current alert status for the endpoints associated with the VPN. |
| <b>Bridges</b>   | The current alert status for the bridges associated with the VPN.   |
| <b>Clients</b>   | The current alert status for the clients associated with the VPN.   |

**VPN Information**

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Local Status</b>         | The current status of the VPN.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Connections</b>          | The total number of connections for the VPN.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Total Subscriptions</b>  | The total number of subscriptions to 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>Uptime</b>               | If the VPN's <b>Local Status</b> is <b>Up</b> , this field displays the length of time that the VPN has been up and running.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Is Mgmt Msg VPN</b>      | Displays whether or not 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 SolAdmin.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Operational</b>          | When checked, this status indicates that the VPN has been enabled and is operating normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Locally Configured</b>   | 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Dist. Cache Mgmt</b>     | Indicates whether the distributed cache management has been enabled.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Export Subscriptions</b> | 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**

|                  |                                                   |
|------------------|---------------------------------------------------|
| <b>Clients</b>   | The total number of connected clients.            |
| <b>Endpoints</b> | The total number of endpoints.                    |
| <b>Bridges</b>   | The total number of bridges connected to the VPN. |

**Messages IN**

|                      |                                                                                                                                                                                                                                                          |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <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. |

**Messages OUT**

|                      |                                                                                                                                                                                                                                                          |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Total In</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. |

**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-Out 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 96](#): A tabular view of data for all clients configured on a VPN.
- [“Single Client Summary” on page 103](#): Current and historical metrics for a single client configured on a VPN.

### All Clients

This display allows you to view data for all clients configured on a VPN. Each table row is a different VPN client connection.

This display is populated by two caches, SolClientsStats and SolClients. SolClientsStats provides most of the data. SolClients provides the static data. If the SolClients cache encounters an issue the static fields in this display are blank.

#### Data Quality Indicators:

[?] A message router is disconnected when the drop-down menu name is appended with [?].

[X] A message router is expired when the drop-down menu name is appended with [X].

Gray indicates that the client connection is Expired.

Blue indicates that it is a processes that runs on the message router under the Solace OS.

Select the **Show: Expired** check box to include clients in the table that are marked as expired due to lack of response to message router polls for the client status. Select the **Internal** check box to include processes that run on the message router under the Solace OS.

Double-click a row to drill-down and investigate in the “Single Client Summary” display.

| All Clients Table                                                                   |                |                      |                |                   |          |              |  |
|-------------------------------------------------------------------------------------|----------------|----------------------|----------------|-------------------|----------|--------------|--|
| Msg Router: <b>emea1</b>                                                            |                | VPN: <b>All VPNs</b> |                | Client Count: 353 |          |              |  |
| Show: <input type="checkbox"/> Expired <input checked="" type="checkbox"/> Internal |                |                      |                |                   |          |              |  |
| Client Name                                                                         | Message Router | VPN                  | Alert Severity | Alert Count       | Type     | Uptime       |  |
| #client                                                                             | emea1          | laaron               |                | 0                 | Internal | 43 days 22:0 |  |
| #client                                                                             | emea1          | /                    |                | 0                 | Internal | 43 days 22:0 |  |
| #client                                                                             | emea1          | @                    |                | 0                 | Internal | 43 days 22:0 |  |
| #client                                                                             | emea1          | #config-sync         |                | 0                 | Internal | 43 days 22:0 |  |
| #config-sync/emea1                                                                  | emea1          | #config-sync         |                | 0                 | Primary  | 43 days 22:0 |  |
| #config-sync/emea2                                                                  | emea1          | #config-sync         |                | 0                 | Primary  | 43 days 22:0 |  |
| #client                                                                             | emea1          | 8881                 |                | 0                 | Internal | 43 days 22:0 |  |
| #client                                                                             | emea1          | a/b                  |                | 0                 | Internal | 43 days 22:0 |  |
| #client                                                                             | emea1          | aaron                |                | 0                 | Internal | 22 days 17:2 |  |
| #rdp/test                                                                           | emea1          | aaron                |                | 0                 | Internal | 0 days 00:0  |  |
| #client                                                                             | emea1          | aaron_1              |                | 0                 | Internal | 43 days 22:0 |  |
| #client                                                                             | emea1          | aaron_jpmc_dev       |                | 0                 | Internal | 43 days 22:0 |  |
| #client                                                                             | emea1          | aaron_jpmc_prd       |                | 0                 | Internal | 43 days 22:0 |  |
| #client                                                                             | emea1          | aaron_queue_test     |                | 0                 | Internal | 43 days 22:0 |  |
| #client                                                                             | emea1          | aaron_test           |                | 0                 | Internal | 43 days 22:0 |  |
| #client                                                                             | emea1          | adaptris1            |                | 0                 | Internal | 43 days 22:0 |  |
| #client                                                                             | emea1          | another-dr           |                | 0                 | Internal | 43 days 22:0 |  |
| #client                                                                             | emea1          | arcontech1           |                | 0                 | Internal | 43 days 22:0 |  |
| DESKTOPDEMO-PC/3724#00000001                                                        | emea1          | arcontech1           |                | 0                 | Primary  | 3 days 13:2  |  |
| DESKTOPDEMO-PC/3724#00000002                                                        | emea1          | arcontech1           |                | 0                 | Primary  | 3 days 13:2  |  |
| DESKTOPDEMO-PC/5744#00000001                                                        | emea1          | arcontech1           |                | 0                 | Primary  | 3 days 13:2  |  |

#### Title Bar (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- Menu** **Table** open commonly accessed displays.
- 6,047** The number of items currently in the display.

- Data OK** Data connection state. Red indicates 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.
- 23-Mar-2017 12:04** Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the Alert Views - RTView Alerts Table 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.

#### Fields and Data:

**Client Count** The number of VPN client connections listed in the display.

**Show: Expired** Select to include VPN client connections that are not currently active in the display and in the total **Client Count**. A client connection is expired when data has not been received for the time specified.

- Internal** Select to include processes that run on the message router under the Solace OS.
- Gray indicates that the client connection is Expired.
  - Blue indicates that it is a processes that runs on the message router under the Solace OS.

**Table:**

Column values describe the message router and its associated VPN.

- Gray indicates that the client connection is **Expired**.
- Blue indicates that client connection is a processes that runs on the message router under the Solace OS.

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Client Name</b>      | The name of the client.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Message Router</b>   | Lists the name of the selected message router.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>VPN</b>              | Lists the name of the selected VPN.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Alert 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: <ul style="list-style-type: none"> <li><input checked="" type="radio"/> Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.</li> <li><input type="radio"/> Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.</li> <li><input type="radio"/> 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\rtvadm_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.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 Client Summary

This display allows you to view the current and historical metrics for a single VPN client.

This display is populated by two caches, SolClientsStats and SolClients. SolClientsStats provides most of the data. SolClients provides the static data. If the SolClients cache encounters an issue the graphic elements that have no data are replaced with **N/A**.

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 for Message Routers:

**[?]** A message router is disconnected when the drop-down menu name is appended with **[?]**.

**[X]** A message router is expired when the drop-down menu name is appended with **[X]**.

- The **Last Data Time** | Last Data Time: 15-Aug-2016 14:34:00 | shows the date and time the selected message router was last updated.

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.
- (Gray) the selected message router is expired.

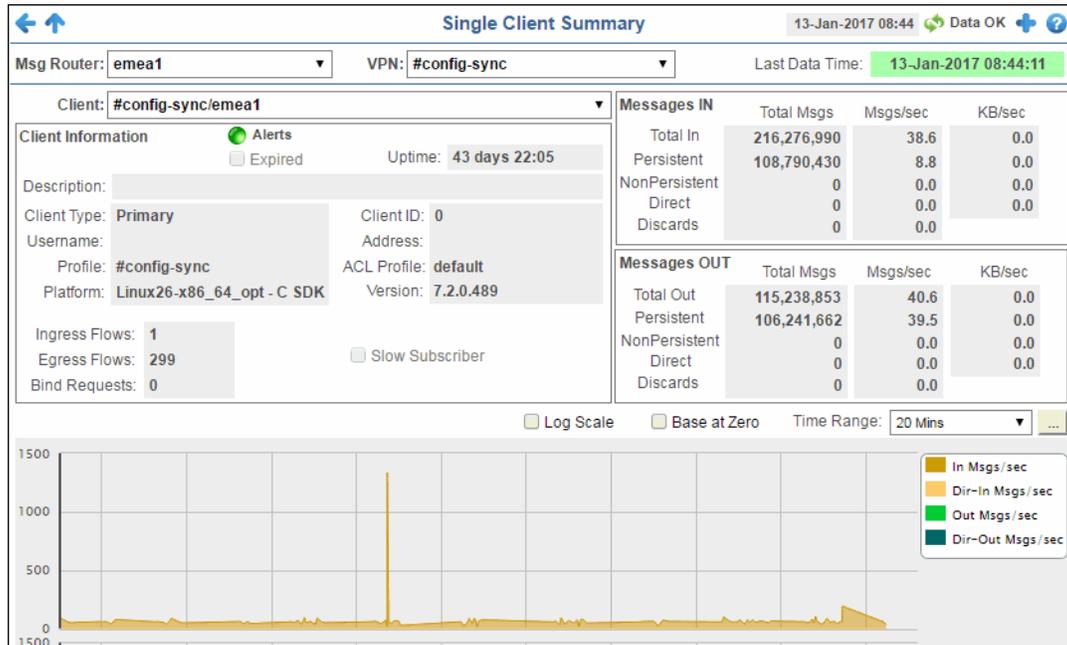
**[?]** Message routers are disconnected and clients are expired when the drop-down menu name is appended with **[?]**.

### Data Quality Indicators for Clients

If the display background color is:

- (Light Red) the selected client is offline and the **Alert State** is gray.
- (Gray) the selected client data is expired and the drop-down menu name is appended with **[X]**.

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 (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- Menu open commonly accessed displays.
- 6,047** The number of items currently in the display.

- Data OK** Data connection state. Red indicates 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.
- 23-Mar-2017 12:04** Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the **Alert Views - RTView Alerts Table** 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.

|                           |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------------------|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Client Information</b> | <b>Alerts</b>          | <p>The current status of the Alerts.</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>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\rtvvpn_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.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>Uptime</b>          | If the VPN's <b>Local Status</b> is <b>Up</b> , this field displays the length of time that the VPN has been up and running.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                           | <b>Description</b>     | The description of the client.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                           | <b>Client Type</b>     | The client type.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                           | <b>Username</b>        | The client's user name.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                           | <b>Profile</b>         | The client's profile.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                           | <b>Platform</b>        | The client's platform                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                           | <b>Client ID</b>       | The client ID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                           | <b>Address</b>         | The client's IP address.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                           | <b>ACL Profile</b>     | The access control list profile to which the client is assigned.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                           | <b>Version</b>         | The client's version number.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                           | <b>Ingress Flows</b>   | The number of message flows coming into the client.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|                           | <b>Egress Flows</b>    | The number of message flows going out of the client.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                           | <b>Bind Requests</b>   | The number of bind requests received by the client.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|                           | <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>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

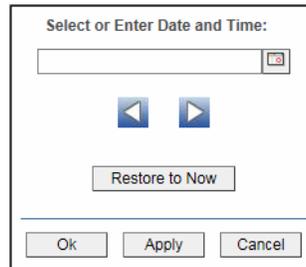
Traces the sum of process metrics for the client associated with the selected message router and VPN.

- **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 107](#): A tabular view of all available process performance data for all bridges configured on a VPN.
- [“Single Bridge Summary” on page 112](#): Current and historical metrics for a single bridge.

### All Bridges

This display allows you to view data for all bridges configured for a VPN. Each table row is a different VPN bridge, where:

- Gray indicates that the VPN bridge is Expired.
- Blue indicates that the VPN bridge is disabled.

#### Data Quality Indicators:

**[?]** A message router is disconnected when the drop-down menu name is appended with **[?]**.

**[X]** A message router is expired when the drop-down menu name is appended with **[X]**.

Rows listing bridges that are disabled or expired display with a shaded background. Double-click a row to drill-down and investigate in the “Single Bridge Summary” display.

| All Bridges Table                                                                   |                |                      |                |                  |                 |  |
|-------------------------------------------------------------------------------------|----------------|----------------------|----------------|------------------|-----------------|--|
| Msg Router: <b>emea1</b>                                                            |                | VPN: <b>All VPNs</b> |                | Bridge Count: 29 |                 |  |
| Show: <input type="checkbox"/> Expired <input checked="" type="checkbox"/> Disabled |                |                      |                |                  |                 |  |
| Bridge Name                                                                         | Message Router | Local VPN            | Alert Severity | Alert Count      | Remote VPN      |  |
| #bridgeV:emea1/bridgetest2_vpn/4                                                    | emea1          | bridgetest1_vpn      |                | 0                | bridgetest2_vpn |  |
| bridgetest3_to_bridgestest1                                                         | emea1          | bridgetest1_vpn      |                | 0                | bridgetest3_vpn |  |
| #bridgeV:emea1/bridgetest3_vpn/5                                                    | emea1          | bridgetest2_vpn      |                | 0                | bridgetest3_vpn |  |
| bridgetest1_to_bridgestest2                                                         | emea1          | bridgetest2_vpn      |                | 0                | bridgetest1_vpn |  |
| #bridgeV:emea1/bridgetest1_vpn/3                                                    | emea1          | bridgetest3_vpn      |                | 0                | bridgetest1_vpn |  |
| bridgetest2_to_bridgestest3                                                         | emea1          | bridgetest3_vpn      |                | 0                | bridgetest2_vpn |  |
| BT1toBT2                                                                            | emea1          | BT2                  |                | 0                |                 |  |
| test                                                                                | emea1          | CA-Test              |                | 0                | CA-Test2        |  |
| test                                                                                | emea1          | CA-Test2             |                | 0                | CA-Test         |  |
| d01_quasar_to_esb                                                                   | emea1          | d01_esb              |                | 0                |                 |  |
| d01_esb_to_indigo                                                                   | emea1          | d01_indigo           |                | 0                |                 |  |
| matbridge2                                                                          | emea1          | mat                  |                | 0                |                 |  |
| mat-mat1BidirBridge                                                                 | emea1          | mat                  |                | 0                | mat1            |  |
| myTest                                                                              | emea1          | mat                  |                | 0                |                 |  |
| bridge2                                                                             | emea1          | mat1                 |                | 0                | mat             |  |
| mat-mat1BidirBridge                                                                 | emea1          | mat1                 |                | 0                |                 |  |
| matsBridgeToVpnMat2                                                                 | emea1          | mat1                 |                | 0                |                 |  |
| matsBridgeToVpnMat2                                                                 | emea1          | matsCMS0101          |                | 0                |                 |  |
| matsBridgeToVpnMat2                                                                 | emea1          | matsCMSvpn           |                | 0                |                 |  |
| matsBridgeToVpnMat2                                                                 | emea1          | matsTestCMSvpn10     |                | 0                |                 |  |
| matsBridgeToVpnMat2                                                                 | emea1          | matsTestCMSvpn2      |                | 0                |                 |  |

#### Title Bar (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- Menu** **Table** open commonly accessed displays.
- 6,047** The number of items currently in the display.

- Data OK** Data connection state. Red indicates 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.
- 23-Mar-2017 12:04** Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the **Alert Views - RTView Alerts Table** 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.
- Show:**
  - Expired** Select to include expired VPN bridges in the display and in the total **Bridge Count**. A VPN bridge is expired when data has not been received for the time specified.
  - Disabled** Select to include down VPN bridge in the display and in the total **Bridge Count**. A VPN bridge is down when data has not been received for the time specified.
    - Blue border indicates that the VPN bridge is disabled.

**Table:**

Each table row is a different VPN bridge, where:

- Gray indicates that the VPN bridge is expired.
- Blue indicates that the VPN bridge is disabled.

|                                     |                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Message Router</b>               | 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. <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 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.   |

**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\rtv\apm\_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.

**Timestamp**

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:**

**[?]** A message router is disconnected when the drop-down menu name is appended with **[?]**.

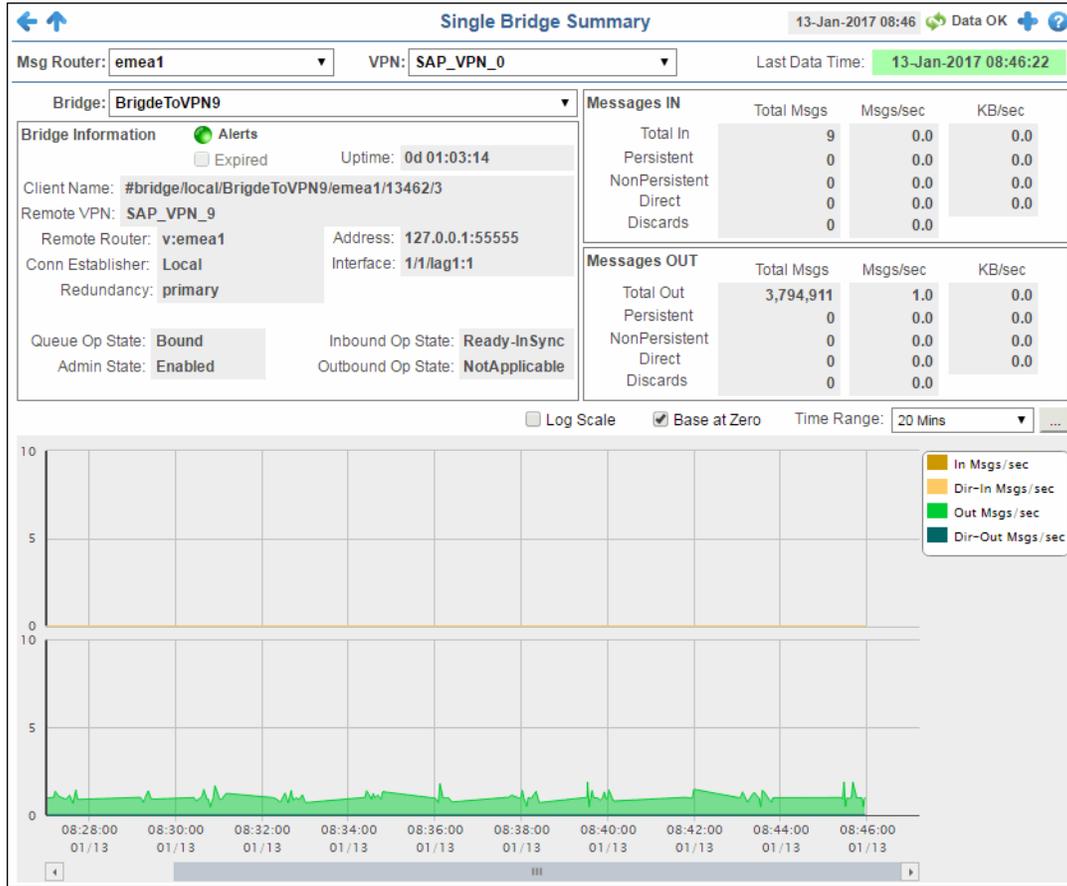
**[X]** A message router is expired when the drop-down menu name is appended with **[X]**.

- When the display background color is light red  the data is stale.
- The **Last Data Time** | Last Data Time: 15-Aug-2016 14:34:00 | shows the date and time the selected message router was last updated.

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 (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- Menu** **Table** open commonly accessed displays.
- 6,047** The number of items currently in the display.

- Data OK** Data connection state. Red indicates 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.
- 23-Mar-2017 12:04** Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the Alert Views - RTView Alerts Table 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.rtvapm.sub=$solRowExpirationTime:45
collector.sl.rtvapm.sub=$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).

**Inbound Op State**

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. |

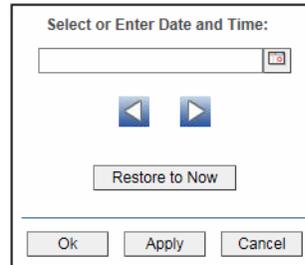
### Trend Graphs

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 116](#)
- ["Single Endpoint Summary" on page 119](#)
- ["Single Endpoint Summary Rates" on page 122](#)

## 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.

### Data Quality Indicators:

**[?]** A message router is disconnected when the drop-down menu name is appended with **[?]**.

**[X]** A message router is expired when the drop-down menu name is appended with **[X]**.

You can click a column header to sort column data in numerical or alphabetical order, or double-click a row to drill-down and investigate in the “[Single Endpoint Summary](#)” display.

| All Endpoints Table                                                                    |                |                                             |                |                    |               |                                     |                  |                   |
|----------------------------------------------------------------------------------------|----------------|---------------------------------------------|----------------|--------------------|---------------|-------------------------------------|------------------|-------------------|
| Msg Router: <input type="text" value="emea1"/>                                         |                | VPN: <input type="text" value="SAP_VPN_0"/> |                | Endpoint Count: 17 |               |                                     |                  |                   |
| Show: <input type="checkbox"/> Expired <input checked="" type="checkbox"/> <b>Down</b> |                |                                             |                |                    |               |                                     |                  |                   |
| Endpoint Name                                                                          | Message Router | VPN                                         | Alert Severity | Alert Count        | Endpoint Type | Durable                             | In Config Status | Out Config Status |
| ATANU_DQ                                                                               | emea1          | SAP_VPN_0                                   |                | 0                  | Queue         | <input checked="" type="checkbox"/> | Up               | Up                |
| BridgeQueue                                                                            | emea1          | SAP_VPN_0                                   |                | 0                  | Queue         | <input checked="" type="checkbox"/> | Up               | Up                |
| cct/dtc                                                                                | emea1          | SAP_VPN_0                                   |                | 0                  | Queue         | <input checked="" type="checkbox"/> | Up               | Up                |
| cct/measurements                                                                       | emea1          | SAP_VPN_0                                   |                | 0                  | Queue         | <input checked="" type="checkbox"/> | Up               | Up                |
| cct/vehicle                                                                            | emea1          | SAP_VPN_0                                   |                | 0                  | Queue         | <input checked="" type="checkbox"/> | Up               | Up                |
| columbus                                                                               | emea1          | SAP_VPN_0                                   |                | 0                  | Topic         | <input checked="" type="checkbox"/> | Up               | Up                |
| columbus01                                                                             | emea1          | SAP_VPN_0                                   |                | 0                  | Queue         | <input checked="" type="checkbox"/> | Up               | Up                |
| columbus02                                                                             | emea1          | SAP_VPN_0                                   |                | 0                  | Queue         | <input checked="" type="checkbox"/> | Up               | Up                |
| demoapp/test                                                                           | emea1          | SAP_VPN_0                                   |                | 0                  | Queue         | <input checked="" type="checkbox"/> | Up               | Up                |
| instance1/queue01                                                                      | emea1          | SAP_VPN_0                                   |                | 0                  | Queue         | <input checked="" type="checkbox"/> | Up               | Up                |
| manq                                                                                   | emea1          | SAP_VPN_0                                   |                | 0                  | Queue         | <input checked="" type="checkbox"/> | Up               | Up                |
| MatQ1                                                                                  | emea1          | SAP_VPN_0                                   |                | 0                  | Queue         | <input checked="" type="checkbox"/> | Up               | Up                |
| matsTE                                                                                 | emea1          | SAP_VPN_0                                   |                | 0                  | Topic         | <input checked="" type="checkbox"/> | Up               | Up                |
| myTopicEndpointJMS                                                                     | emea1          | SAP_VPN_0                                   |                | 0                  | Topic         | <input checked="" type="checkbox"/> | Up               | Up                |
| queue01                                                                                | emea1          | SAP_VPN_0                                   |                | 0                  | Queue         | <input checked="" type="checkbox"/> | Up               | Up                |
| queue02                                                                                | emea1          | SAP_VPN_0                                   |                | 0                  | Queue         | <input checked="" type="checkbox"/> | Up               | Up                |
| topic01                                                                                | emea1          | SAP_VPN_0                                   |                | 0                  | Topic         | <input checked="" type="checkbox"/> | Up               | Up                |

#### Title Bar (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- open commonly accessed displays.
- The number of items currently in the display.

- Data connection state. Red indicates 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.
- Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the **Alert Views - RTView Alerts Table** 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. When the **Expired** and **Down** options are selected they are included in the count.
- Show:**
  - Expired** Select to include expired endpoints in the display and in the total **Endpoint Count**. An endpoint is expired when data has not been received for the time specified.
  - Down** Select to include down endpoints in the display and in the total **Endpoint Count**. An endpoint is down when data has not been received for the time specified.

**Table:**

Each row in the table lists the details for a specific endpoint.

● Gray indicates that the endpoint is **Expired**.

● Blue indicates that the endpoint is **Down**.

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Endpoint Name</b>        | The name of the endpoint.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Message Router</b>       | Displays the name of the message router                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>VPN</b>                  | The name of the VPN.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Alert Severity</b>       | The current alert severity 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 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 a message router restart and are automatically restored as part of a 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:

**[?]** A message router is disconnected when the drop-down menu name is appended with **[?]**.

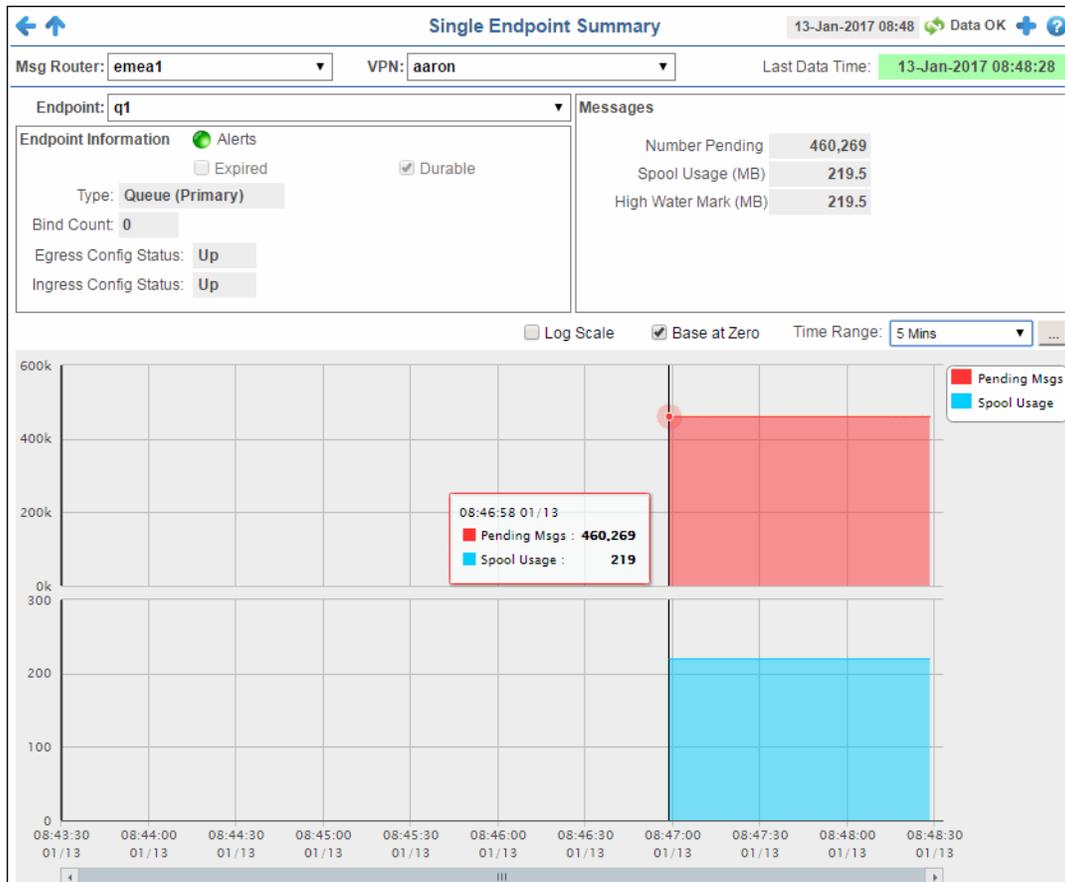
**[X]** A message router is expired when the drop-down menu name is appended with **[X]**.

- When the display background color is light red  the data is stale.
- The **Last Data Time** | Last Data Time: 15-Aug-2016 14:34:00 | shows the date and time the selected message router was last updated.

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 pool data for specific VPNs. However, if you do want to configure message pool 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 (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- Menu** **Table** open commonly accessed displays.
- 6,047** The number of items currently in the display.

- Data OK** Data connection state. Red indicates 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.
- 23-Mar-2017 12:04** Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the **Alert Views - RTView Alerts Table** 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.

**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

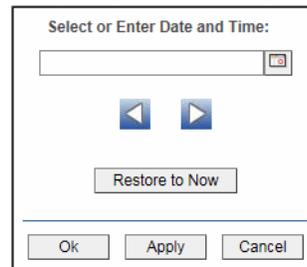
Traces the sum of process metrics for the endpoint associated with the selected message router and VPN.

- **Pending Msgs:** The number of pending messages.
- **Spool Usage:** The total spool usage consumed on the endpoint (in megabytes).

**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.

## 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 light red  the data is stale.
- The **Last Data Time** | Last Data Time: 15-Aug-2016 14:34:00 | shows the date and time the selected message router was last updated.

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 pool data for specific VPNs. However, if you do want to configure message pool monitoring for specific VPNs, then you should use this display instead, which is not included in the navigation tree by default. To collect message pool 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 pool monitoring for each VPN:

```
#collector.sl.rtview.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:

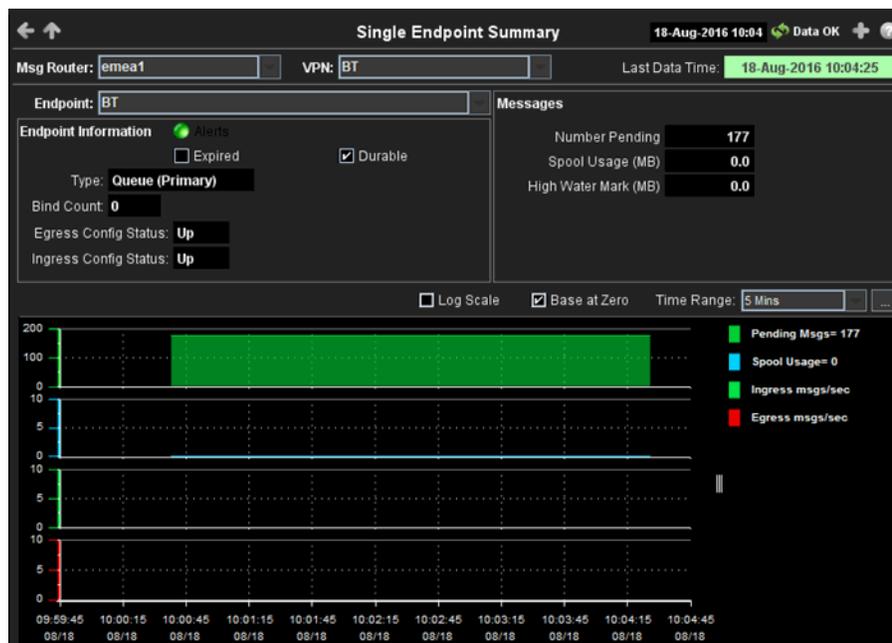
```
<node label="Single Endpoint Summary Rates" display="sol_endpoint_summaryWithRates"></node>
```

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.

---



**Title Bar** (possible features are):

-   Open the previous and upper display.
-  Open an instance of this display in a new window.
-  Open the online help page for this display.
- open commonly accessed displays.
- The number of items currently in the display.

 **Data OK** Data connection state. Red indicates 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.

Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.

 Open the **Alert Views - RTView Alerts Table** 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:

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.rtvapm.sub=$solRowExpirationTime:45
collector.sl.rtvapm.sub=$solRowExpirationTimeForDelete:3600
0
```

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.

|                 |                              |                                                                                                                                                                                                                                              |
|-----------------|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 | <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>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

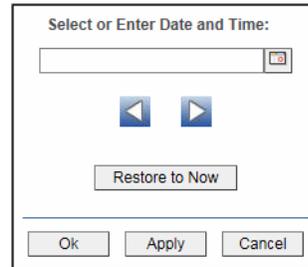
Traces the sum of process metrics for the endpoint associated with the selected message router and VPN.

- **Pending Msgs:** The number of pending messages.
- **Spool Usage:** The total spool usage consumed on the endpoint (in megabytes).
- **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 127](#): View client, spool usage, incoming messages, outgoing messages, incoming bytes, and outgoing bytes data for all message routers.
- [“Message Router Capacity” on page 127](#): 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 131](#): 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. Double-click a row to drill-down and investigate in the "Message Router Capacity" display.

| Connection | Max Severity | Alert Count | Current Client Connections | Connections High Water Mark | Connections Max | Connections Reserved | Connections Used % |
|------------|--------------|-------------|----------------------------|-----------------------------|-----------------|----------------------|--------------------|
| emea1      | ●            | 0           | 317                        | 317                         | 9,000           | 2,295,380            | 3.52               |

### Title Bar (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- open commonly accessed displays.
- The number of items currently in the display.

- Data OK Data connection state. Red indicates 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.
- Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green Data OK icon is a strong indication that data is current and valid.
- Open the Alert Views - RTView Alerts Table display.

## 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:

[?] A message router is disconnected when the drop-down menu name is appended with [?].

[X] A message router is expired when the drop-down menu name is appended with [X].

- When the display background color is light red ● the data is stale.
- The **Last Data Time** | Last Data Time:  shows the date and time the selected message router was last updated.

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 Capacity Summary |           |            |           |                                             |               |       |
|---------------------------------|-----------|------------|-----------|---------------------------------------------|---------------|-------|
| Msg Router: <b>emea1</b>        |           |            |           | Last Data Time: <b>13-Jan-2017 08:53:23</b> |               |       |
|                                 | Current   | 30 Day HWM | Max       | Reserved                                    | % Utilization |       |
|                                 |           |            |           |                                             | current       | HWM   |
| Clients:                        | 317       | 317        | 9,000     | 2,295,380                                   | 3.52          | 3.52  |
| Subscriptions:                  | 26,597    | 26,597     | 5,000,000 | 1,345,576,423                               | 0.53          | 0.53  |
| Spool Usage (MB):               | 1,611.79  | 1,611.80   | 4,000     | 5,857,500                                   | 40.29         | 40.29 |
| Spool Files:                    | 394       | 394        | 999,605   |                                             | 0.04          | 0.04  |
| Ingress Flows:                  | 9         | 9          | 16,000    |                                             | 0.05          | 0.06  |
| Ingress Msgs/s:                 | 111.00    | 139.00     | 100,000   |                                             | 0.11          | 0.14  |
| Egress Msgs/s:                  | 77.00     | 107.00     | 100,000   |                                             | 0.07          | 0.11  |
| Ingress Bytes/s:                | 22,848.00 | 40,466.00  | 2,000,000 |                                             | 1.14          | 2.02  |
| Egress Bytes/s:                 | 17,679.00 | 31,574.00  | 2,000,000 |                                             | 0.88          | 1.58  |
| Transacted Sessions:            | 0         | 0          | 16,000    |                                             | 0.00          | 0.00  |

|                               | % Utilization |  |
|-------------------------------|---------------|--|
| Delivered Unacked Msgs:       | 1.56          |  |
| Active Disk Partition:        | 0.53          |  |
| Standby Disk Partition:       | 0.08          |  |
| Transacted Session Resources: | 0.00          |  |
| Message Count:                | 1.29          |  |

**Title Bar (possible features are):**

- ← ↑ Open the previous and upper display.
- + Open an instance of this display in a new window.
- ? Open the online help page for this display.
- Menu ▾, Table open commonly accessed displays.
- 6,047 The number of items currently in the display.
- Data OK Data connection state. Red indicates 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.
- 23-Mar-2017 12:04 Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green Data OK icon is a strong indication that data is current and valid.
- Open the Alert Views - RTView Alerts Table 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** 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:**

**Count** The total number of message routers listed in the table.

|                         |                      |                                                                                                                                                                                                              |
|-------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Clients</b>          | <b>Current</b>       | 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> | <p><b>Current:</b> The current number of flows divided by the maximum number of flows allowed to come into the message router.</p> <p><b>HWM:</b> The highest utilization level in the last 30 days (in percent).</p>                |
| <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> | <p><b>Current:</b> The current number of incoming messages divided by the maximum number of messages allowed to come into the message router.</p> <p><b>HWM:</b> The highest utilization level in the last 30 days (in percent).</p> |
| <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> | <p><b>Current:</b> The current number of outgoing messages divided by the maximum number of messages allowed go out of the message router.</p> <p><b>HWM:</b> The highest utilization level in the last 30 days (in percent).</p>    |
| <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> | <p><b>Current:</b> The current number of incoming bytes divided by the maximum number of bytes allowed to come into the message router.</p> <p><b>HWM:</b> The highest utilization level in the last 30 days (in percent).</p>       |
| <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> | <p><b>Current:</b> The current number of outgoing bytes divided by the maximum number of bytes allowed go out of the message router.</p> <p><b>HWM:</b> The highest utilization level in the last 30 days (in percent).</p>          |
| <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:

**[?]** A message router is disconnected when the drop-down menu name is appended with **[?]**.

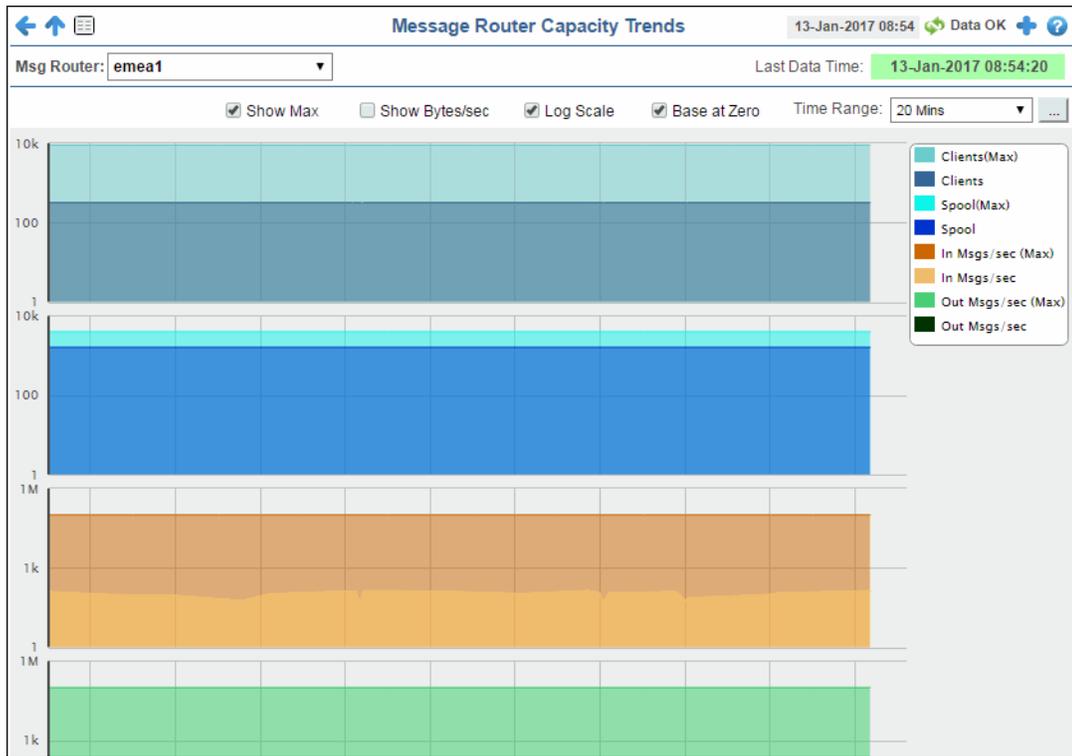
**[X]** A message router is expired when the drop-down menu name is appended with **[X]**.

- When the display background color is light red  the data is stale.
- The **Last Data Time** |Last Data Time: 15-Aug-2016 14:34:00 | shows the date and time the selected message router was last updated.

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** (possible features are):

- ← ↑ Open the previous and upper display.
- + Open an instance of this display in a new window.
- ? Open the online help page for this display.
- Menu, Table open commonly accessed displays.
- 6,047 The number of items currently in the display.

- Data OK Data connection state. Red indicates 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.
- 23-Mar-2017 12:04 Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green Data OK icon is a strong indication that data is current and valid.
- Open the Alert Views - RTView Alerts Table 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.

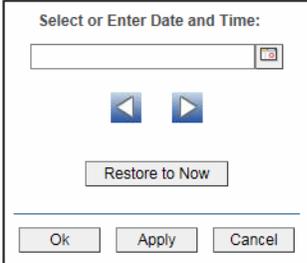
- **Clients (HWM)**: The highest number of clients connected to the message router on a particular day in the past 30 days.
- **Clients (Max)**: The maximum number of clients allowed to connect to the message router. This option only displays when the **Show Max** check box is selected.
- **Clients**: 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 134](#): 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.

| Timestamp                | Message Timestamp        | Host Address    | Facility | Severity | Tag      | Message Text                                                         |
|--------------------------|--------------------------|-----------------|----------|----------|----------|----------------------------------------------------------------------|
| 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   | sofLoanerNOTI_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   | sofLoanerNOTI_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 07:26:54.586 | 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 07:26:54.115 | 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 (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- open commonly accessed displays.
- The number of items currently in the display.

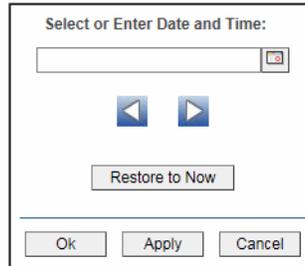
- Data connection state. Red indicates the Data Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the data source is connected.
- Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the Alert Views - RTView Alerts Table 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.                                                                                                                                                                                                                                                                                                                                                                                  |

## Alert Views

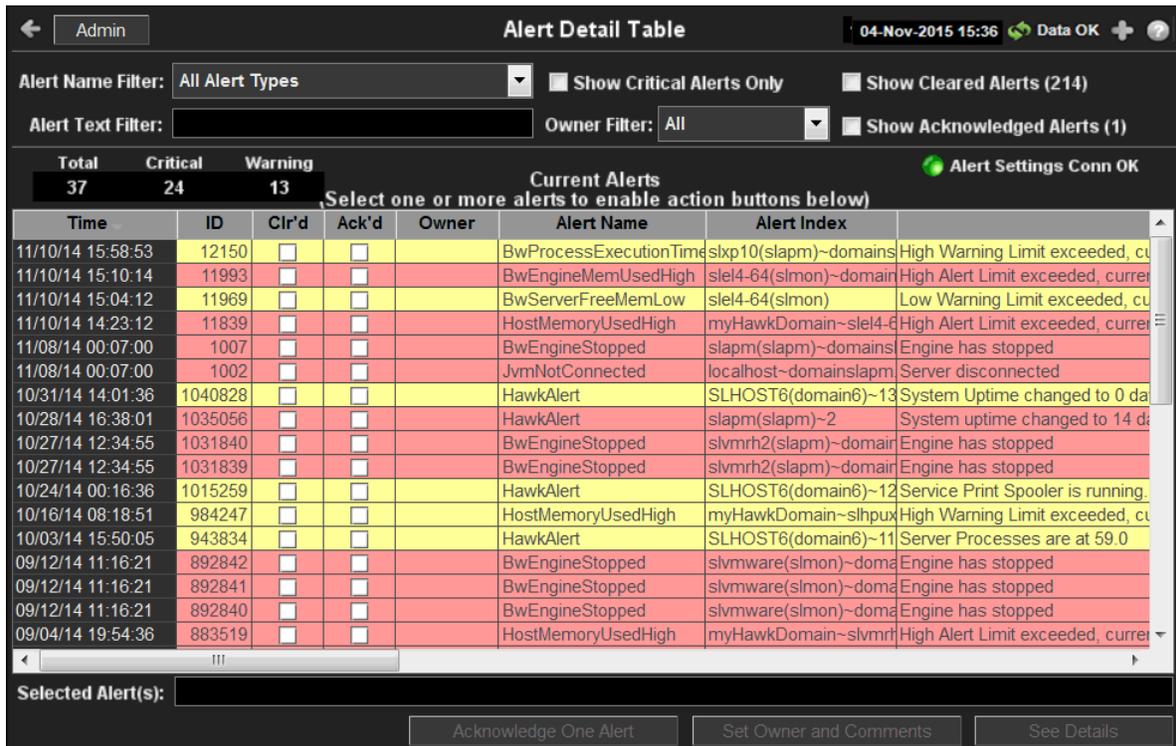
This display presents detailed information about all alerts that have occurred in your system. Displays in this View are:

- [“Alert Detail Table” on page 137](#): Time ordered list of all alerts that have occurred in the system.

## Alert Detail Table

Use this display to track and manage all alerts that have occurred in the system, add comments, acknowledge or assign Owners to alerts.

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 Sort  to order column data.



**Alert Detail Table** 04-Nov-2015 15:36 Data OK

Alert Name Filter: All Alert Types  Show Critical Alerts Only  Show Cleared Alerts (214)

Alert Text Filter:  Owner Filter: All  Show Acknowledged Alerts (1)

Total: 37 Critical: 24 Warning: 13 **Current Alerts** Alert Settings Conn OK

Select one or more alerts to enable action buttons below)

| Time              | ID      | Clr'd                    | Ack'd                    | Owner | Alert Name             | Alert Index                                             |
|-------------------|---------|--------------------------|--------------------------|-------|------------------------|---------------------------------------------------------|
| 11/10/14 15:58:53 | 12150   | <input type="checkbox"/> | <input type="checkbox"/> |       | BwProcessExecutionTime | slxp10(slapm)-domains High Warning Limit exceeded, cu   |
| 11/10/14 15:10:14 | 11993   | <input type="checkbox"/> | <input type="checkbox"/> |       | BwEngineMemUsedHigh    | slsl4-64(slmon)-domain High Alert Limit exceeded, curre |
| 11/10/14 15:04:12 | 11969   | <input type="checkbox"/> | <input type="checkbox"/> |       | BwServerFreeMemLow     | slsl4-64(slmon) Low Warning Limit exceeded, cu          |
| 11/10/14 14:23:12 | 11839   | <input type="checkbox"/> | <input type="checkbox"/> |       | HostMemoryUsedHigh     | myHawkDomain~slsl4-6 High Alert Limit exceeded, curre   |
| 11/08/14 00:07:00 | 1007    | <input type="checkbox"/> | <input type="checkbox"/> |       | BwEngineStopped        | slapm(slapm)-domains Engine has stopped                 |
| 11/08/14 00:07:00 | 1002    | <input type="checkbox"/> | <input type="checkbox"/> |       | JvmNotConnected        | localhost~domainslapm Server disconnected               |
| 10/31/14 14:01:36 | 1040828 | <input type="checkbox"/> | <input type="checkbox"/> |       | HawkAlert              | SLHOST6(domain6)-13 System Uptime changed to 0 da       |
| 10/28/14 16:38:01 | 1035056 | <input type="checkbox"/> | <input type="checkbox"/> |       | HawkAlert              | slapm(slapm)-2 System uptime changed to 14 d            |
| 10/27/14 12:34:55 | 1031840 | <input type="checkbox"/> | <input type="checkbox"/> |       | BwEngineStopped        | slvmrh2(slapm)-domair Engine has stopped                |
| 10/27/14 12:34:55 | 1031839 | <input type="checkbox"/> | <input type="checkbox"/> |       | BwEngineStopped        | slvmrh2(slapm)-domair Engine has stopped                |
| 10/24/14 00:16:36 | 1015259 | <input type="checkbox"/> | <input type="checkbox"/> |       | HawkAlert              | SLHOST6(domain6)-12 Service Print Spooler is running.   |
| 10/16/14 08:18:51 | 984247  | <input type="checkbox"/> | <input type="checkbox"/> |       | HostMemoryUsedHigh     | myHawkDomain~slhpux High Warning Limit exceeded, cu     |
| 10/03/14 15:50:05 | 943834  | <input type="checkbox"/> | <input type="checkbox"/> |       | HawkAlert              | SLHOST6(domain6)-11 Server Processes are at 59.0        |
| 09/12/14 11:16:21 | 892842  | <input type="checkbox"/> | <input type="checkbox"/> |       | BwEngineStopped        | slvmware(slmon)-doma Engine has stopped                 |
| 09/12/14 11:16:21 | 892841  | <input type="checkbox"/> | <input type="checkbox"/> |       | BwEngineStopped        | slvmware(slmon)-doma Engine has stopped                 |
| 09/12/14 11:16:21 | 892840  | <input type="checkbox"/> | <input type="checkbox"/> |       | BwEngineStopped        | slvmware(slmon)-doma Engine has stopped                 |
| 09/04/14 19:54:36 | 883519  | <input type="checkbox"/> | <input type="checkbox"/> |       | HostMemoryUsedHigh     | myHawkDomain~slvmrh High Alert Limit exceeded, curre    |

Selected Alert(s):

Acknowledge One Alert Set Owner and Comments See Details

### Title Bar (possible features are):

-   Open the previous and upper display.
-  Open an instance of this display in a new window.
-  Open the online help page for this display.
- Menu  Table open commonly accessed displays.
- 6,047 The number of items currently in the display.

-  Data OK Data connection state. Red indicates 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.
- 23-Mar-2017 12:04 Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green Data OK icon is a strong indication that data is current and valid.
-  Open the Alert Views - RTView Alerts 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.

**Fields and Data**

This display includes:

|                                  |                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Alert Name Filter</b>         | Select from a list of alert types or select All Alert Types. Filters limit display content and drop down menu selections to only those items that pass through the selected filter's criteria. Therefore if no items match the filter, you may see nothing in a given display and may not have any options available in the drop-down menu(s).<br><b>NOTE:</b> Filter selection is disabled on drill down summary displays. |
| <b>Show Critical Alerts Only</b> | If selected, only currently critical alerts are shown in the table. Otherwise, all active alerts are shown in the table.                                                                                                                                                                                                                                                                                                    |
| <b>Show Cleared Alerts</b>       | If selected, cleared alerts are shown in the table.                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Alert Text Filter</b>         | Enter all or part of the Alert Text to view specific alerts. For example, High selects and displays all alerts that include High in the Alert Text. <b>NOTE:</b> Wild card characters are supported.                                                                                                                                                                                                                        |
| <b>Owner Filter</b>              | Select the alert <b>Owner</b> to show alerts for 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>Show Acknowledged Alerts</b>  | If selected, acknowledged alerts are shown in the table.                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Total</b>                     | Total number of alerts.                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Critical</b>                  | Number of critical alerts.                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Warning</b>                   | Total number of alerts that are currently in a warning state.                                                                                                                                                                                                                                                                                                                                                               |
| <b>Alert Settings Conn OK</b>    | The Alert Server connection state:<br> Disconnected.<br> Connected.                                                                                                                                                                                   |

**Alerts Table**

This table lists all active alerts for the current filters.

|                                    |                                                                                                                                                                                      |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Time</b>                        | The time (Java format) that the alert was activated.                                                                                                                                 |
| <b>ID</b>                          | A unique string identifier assigned to each activated alert.                                                                                                                         |
| <b>Clr'd</b>                       | When checked, this typically indicates that the alert has been resolved. An alert is automatically cleared when the value being monitored no longer in the alert threshold.          |
| <b>Ack'd</b>                       | When checked, this typically indicates that the alert is being addressed.                                                                                                            |
| <b>Owner</b>                       | The named owner assigned by the administrator.                                                                                                                                       |
| <b>Alert Name</b>                  | The name of the alert. For a list of all alerts, see Alert Administration.                                                                                                           |
| <b>Alert Index</b>                 | The IP address and port number for the source (application, server, and so forth) associated with the alert.                                                                         |
| <b>Alert Text</b>                  | Descriptive text about the alert.                                                                                                                                                    |
| <b>Severity</b>                    | The severity of the alert:<br><b>0 = Normal</b><br><b>1 = Warning / Yellow</b><br><b>2 = Alarm / Red</b><br>The color for the alert severity is shown by the row in the alert table. |
| <b>Source</b>                      | Name of RTView Data Server sending this data (or localhost).                                                                                                                         |
| <b>Selected Alerts</b>             | Lists the alerts selected in the table.                                                                                                                                              |
| <b>Acknowledge One Alert</b>       | Select one alert from the Current Alerts table and click to acknowledge.                                                                                                             |
| <b>Acknowledge Multiple Alerts</b> | Select one or more alerts from the Current Alerts table and click to acknowledge.                                                                                                    |

**Set Owner and Comments**

Select one or more alerts from the Current Alerts table and click to open the Set Owner and Comments dialog.

**See Details**

Select an alert from the Current Alerts table and click to open the Set Owner and Comments dialog.

## Administration

These displays enable you to set alert thresholds, observe how alerts are managed, and view internal data gathered and stored by RTView (used for troubleshooting with SL Technical Support). Displays in this View are:

- [“Alert Administration” on page 140](#): Displays active alerts and provides interface to modify and manage alerts.
- [“Alert Administration Audit” on page 146](#): View cached data that RTView is capturing and maintaining, and use this data use this for debugging with SL Technical Support.
- [“RTView Cache Tables” on page 148](#): Display information about RTView Agent data servers.
- [“RTView Agent Admin” on page 150](#): Display information about RTView Agent data servers.

### Alert Administration

This section includes:

- [“Tabular Alert Administration” on page 143](#)
- [“Setting Override Alerts” on page 145](#)

Set global or override alert thresholds. Alert settings are global by default.

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 CI Type. For example, the EMS CI Type 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. The Index Types available are determined by the CI Type. For example, with the EMS CI Type you set an alert for a specific *topic* on a specific *server* (such as the PerServerTopic Index option), rather than for all topics on all servers.

For details about alerts for Solace, see **Appendix A, Alert Definitions**.

The screenshot shows the 'Alert Administration' interface. At the top, there is a title bar with a back arrow, the text 'Alert Administration', the date and time '03-Dec-2015 16:33', and a 'Data OK' indicator. Below the title bar, there is an 'Alert Filter' field with a 'Clear' button, a green indicator for 'Alert Engine Enabled', and a 'Disable' button. To the right, there is a red indicator for '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 table lists various alerts such as 'JvmCpuPercentHigh', 'JvmGcDutyCycleHigh', 'JvmMemoryUsedAfterGCHigh', etc., with their respective threshold values and durations.

Below the table, there is a section titled 'Settings for Selected Alert'. This section contains several input fields: 'Name' (with a dropdown menu showing '<select one alert from the table to edit>'), 'Warning Level', 'Duration (Secs.)', 'Description', 'Alarm Level', and 'Enabled' (a checkbox). A 'Save Settings' button is located at the bottom right of this section.

| Alert                         | Warning Level | Alarm Level | Duration | Alert Enabled            | Override Count |
|-------------------------------|---------------|-------------|----------|--------------------------|----------------|
| JvmCpuPercentHigh             | 50            | 75          | 30       | <input type="checkbox"/> |                |
| JvmGcDutyCycleHigh            | 50            | 75          | 30       | <input type="checkbox"/> |                |
| JvmMemoryUsedAfterGCHigh      | 1             | 80          | 0        | <input type="checkbox"/> |                |
| JvmMemoryUsedHigh             | 50            | 75          | 30       | <input type="checkbox"/> |                |
| JvmNotConnected               | NaN           | NaN         | 30       | <input type="checkbox"/> |                |
| JvmStateData                  | NaN           | NaN         | 30       | <input type="checkbox"/> |                |
| JvmThreadCountHigh            | 50            | 75          | 30       | <input type="checkbox"/> |                |
| SolBridgeInboundByteRateHigh  | 8000000       | 10000000    | 30       | <input type="checkbox"/> |                |
| SolBridgeInboundMsgRateHigh   | 40000         | 50000       | 30       | <input type="checkbox"/> |                |
| SolBridgeOutboundByteRateHigh | 8000000       | 10000000    | 30       | <input type="checkbox"/> |                |
| SolBridgeOutboundMsgRateHigh  | 40000         | 50000       | 30       | <input type="checkbox"/> |                |
| SolClientInboundByteRateHigh  | 8000000       | 10000000    | 30       | <input type="checkbox"/> |                |
| SolClientInboundMsgRateHigh   | 40000         | 50000       | 30       | <input type="checkbox"/> |                |
| SolClientOutboundByteRateHigh | 8000000       | 10000000    | 30       | <input type="checkbox"/> |                |
| SolClientOutboundMsgRateHigh  | 40000         | 50000       | 30       | <input type="checkbox"/> |                |
| SolClientSlowSubscriber       | 1             | NaN         | 30       | <input type="checkbox"/> |                |

**Title Bar** (possible features are):

-   Open the previous and upper display.
-  Open an instance of this display in a new window.
-  Open the online help page for this display.
- open commonly accessed displays.
- The number of items currently in the display.

 **Data OK** Data connection state. Red indicates 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.

Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.

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

|                        |                                                                                                                                                                                                                                                                                   |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <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. A value of:<br><b>-0</b> indicates that no overrides are applied to the alert.<br><b>-1</b> indicates that the alert does not support overrides. |

### 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" value="..."/> for more detail. |

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Warning Level</b>     | <p>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.</p> <p>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.</p> |
| <b>Alarm Level</b>       | <p>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.</p> <p>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.</p>                  |
| <b>Duration</b>          | <p>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. <b>0</b> is for immediate execution. This setting is global.</p>                                                                                                                                                                                                                                                                            |
| <b>Enabled</b>           | <p>Check to enable alert globally.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Save Settings</b>     | <p>Click to apply alert settings.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Override Settings</b> | <p>Click to open the <b>Tabular Alert Administration</b> display to set override alerts on the selected alert.</p>                                                                                                                                                                                                                                                                                                                                                                                |

### 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**.

The screenshot shows the 'Tabular Alert Administration' window. At the top, it displays the date and time '10-Nov-2014 09:35' and a status indicator 'Data OK'. Below this, the title is 'Override Settings For Alert: TbeBackingStoreLoadRateHigh' with a sub-status 'Alert Settings Conn OK'. The main area contains a table with the following data:

| Index Type | Index                                  | Override Settings                   | Warning Level | Alarm Level | Alert Enabled                       |
|------------|----------------------------------------|-------------------------------------|---------------|-------------|-------------------------------------|
| PerBECache | new51Cache~be_gen_Events_CreateAccount | <input checked="" type="checkbox"/> | 80            | 95          | <input checked="" type="checkbox"/> |

Below the table, there are input fields for 'Index Type' (set to 'PerBECache') and 'Index' (set to 'new51Cache~be\_gen\_Events\_CreateAccount'). To the right are 'Add', 'Remove', and 'Save Settings' buttons. Below these is a section for 'Unassigned Indexes' with a table:

| Connection | beCacheName                            |
|------------|----------------------------------------|
| new51Cache | be_gen_Concepts_Account                |
| new51Cache | be_gen_Events_AccountOperations        |
| new51Cache | be_gen_Events_Debit                    |
| new51Cache | be_gen_Events_Deposit                  |
| new51Cache | be_gen_Events_Unsuspend                |
| new51Cache | be_gen_FraudCriteria                   |
| new51Cache | com_fibco_cep_runtime_model_element... |

To the right of the unassigned indexes is the 'Alert Settings' section with input fields for 'Warning Level' (80.0) and 'Alarm Level' (95.0), and checkboxes for 'Alert Enabled' and 'Override Settings', both of which are checked. A 'Back to Alerts' button is at the bottom right.

### Fields and Data

This display includes:

- Alert Settings Conn OK**
- 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 CI Type. For example, the EMS Monitor has the following Index Types:
- 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.

|                           |                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Override Settings</b>  | When checked, the override settings are applied.                                                                                                                                                                                                                                                                                                                                     |
| <b>Alert Enabled</b>      | When checked, the alert is enabled.                                                                                                                                                                                                                                                                                                                                                  |
| <b>Index Type</b>         | 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. <b>NOTE:</b> Options in this drop-down menu are populated by the type of alert selected from the <b>Alert Administration</b> display. Index Types available depend on the Package installed. |
| <b>Index</b>              | The selected index column to be edited. This field is populated by the selection made in the <b>Unassigned Indexes</b> table.                                                                                                                                                                                                                                                        |
| <b>Unassigned Indexes</b> | 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 <b>Index</b> field. Edit settings in the <b>Alert Settings</b> fields, then click <b>Add</b> .                                                                                               |
| <b>Add</b>                | Click to add changes made in <b>Alert Settings</b> , then click <b>OK</b> to confirm.                                                                                                                                                                                                                                                                                                |
| <b>Remove</b>             | Click to remove an alert selected in the <b>Index Alert Settings</b> table, then click <b>OK</b> to confirm.                                                                                                                                                                                                                                                                         |
| <b>Save Settings</b>      | 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.

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Warning Level</b>     | <p>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.</p> <p><b>NOTE:</b> 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.</p> <p>Click <b>Save Settings</b> to save settings.</p> |
| <b>Alarm Level</b>       | <p>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.</p> <p><b>NOTE:</b> 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. Click <b>Save Settings</b> to save settings.</p>                         |
| <b>Alert Enabled</b>     | Check to enable the alert, then click <b>Save Settings</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Override Settings</b> | Check to enable override global setting, then click <b>Save Settings</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Back to Alerts</b>    | Returns to the <b>Administration - Alert Administration</b> display.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

## Setting Override Alerts

Perform the following steps to set an override alert. Index Types available depend on the CI Type. 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 an alert in the **Active Alert Table** and click **Edit Index Levels**. The **Tabular Alert Administration** display opens.
2. In the **Tabular Alert Administration** display, from the **Index Type** drop-down menu, select the Index type (options are populated by the type of alert you previously selected). For example, with the EMS Monitor, 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 **Values** table, select the server to apply alert settings and click **Add**. In a few moments the server appears in the **Index Alert Settings** table.
4. In the **Index Alert Settings** table select the server.
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.  
**Levels Enabled** Select this option.  
To turn off the alert for only this index (global alert thresholds will no longer apply to this index):  
**Alert Enabled** Deselect this option.  
**Levels Enabled** 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.  
**Levels Enabled** Deselect this option.
7. Click **Save Settings**. In a few moments the modifications are updated in the **Index Alert Settings** table.

## Alert Administration 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, sort the **ALERTNAME** column using the button.

| TIME_STAMP        | USER                    | ACTION | ALERTNAME                    | INDEXTYPE | ALERTINDEX | WARNII |
|-------------------|-------------------------|--------|------------------------------|-----------|------------|--------|
| 10/20/14 15:07:37 | RTView.GmsRtViewAlertDs | ADDED  | TbeRuleFiringRateHigh        | Default   | Default    |        |
| 10/20/14 15:07:37 | RTView.GmsRtViewAlertDs | ADDED  | TbeObjectTableExtIdSize      | Default   | Default    |        |
| 10/20/14 15:07:37 | RTView.GmsRtViewAlertDs | ADDED  | TbeObjectTableSize           | Default   | Default    |        |
| 10/20/14 15:07:37 | RTView.GmsRtViewAlertDs | ADDED  | TbeNodeEventsRemoveRateHi    | Default   | Default    |        |
| 10/20/14 15:07:37 | RTView.GmsRtViewAlertDs | ADDED  | TbeNodeEventsPutRateHigh     | Default   | Default    |        |
| 10/20/14 15:07:37 | RTView.GmsRtViewAlertDs | ADDED  | TbeNodeEventsGetRateHigh     | Default   | Default    |        |
| 10/20/14 15:07:37 | RTView.GmsRtViewAlertDs | ADDED  | TbeNodeConceptsRemoveRat     | Default   | Default    |        |
| 10/20/14 15:07:37 | RTView.GmsRtViewAlertDs | ADDED  | TbeNodeConceptsPutRateHigh   | Default   | Default    |        |
| 10/20/14 15:07:37 | RTView.GmsRtViewAlertDs | ADDED  | TbeNodeConceptsGetRateHigh   | Default   | Default    |        |
| 10/20/14 15:07:37 | RTView.GmsRtViewAlertDs | ADDED  | TbeDestinationStatusRecvdEv  | Default   | Default    |        |
| 10/20/14 15:07:37 | RTView.GmsRtViewAlertDs | ADDED  | TbeBackingStoreStoreRateHigh | Default   | Default    |        |
| 10/20/14 15:07:37 | RTView.GmsRtViewAlertDs | ADDED  | TbeBackingStoreLoadRateHigh  | Default   | Default    |        |
| 10/20/14 15:07:37 | RTView.GmsRtViewAlertDs | ADDED  | TbeBackingStoreEraseRateHigh | Default   | Default    |        |
| 10/20/14 15:07:37 | RTView.GmsRtViewAlertDs | ADDED  | TbeNodeConnectionLoss        | Default   | Default    |        |
| 10/20/14 15:07:37 | RTView.GmsRtViewAlertDs | ADDED  | JvmNotConnected              | Default   | Default    |        |
| 10/20/14 15:07:37 | RTView.GmsRtViewAlertDs | ADDED  | JvmGcDutyCycleHigh           | Default   | Default    |        |
| 10/20/14 15:07:37 | RTView.GmsRtViewAlertDs | ADDED  | JvmMemoryUsedHigh            | Default   | Default    |        |
| 10/20/14 15:07:37 | RTView.GmsRtViewAlertDs | ADDED  | JvmStaleData                 | Default   | Default    |        |
| 10/20/14 15:07:37 | RTView.GmsRtViewAlertDs | ADDED  | JvmCpuPercentHigh            | Default   | Default    |        |

#### Title Bar (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- Menu , open commonly accessed displays.
- 6,047 The number of items currently in the display.

- Data OK Data connection state. Red indicates 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.
- 23-Mar-2017 12:04 Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green Data OK icon is a strong indication that data is current and valid.
- Open the Alert Views - RTView Alerts Table display.

|                      |                                                                                                              |
|----------------------|--------------------------------------------------------------------------------------------------------------|
| <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 UPDATED.                                                 |
| <b>ALERTNAME</b>     | The name of the alert modified.                                                                              |
| <b>INDEXTYPE</b>     | The type of alert Index.                                                                                     |
| <b>ALERTINDEX</b>    | The IP address and port number for the source (application, server, and so forth) associated with the alert. |

- WARNINGLEVEL** The warning threshold value for the alert at the time this modification was made, as indicated in the **TIME\_STAMP** column. The warning level is a threshold that, when exceeded, a warning is executed.
- ALARMLEVEL** The alarm threshold value for the alert at the time this modification was made, as indicated in the **TIME\_STAMP** column. The alarm level is a threshold that, when exceeded, an alarm is executed.
- DURATION** The duration value for the alert at the time this modification was made, as indicated in the **TIME\_STAMP** column. The alert duration is the amount of time (in seconds) that a value must exceed the specified Warning Level or Alarm Level threshold before an alert is executed. 0 is for immediate execution.
- ENABLED** When checked, indicates the alert was Enabled at the time this modification was made, as indicated in the **TIME\_STAMP** column.
- USEINDEX** When checked, this action was performed on an override alert (the alert does not use the global settings).

### 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.

The screenshot shows the 'RTView Cache Tables' window. At the top, it displays 'Data Server: <Default>', 'RTView Cache Tables', 'Max Rows: 4000', and 'History Tables'. Below this is a table with columns: CacheTable, TableType, Rows, Columns, and Memory. The 'JvmMemoryManager' row is highlighted in blue.

| CacheTable              | TableType      | Rows      | Columns  | Memory       |
|-------------------------|----------------|-----------|----------|--------------|
| JmxStatsTotals          | current        | 1         | 4        | 44           |
| JvmClassLoading         | current        | 5         | 8        | 1,765        |
| JvmCompilation          | current        | 5         | 7        | 1,979        |
| JvmConnections          | current        | 6         | 12       | 3,731        |
| JvmGcInfo               | current        | 10        | 15       | 3,402        |
| JvmMemory               | current        | 5         | 15       | 2,507        |
| <b>JvmMemoryManager</b> | <b>current</b> | <b>10</b> | <b>9</b> | <b>4,671</b> |
| JvmMemoryPool           | current        | 25        | 9        | 3,902        |
| JvmOperatingSystem      | current        | 5         | 12       | 2,725        |
| JvmRuntime              | current        | 5         | 20       | 26,145       |
| JvmSystemProperties     | current        | 343       | 6        | 71,411       |

Below the main table, the 'JvmMemoryManager' table is expanded, showing 10 rows. The columns are: time\_stamp, MemoryPool, Name, ObjectName, Valid, type, name, Connection, and Expired.

| time_stamp        | MemoryPool | Name              | ObjectName     | Valid | type       | name        | Connection | Expired |
|-------------------|------------|-------------------|----------------|-------|------------|-------------|------------|---------|
| 12/03/15 16:35:48 | Metaspace  | Metaspace Manager | java.lang.type | ✓     | MemoryMana | Metaspace M | SOLMON_TC  | ■       |
| 12/03/15 16:35:48 | Code Cache | CodeCacheManager  | java.lang.type | ✓     | MemoryMana | CodeCacheM  | SOLMON_TC  | ■       |
| 12/03/15 16:35:48 | Code Cache | CodeCacheManager  | java.lang.type | ✓     | MemoryMana | CodeCacheM  | local      | ■       |
| 12/03/15 16:35:48 | Metaspace  | Metaspace Manager | java.lang.type | ✓     | MemoryMana | Metaspace M | local      | ■       |
| 12/03/15 16:35:48 | Metaspace  | Metaspace Manager | java.lang.type | ✓     | MemoryMana | Metaspace M | SOLMON_DA  | ■       |
| 12/03/15 16:35:48 | Code Cache | CodeCacheManager  | java.lang.type | ✓     | MemoryMana | CodeCacheM  | SOLMON_DA  | ■       |
| 12/03/15 16:35:48 | Metaspace  | Metaspace Manager | java.lang.type | ✓     | MemoryMana | Metaspace M | SOLMON_DI  | ■       |
| 12/03/15 16:35:48 | Code Cache | CodeCacheManager  | java.lang.type | ✓     | MemoryMana | CodeCacheM  | SOLMON_DI  | ■       |
| 12/03/15 16:35:48 | Metaspace  | Metaspace Manager | java.lang.type | ✓     | MemoryMana | Metaspace M | SOLMON_HI  | ■       |
| 12/03/15 16:35:48 | Code Cache | CodeCacheManager  | java.lang.type | ✓     | MemoryMana | CodeCacheM  | SOLMON_HI  | ■       |

**Title Bar (possible features are):**

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- open commonly accessed displays.
- The number of items currently in the display.

- Data OK** Data connection state. Red indicates 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.
- 23-Mar-2017 12:04** Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the **Alert Views - RTView Alerts Table** display.

- DataServer** Select a data server from the drop down menu.
- Max Rows** Enter the maximum number of rows to display in RTView Cache Tables.
- History Tables** Select to include all defined history tables in RTView Cache Tables.

#### RTView Cache Tables

This table lists and describes all defined RTView Cache Tables for your system. Cache tables gather Monitor data and are the source that populate the Monitor displays.

**NOTE:** When you click on a row in RTView Cache Tables a supplemental table will appear that gives more detail on the selected Cache Table.

|                   |                                               |                                                              |
|-------------------|-----------------------------------------------|--------------------------------------------------------------|
| <b>CacheTable</b> | The name of the cache table.                  |                                                              |
| <b>TableType</b>  | The type of cache table:                      |                                                              |
|                   | <b>current</b>                                | Current table which shows the current values for each index. |
|                   | <b>current_condensed</b>                      | Current table with primary compaction configured.            |
|                   | <b>history</b>                                | History table.                                               |
|                   | <b>history_condensed</b>                      | History table with primary compaction configured.            |
| <b>Rows</b>       | Number of rows currently in the table.        |                                                              |
| <b>Columns</b>    | Number of columns currently in the table.     |                                                              |
| <b>Memory</b>     | Amount of space, in bytes, used by the table. |                                                              |

## RTView Agent Admin

Verify when agent metrics were last queried by the Monitor. The data in this display is predominantly used for debugging by Technical Support.

The screenshot shows the 'RTView Agent Metrics Administration' window. At the top right, it displays the date and time '10-Nov-2014 16:31' and a green 'Data OK' icon. Below the title bar, the table is titled 'Data Received from Remote Agents'. The table has seven columns: AgentName, AgentClass, Client ID, Total Rows Rcvd, Delta Rows rcvd, Rows Rcvd / sec, and Last Receive Time. The table contains 20 rows of data for various agents like slapm, slel4-64, slhost6, slhpux11, slvmrh2, and slvmware.

| 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 (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- open commonly accessed displays.
- The number of items currently in the display.

- Data connection state. Red indicates 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.
- Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the **Alert Views - RTView Alerts Table** 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. |

---

## RTView Monitor Views/Displays

This section describes RTView Monitor displays. Use the RTView Monitor to track the health and performance of your Solace Monitor components. Note that the [“MySQL Database”](#) and [“Docker Engines”](#) displays are populated with performance data only if you are using the RTView Monitor for Solace AMI version.

The RTView Monitor has the following Views:

- [“JVM Process Views”](#) on page 151
- [“RTView Servers”](#) on page 166
- [“Tomcat Servers”](#) on page 174
- [“MySQL Database”](#) on page 181
- [“Docker Engines”](#) on page 194
- [“Hosts”](#) on page 210
- [“Alert Views”](#) on page 225
- [“Administration”](#) on page 229

### 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 151: Heatmap of alert states for all JVM connections
- [“All JVMs Table”](#) on page 153: Table of connection details for all JVM connections.
- [“JVM Summary”](#) on page 156: Table of connection details for a single JVM as well as performance trend graphs.
- [“JVM System Properties”](#) on page 159: Table of system details for a single JVM.
- [“JVM Mem Pool Trends”](#) on page 160: Trend graphs of memory pool utilization.
- [“JVM GC Trends”](#) on page 164: Trend graphs of garbage collection memory utilization.

### All JVMs Heatmap

View the most critical alert state for all monitored JVM connections for one or all sources, 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 the selected 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.

Choose one or **All Sources** from the **Source** drop-down menu. Use the check-boxes  to include or exclude labels in the heatmap. Move your mouse over a rectangle to see detailed JVM connection information (including **PID**). 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 (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- open commonly accessed displays.
- The number of items currently in the display.

- Data connection state. Red indicates 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.
- Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the **Alert Views - RTView Alerts Table** display.

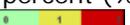
#### Fields and Data

This display includes:

- Source** Choose one or **All Sources** to display.
- JVM Count** The number of JVM connections shown in the display.
- Show Inactive** Select to show inactive connections.
- Connection** Select to show JVM connections names.

**Metric**

Select the Metric to display in the heatmap. Each Metric has a color gradient bar that maps relative values to colors.

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <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 alerts have reached their alarm threshold. Alerts 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 alerts have reached their alarm threshold. Alerts that have exceeded their specified WARNING LEVEL threshold have an Alert Severity value of <b>1</b>.</li> <li> Green indicates that no alerts have reached their alert thresholds. Alerts that have not exceeded their specified thresholds have an Alert Severity value of <b>0</b>.</li> </ul> |
| <b>Alert Count</b>    | <p>The number of alerts for the rectangle. The color gradient  bar values range from <b>0</b> to the maximum number of alerts in the heatmap.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>CPU %</b>          | <p>The total percent (%) CPU utilization for the rectangle. The color gradient  bar values range from <b>0</b> to the maximum percent (%) CPU utilization in the heatmap.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Memory %</b>       | <p>The total percent (%) memory utilization for the rectangle. The color gradient  bar values range from <b>0</b> to the maximum percent (%) memory utilization in the heatmap.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Current Heap</b>   | <p>The current amount of heap committed for the connection, in kilobytes. The color gradient  bar values range from <b>0</b> to the maximum amount in the heatmap.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Used Heap</b>      | <p>The total amount of heap used by the connection, in kilobytes. The color gradient  bar values range from <b>0</b> to the maximum amount used in the heatmap.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

**All JVMs Table**

View JVM connection details for one or all sources, 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.

Choose one or **All Sources** from the **Source** drop-down menu. 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 19-Jan-2017 14:01 Data OK

Source: **All Sources**

JVM Count: 56  Show Inactive

**All JMX Connections**

| Connection              | Source    | Expired                  | Connected | Alert Severity | Alert Count | Host            | Port  |
|-------------------------|-----------|--------------------------|-----------|----------------|-------------|-----------------|-------|
| ALERT_SERVER            | localhost | <input type="checkbox"/> |           | 0              | 0           | localhost       | 10023 |
| ALERT_SERVER            | TBSender  | <input type="checkbox"/> |           | 0              | 0           | localhost       | 10023 |
| ALERTHISTORIAN          | localhost | <input type="checkbox"/> |           | 0              | 0           | localhost       | 10025 |
| ALERTHISTORIAN          | TBSender  | <input type="checkbox"/> |           | 0              | 0           | localhost       | 10025 |
| AMXMON-alpha-TB34       | localhost | <input type="checkbox"/> |           | 0              | 0           | 192.168.200.34  | 6368  |
| AMXMON-alpha-TB34       | TBSender  | <input type="checkbox"/> |           | 0              | 0           | 192.168.200.34  | 6368  |
| AMXMON-alpha-TB34-HIST  | localhost | <input type="checkbox"/> |           | 0              | 0           | 192.168.200.34  | 6367  |
| AMXMON-beta-TB3-HIST    | localhost | <input type="checkbox"/> |           | 0              | 0           | 192.168.200.133 | 6367  |
| BWMON-alpha-TB34        | localhost | <input type="checkbox"/> |           | 0              | 0           | 192.168.200.34  | 3368  |
| BWMON-alpha-TB34        | TBSender  | <input type="checkbox"/> |           | 0              | 0           | 192.168.200.34  | 3368  |
| BWMON-alpha-TB34-HIST   | localhost | <input type="checkbox"/> |           | 0              | 0           | 192.168.200.34  | 3367  |
| BWMONITOR-release-WIN-8 | localhost | <input type="checkbox"/> |           | 0              | 0           | 192.168.200.146 | 3368  |
| BWMONITOR-TB8           | localhost | <input type="checkbox"/> |           | 0              | 0           | 192.168.200.138 | 3368  |
| CONFIG_SERVER           | localhost | <input type="checkbox"/> |           | 0              | 0           | localhost       | 10013 |
| CONFIG_SERVER           | TBSender  | <input type="checkbox"/> |           | 0              | 0           | localhost       | 10013 |
| DISPLAYSERVER           | localhost | <input type="checkbox"/> |           | 0              | 0           | localhost       | 10024 |
| DISPLAYSERVER           | TBSender  | <input type="checkbox"/> |           | 0              | 0           | localhost       | 10024 |
| DISPLAYSERVER_DARKSTY   | localhost | <input type="checkbox"/> |           | 0              | 0           | localhost       | 10124 |
| DISPLAYSERVER_DARKSTY   | TBSender  | <input type="checkbox"/> |           | 0              | 0           | localhost       | 10124 |
| EMSMON_SENDER-alpha-TB  | TBSender  | <input type="checkbox"/> |           | 0              | 0           | 192.168.200.34  | 3166  |
| EMSMON_SENDER-alpha-TB  | localhost | <input type="checkbox"/> |           | 0              | 0           | 192.168.200.34  | 3166  |

**Title Bar (possible features are):**

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- Menu** , **Table** open commonly accessed displays.
- 6,047** The number of items currently in the display.
- Data OK** Data connection state. Red indicates 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.
- 23-Mar-2017 12:04** Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the **Alert Views - RTView Alerts 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.

**Fields and Data**

This display includes:

- Source** Choose one or **All Sources** to display.
- JVM Count:** The number of JVM connections in the table.
- Show Inactive** Select to include inactive connections.

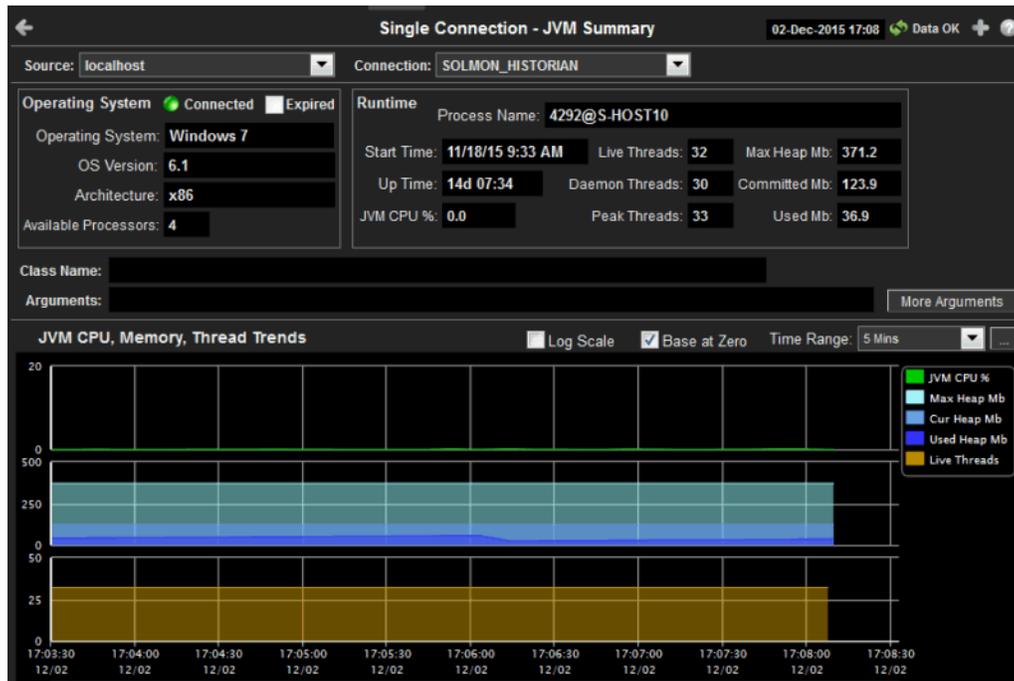
**All JMX Connections Table**

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Connection</b>     | The name of the JVM connection.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Source</b>         | The name of the source.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Expired</b>        | When checked, this connection is expired due to inactivity.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Connected</b>      | The data connection state:<br> Disconnected.<br> Connected.                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Alert Severity</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> One or more alerts associated with the connection exceeded their ALARM LEVEL threshold.<br> One or more alerts associated with the connection exceeded their WARNING LEVEL threshold.<br> No alerts associated with the connection have exceeded their thresholds. |
| <b>Alert Count</b>    | The current number of alerts for the connection.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Host</b>           | The name of the host for this connection.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Port</b>           | The port number for the connection.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>PID</b>            | The connection PID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>CPU %</b>          | The amount of CPU, in percent (%) used by this connection.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Max Heap</b>       | The maximum amount of heap used by this connection, in kilobytes.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Current Heap</b>   | The current amount of committed heap for this connection, in kilobytes.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Used Heap</b>      | The current amount of heap used by this connection, in kilobytes.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Mem % Used</b>     | The amount of JVM memory used by this connection, in percent (%).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <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 (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- open commonly accessed displays.
- 6,047 The number of items currently in the display.

- Data OK Data connection state. Red indicates 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.
- 23-Mar-2017 12:04 Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green Data OK icon is a strong indication that data is current and valid.
- Open the Alert Views - RTView Alerts Table 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.

|                             |                                                                                                                                                                                                                               |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Connected</b>            | The data connection state:<br> Disconnected.<br> Connected. |
| <b>Expired</b>              | When checked, this server is expired due to inactivity.                                                                                                                                                                       |
| <b>Operating System</b>     | The name of the operating system running on the host on which the JVM resides.                                                                                                                                                |
| <b>OS Version</b>           | The operating system version.                                                                                                                                                                                                 |
| <b>Architecture</b>         | The ISA used by the processor.                                                                                                                                                                                                |
| <b>Available Processors</b> | The total number of processors available to the JVM.                                                                                                                                                                          |

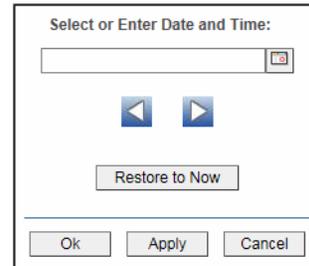
## Runtime

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <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.                                                                                                                                                                                                                                                                                                                                                   |

- Class Name** Class name used for JVM.
- Arguments** The arguments used to start the application.
- More Arguments** Additional arguments used to start the application.

**JVM CPU, Memory, Thread Trends**  
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.

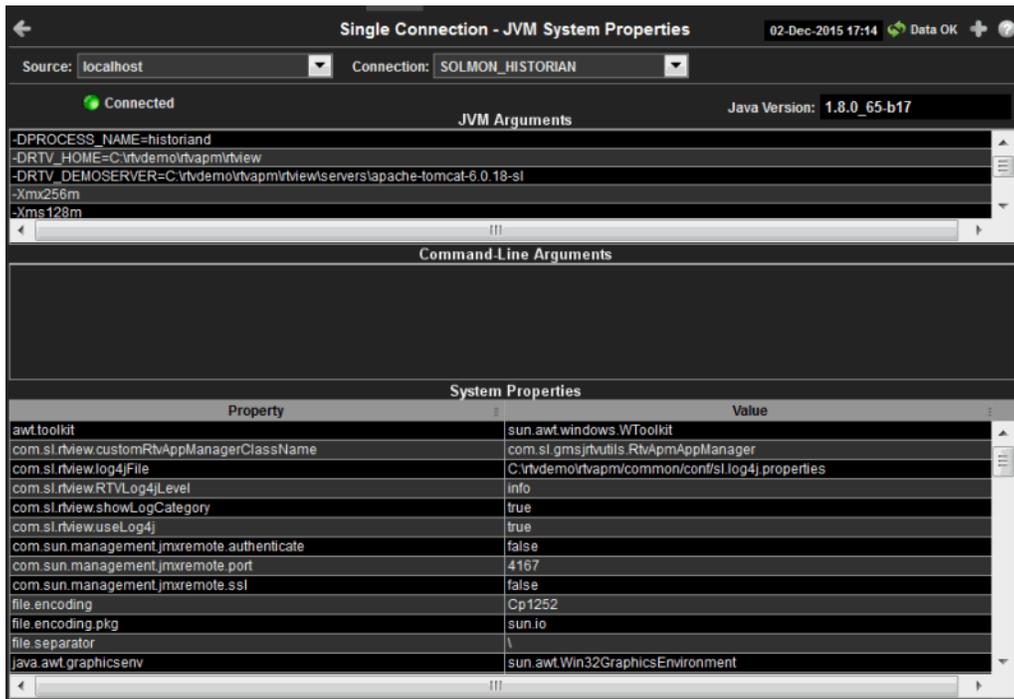
- Max Heap Mb** Traces the maximum amount of memory used for memory management by the application in the time range specified. This value may change or be undefined.

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.



**Title Bar (possible features are):**

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- open commonly accessed displays.
- The number of items currently in the display.
- Data connection state. Red indicates 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. Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the **Alert Views - RTView Alerts Table** 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 **RuntimeMXBean InputArguments** attribute.

**Command Line Arguments** Arguments used to start the application.

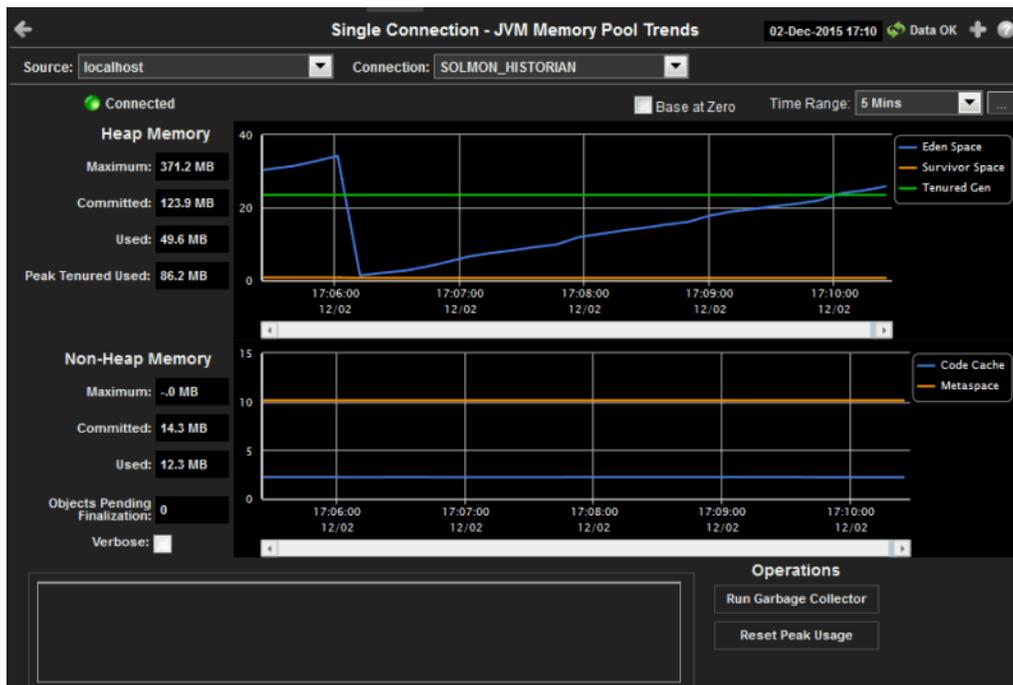
**System Properties**  
This table lists and describes system property settings.

**Property** Name of the property.

**Value** Current value of the property.

## JVM Mem 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** (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- Menu** , **Table** open commonly accessed displays.
- 6,047** The number of items currently in the display.

**Data OK** Data connection state. Red indicates 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.

**23-Mar-2017 12:04** Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.

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

Select or Enter Date and Time:

---

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>           | <p>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.</p> <p>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).</p>               |
| <b>Committed</b>         | <p>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.</p> |
| <b>Used</b>              | <p>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.</p>                                                                                                                                                                                                                                                                                                                                    |
| <b>Peak Tenured Used</b> | <p>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.</p>                                                                                                                                                                            |
| <b>Eden Space</b>        | <p>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.</p>                                                                                                                                                                                                                                                                                                                                   |
| <b>Survivor Space</b>    | <p>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.</p>                                                                                                                                                                                                                                                                                                                                          |
| <b>Tenured Gen</b>       | <p>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.</p>                                                                                                                                                                                    |

### 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 be 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 (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- open commonly accessed displays.
- The number of items currently in the display.

- Data OK** Data connection state. Red indicates 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.
- Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the Alert Views - RTView Alerts Table display.

### Fields and Data

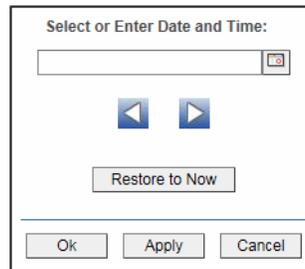
This display includes:

- 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 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><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.                                                                                                                                                                                                                                                                                                                                                                                                                                   |

## RTView Servers

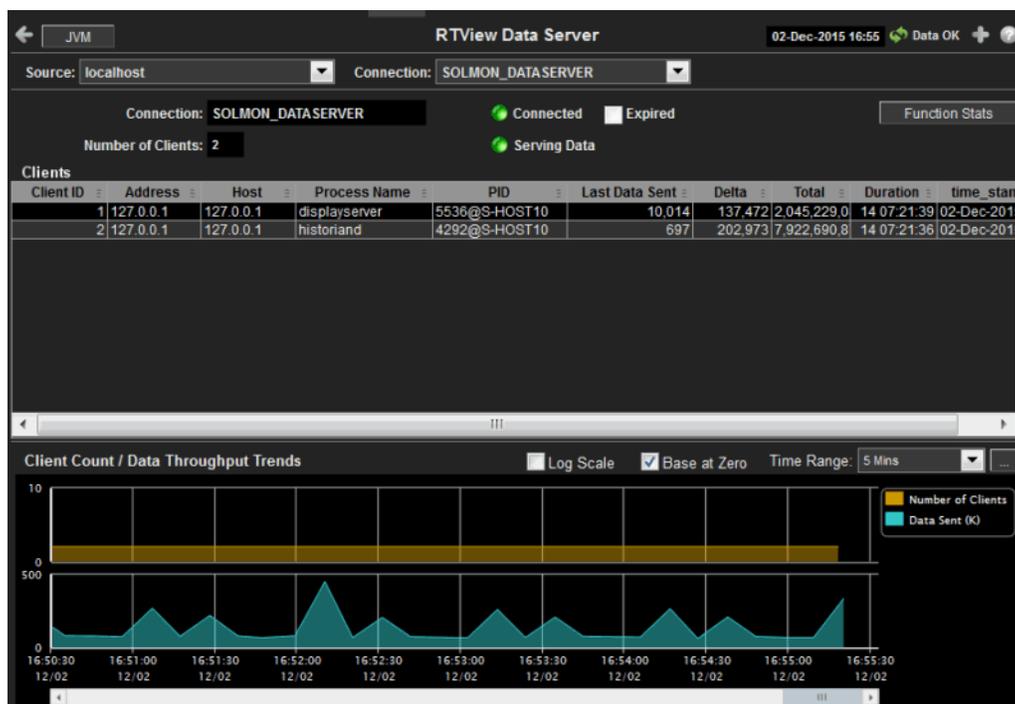
These displays present performance data for all RTView Servers. Displays in this View are:

- [“Data Servers” on page 166](#): Shows metrics for RTView Data Servers.
- [“Display Servers” on page 169](#): Shows metrics for RTView Display Servers.
- [“Historian Servers” on page 170](#): Shows metrics for RTView Historian Servers.
- [“Version Info” on page 172](#): 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 (possible features are):

- ← ↑ Open the previous and upper display.
- ⊕ Open an instance of this display in a new window.
- ⓘ Open the online help page for this display.
- Menu, Table open commonly accessed displays.
- 6,047 The number of items currently in the display.

- Data OK Data connection state. Red indicates 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.
- 23-Mar-2017 12:04 Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green Data OK icon is a strong indication that data is current and valid.
- Open the Alert Views - RTView Alerts Table display.

|                          |                                                                                                                                                                                                                                                                  |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <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>Connection</b>        | The connection selected from the <b>Connection</b> drop-down menu.                                                                                                                                                                                               |
| <b>Number of Clients</b> | 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.

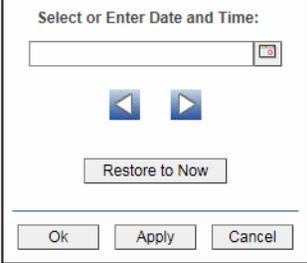
|                       |                                                                                                                                                                                              |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <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.

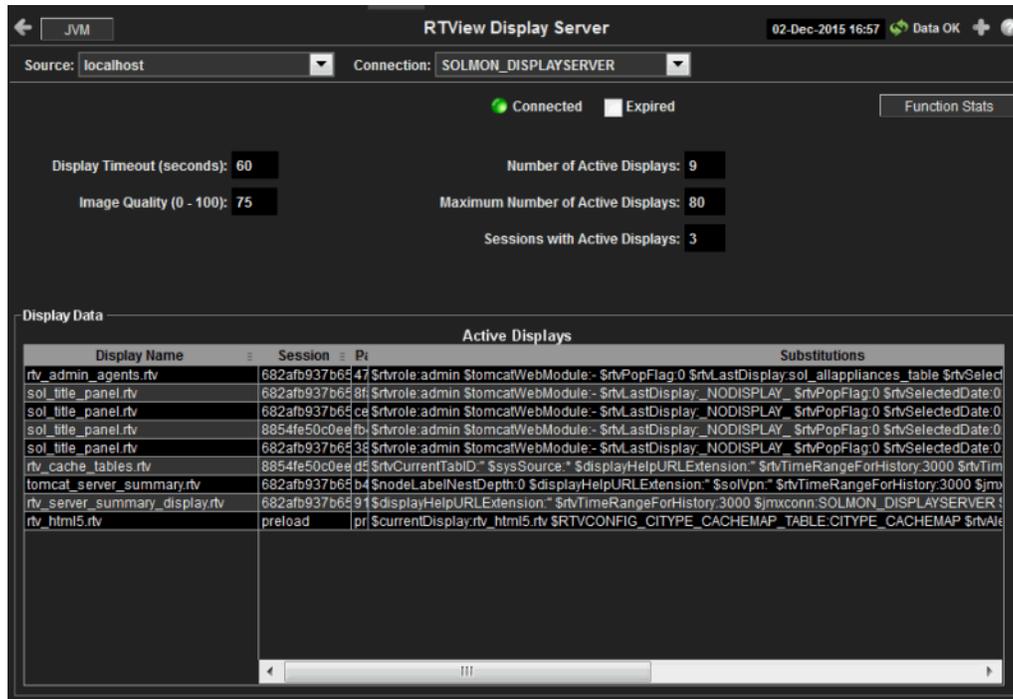
**Number of Clients** Traces the number of clients being served by the Data Server.

**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 (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- Menu** **Table** open commonly accessed displays.
- 6,047** The number of items currently in the display.

- Data OK** Data connection state. Red indicates 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.
- 23-Mar-2017 12:04** Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the **Alert Views - RTView Alerts Table** 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 Display Server connection state:
  - Disconnected.
  - Connected.
- Expired** 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.                                                                                                                                                                                                                                                                                                       |

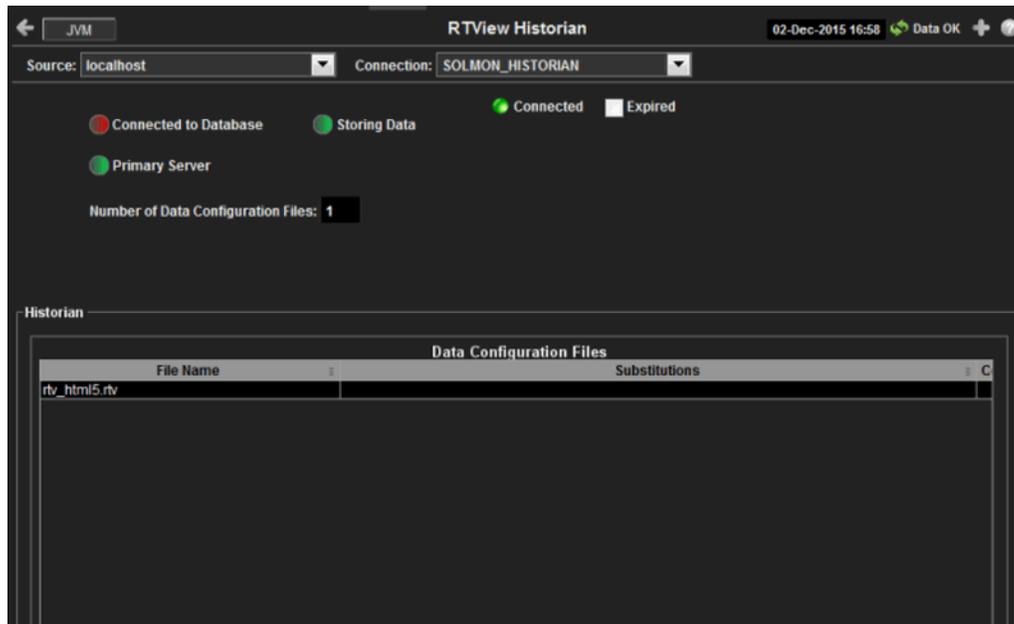
#### Display Data / Active Displays

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <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 (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- open commonly accessed displays.
- The number of items currently in the display.

- Data connection state. Red indicates 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.
- Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the **Alert Views - RTView Alerts Table** 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 Historian Server connection state:
  - Disconnected.
  - Connected.
- Expired** This server has been marked as expired after no activity.
- Connected to Database** The Historian Server database connection state:
  - Disconnected.
  - Connected.

**Primary Server**

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.

The Historian Server member state:

- The Historian Server is a secondary group member.
- This Historian is the primary group member.

**Number of Data Configuration Files**

The number of configuration files that are used by the history cache.

**Historian / Data Configuration Files**

**File Name** The name of the history cache configuration file.

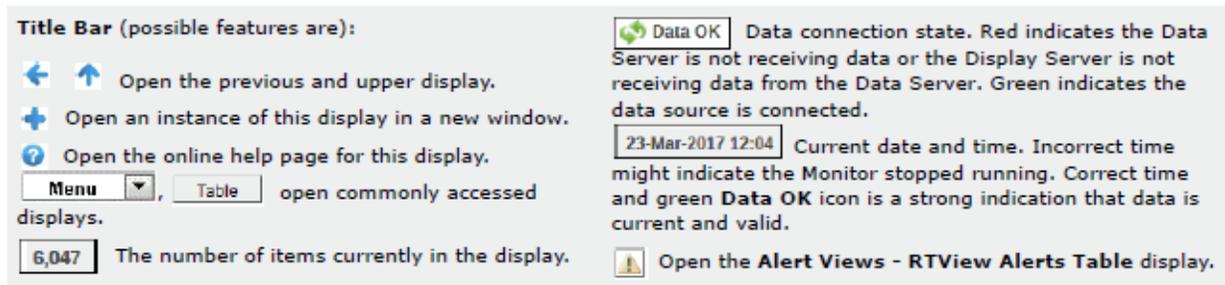
**Substitutions** Lists the substitutions specified in the history cache configuration file.

**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. 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                                                                     |              |                                    |                      |                                                                              |                                          |                  |
|-------------------------------------------------------------------------------------------------|--------------|------------------------------------|----------------------|------------------------------------------------------------------------------|------------------------------------------|------------------|
| Source: <b>All Sources</b>                                                                      |              | Filter Field: <input type="text"/> |                      | Clear                                                                        |                                          |                  |
| Connection: <b>All Connections</b>                                                              |              | Filter Value: <input type="text"/> |                      | <input checked="" type="checkbox"/> RegEx <input type="checkbox"/> 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              | gmsjrmxds.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              | gmsjoloads.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              | gmsjopedds.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              | gmsjrodds.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              | gmsjrtvviewer.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          |



## Fields and Data

This display includes:

|                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Source</b>                    | Select a filter value for the <b>Source</b> column.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Connection</b>                | Select a filter value for the <b>Connection</b> column.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Filter Field</b>              | Select a table column from the drop-down menu to perform a search in: <b>ApplicationName, JarName, ApplicationConfiguration, JarConfiguration, JarVersionNumber, JarVersionDate, JarReleaseDate, and JarMicroVersion.</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). 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 <b>DataServerName</b> 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.                          |

## 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 Tomcat Servers” on page 174](#): Table of connection details and performance metrics for all Tomcat servers.
- [“All Applications Heatmap” on page 176](#): Heatmap of performance metrics for all Web modules for one Tomcat Server.
- [“Single Application Summary” on page 178](#): Table and trend graphs of performance metrics for Web modules.

## All Tomcat Servers

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 |           |                 |                |                  |                  |                |                    |                 |
|--------------------|-----------|-----------------|----------------|------------------|------------------|----------------|--------------------|-----------------|
| 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** (possible features are):

-   Open the previous and upper display.
-  Open an instance of this display in a new window.
-  Open the online help page for this display.
- open commonly accessed displays.
- The number of items currently in the display.

 **Data OK** Data connection state. Red indicates 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.

Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.

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

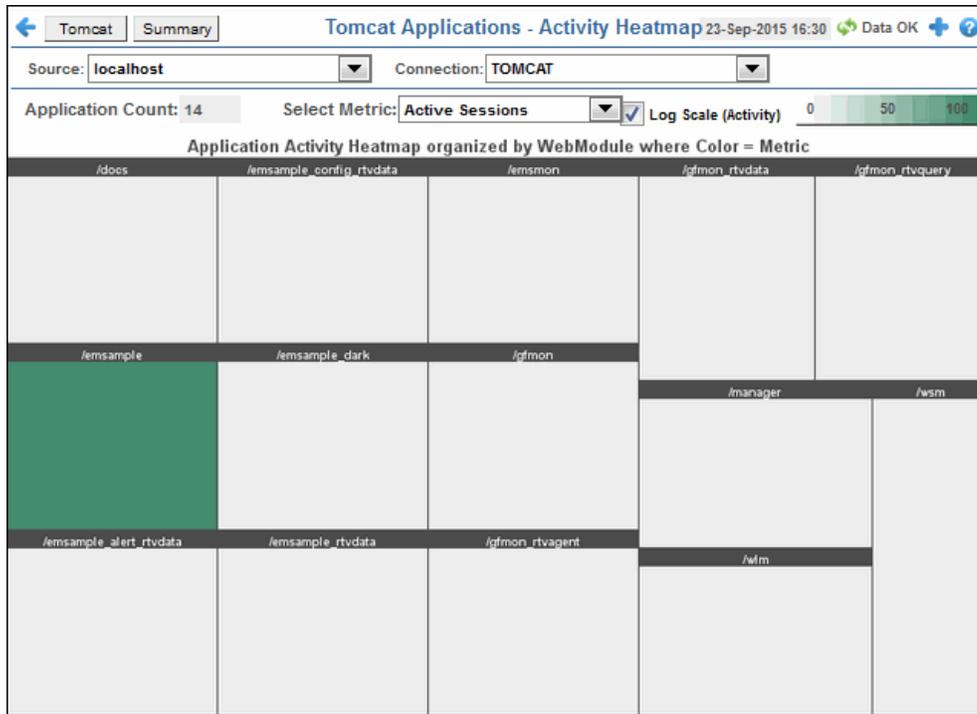
|                     |                                                                                                                                                                                             |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <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> |

## All Applications 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 **Application Summary** display.



#### Title Bar (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- open commonly accessed displays.
- 6,047 The number of items currently in the display.

- Data OK Data connection state. Red indicates 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.
- 23-Mar-2017 12:04 Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green Data OK icon is a strong indication that data is current and valid.
- Open the Alert Views - RTView Alerts Table 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.

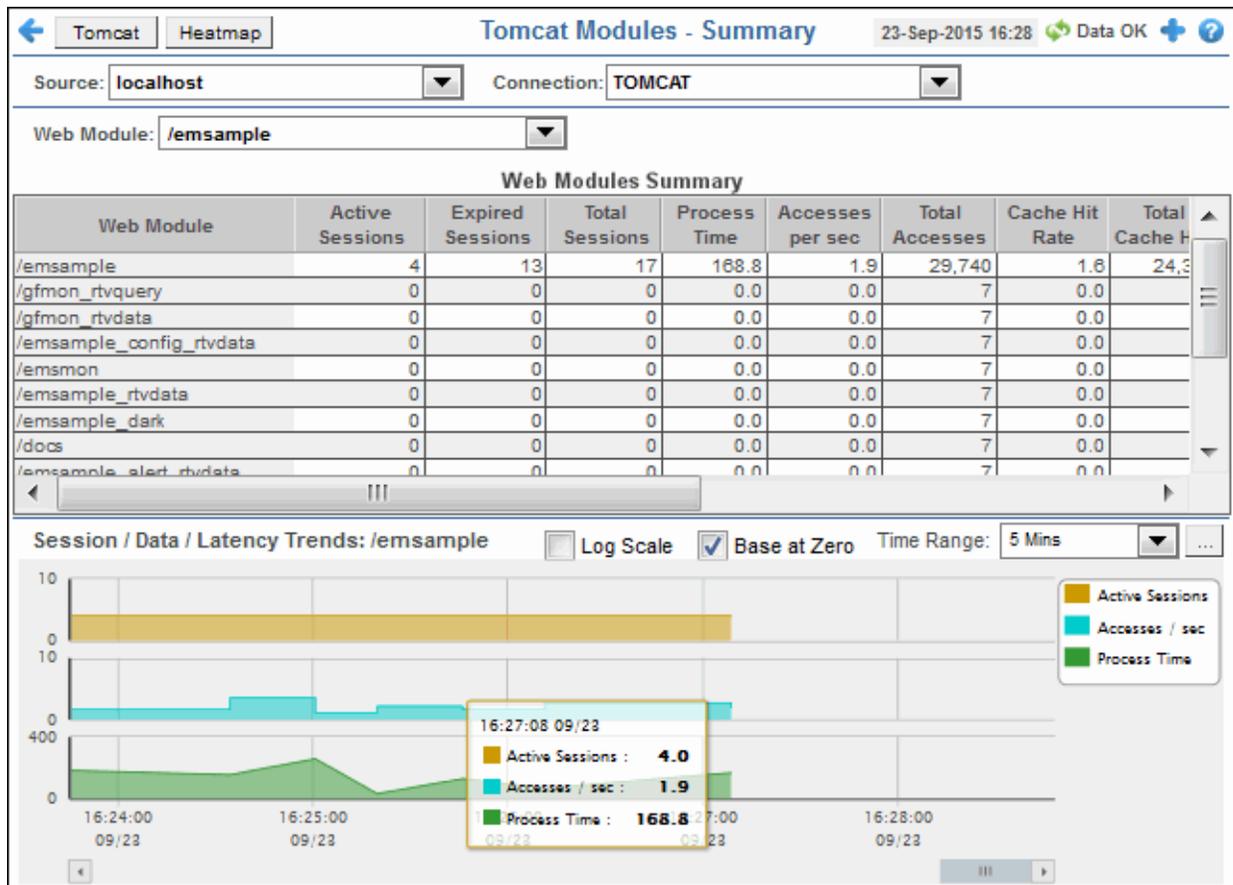
**Select Metric** Select the metric to display in the heatmap. Each Metric has a color gradient bar that maps relative values to colors.

### Single Application 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** (possible features are):

-   Open the previous and upper display.
-  Open an instance of this display in a new window.
-  Open the online help page for this display.
- ,  open commonly accessed displays.
- The number of items currently in the display.

 **Data OK** Data connection state. Red indicates 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.

Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.

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

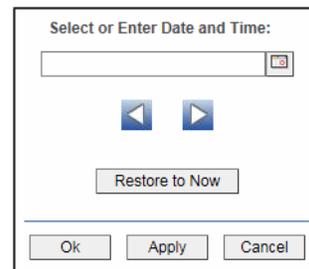
|                           |                                                                                       |
|---------------------------|---------------------------------------------------------------------------------------|
| <b>Web Module</b>         | The name of the Web module.                                                           |
| <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  .                                                                                                                                                                             |



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. |

## MySQL Database

The MySQL Database displays provide extensive visibility into the health and performance of the MySQL database included in the RTView Monitor for Solace AMI version. These displays are populated with performance data if you are using the RTView Monitor for Solace AMI version.

## All MySQL Databases

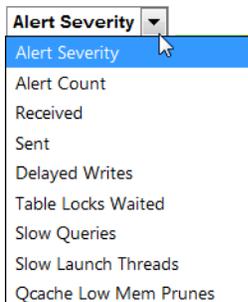
Displays in this View are:

- [“All Servers Heatmap” on page 181](#): A heatmap view of all servers and their associated metrics.
- [“All Servers Table” on page 184](#): A tabular view of your servers and their associated metrics.

## All Servers Heatmap

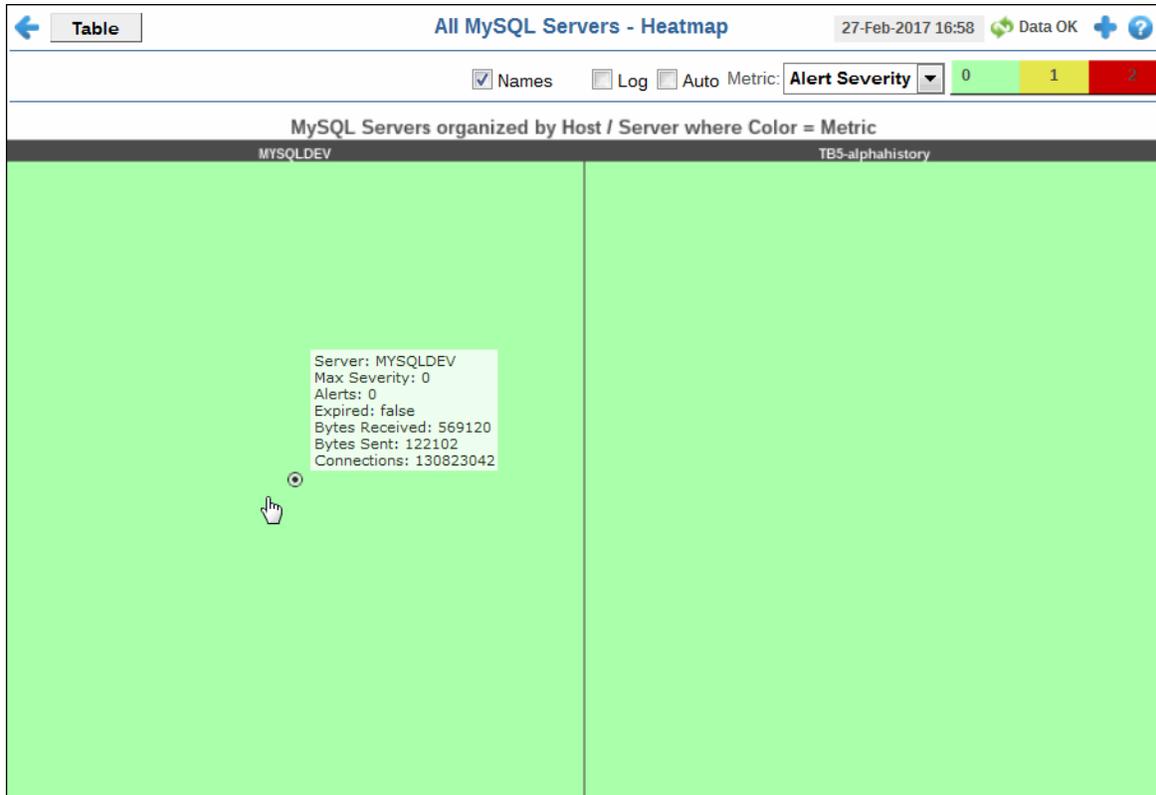
This heatmap display provides an easy-to-view interface that allows you to quickly identify the current status of each of your servers for each available metric. By default, this display shows the heatmap based on the **Alert Severity** metric.

Choose a metric from the **Metric** drop down menu:



By default, this display shows the heatmap based on the **Alert Severity** metric.

Each rectangle in the heatmap is a different server. Use the **Names** check-box  to include or exclude labels in the heatmap, and mouse over a rectangle to see additional metrics for a server. Click a rectangle to open the “[Server Summary](#)” display and see additional details for the selected server.



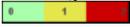
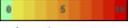
#### Title Bar (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- open commonly accessed displays.
- The number of items currently in the display.

- Data connection state. Red indicates 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.
- Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the **Alert Views - RTView Alerts Table** display.

#### Fields and Data:

- Names** Select this check box to display the names of the instances 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.

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <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. For details about the data, refer to vendor documentation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <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>        | The total number of critical and warning unacknowledged alerts. 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>Received</b>           | The total number of bytes received. 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 alarm threshold specified for the <b>MysqlBytesReceivedHigh</b> alert. The middle value in the gradient bar indicates the average count.                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Sent</b>               | The total number of bytes sent. 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 alarm threshold specified for the <b>MysqlBytesSentHigh</b> alert. The middle value in the gradient bar indicates the average count.                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Delayed Writes</b>     | <p>The total number of delayed writes. Values range from <b>0</b> to the alarm threshold specified for the <b>MysqlDelayedWrites</b> alert. The middle value in the gradient bar indicates the average count:</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>Table Locks Waited</b> | <p>The total number of table locks waited. Values range from <b>0</b> to the alarm threshold specified for the <b>MysqlLocksWaited</b> alert. The middle value in the gradient bar indicates the average count:</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>Slow Queries</b>          | <p>The total number of slow queries. Values range from <b>0</b> to the alarm threshold specified for the <b>MysqlSlowQueries</b>. The middle value in the gradient bar indicates the average count:</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>Slow Launch Threads</b>   | <p>The total number of slow launch threads. Values range from <b>0</b> to the alarm threshold specified for the <b>MysqlSlowThreads</b>. The middle value in the gradient bar indicates the average count:</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>Qcache Low Mem Prunes</b> | <p>The total number of Qcache low memory prunes. Values range from <b>0</b> to the alarm threshold specified for the <b>MysqlQcacheLowMemPrunes</b>. The middle value in the gradient bar indicates the average count:</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> |

## All Servers Table

This display provides a tabular view of the performance metrics shown in the [“All Servers Heatmap”](#) (alert level, alert count, bytes received, and so forth), as well as additional metrics (such as query information and uptime).

Each table row is a different server. 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 a server in the “[Server Summary](#)” display.

| Server Name | Expired                  | Alert Level | Alert Count | Connected                           | Last Query | Avg Exec Time | Avg Process Time | Bytes Received | Bytes Sent |
|-------------|--------------------------|-------------|-------------|-------------------------------------|------------|---------------|------------------|----------------|------------|
| MYSQLDEV    | <input type="checkbox"/> |             | 0           | <input checked="" type="checkbox"/> | OK         | 0.24          | 0.24             | 425,250        | 468        |

**Title Bar** (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- open commonly accessed displays.
- The number of items currently in the display.
- Data connection state. Red indicates 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.
- Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the **Alert Views - RTView Alerts Table** display.

**All MySQL Servers Table**

**Server Name** The name of the server.

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Expired</b>          | <p>When checked, performance data about the server has not been received within the time specified (in seconds) in the <b>\$mysqlRowExpirationTime</b> field in the <b>conf\rtvapm_mysqlmon.properties</b> file. The <b>\$mysqlRowExpirationTimeForDelete</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 server. To view/edit the current values, modify the following lines in the <b>.properties</b> file:</p> <pre>##### # CACHE / HISTORIAN SETTINGS # collector.sl.rtvview.sub=\$mssqlRowExpirationTime:120 collector.sl.rtvview.sub=\$mssqlRowExpirationTimeForDelete:0</pre> <p>In the example above, the <b>Expired</b> check box would be checked after 120 seconds, and the row would never be deleted. If <b>\$mysqlRowExpirationTimeForDelete</b> was set to 3600, then the row would be removed from the table after 3600 seconds.</p> |
| <b>Alert Level</b>      | <p>The current 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 alerts for the server.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Connected</b>        | When checked, the server is connected.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Last Query</b>       | The status of the last query made:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Avg Exec Time</b>    | The average amount of execution time, in seconds.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Avg Process Time</b> | The average amount of process time, in seconds.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Bytes Received</b>   | The total number of bytes received since the server was last started.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Connections</b>      | The total number of connections since the server was last started.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Delayed Writes</b>   | The total number of delayed writes.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Queries</b>          | The total number of queries.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Query Objects</b>    | The total number of query objects.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Slow Queries</b>     | The total number of slow queries.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Total Executions</b> | The total number of executions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Uptime</b>           | The amount of time since the server was last started, in seconds.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Concurrent</b>       | When checked, the database allows concurrent usage.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Enabled</b>          | When checked, the database is enabled for usage.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Timestamp</b>        | The data and time of the last data update.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

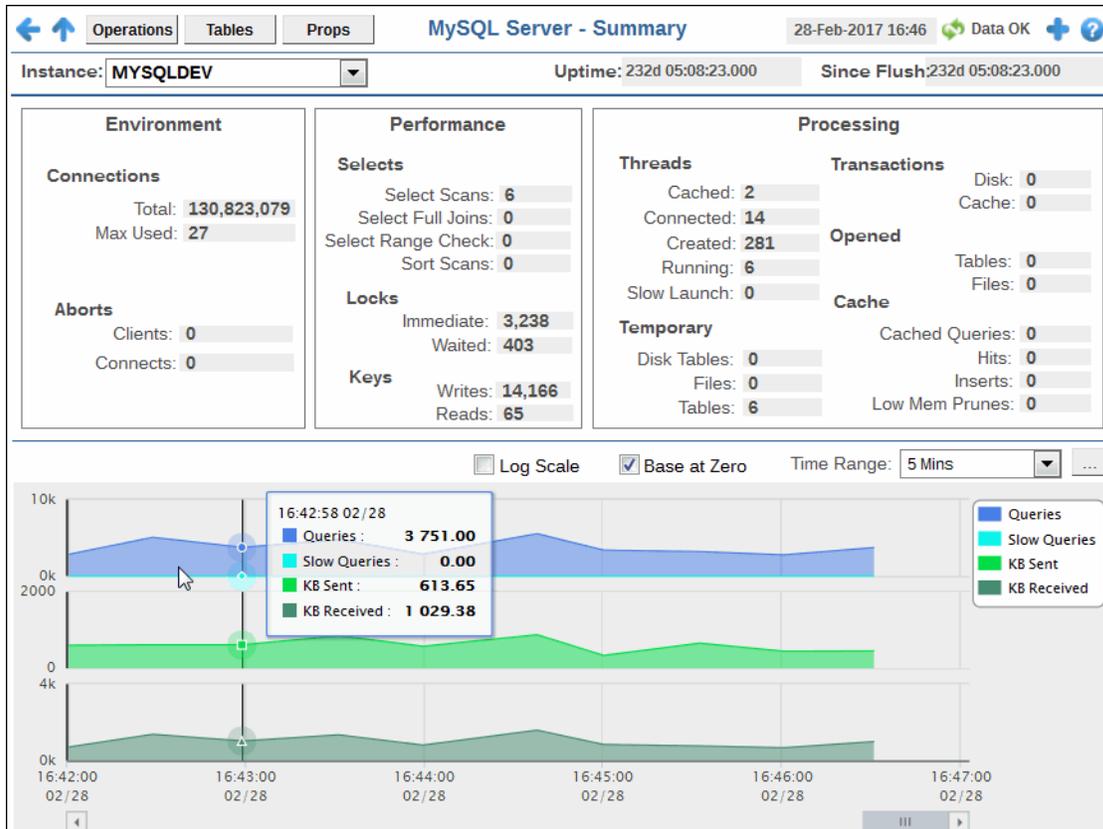
## Single MySQL Database

Displays in this View are:

- [“Server Summary” on page 188](#): Displays performance, processing, alerts, memory, and trend data for a particular database server.
- [“Servers Properties” on page 190](#): Displays the values of properties on servers.
- [“Servers Operations” on page 191](#): Trend graph that traces server queries, slow queries, KB sent and KB received.
- [“User Tables” on page 193](#): A tabular view of cache tables performance and utilization metrics.

## Server Summary

View connection, performance and processing details for a single MySQL database server, as well as trending data for the number of kilobytes received and queries. Choose an instance from the **Instance** drop-down menu. Mouse over the trend graph to see performance metrics with time stamps.



**Title Bar (possible features are):**

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- Menu** **Table** open commonly accessed displays.
- 6,047** The number of items currently in the display.
- Data OK** Data connection state. Red indicates 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.
- 23-Mar-2017 12:04** Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the Alert Views - RTView Alerts Table display.

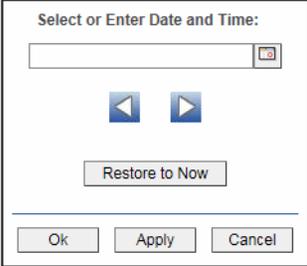
### Filter By:

**Instance:** Select the instance for which you want to show data in the display.

**Fields and Data:** For details about the data in this display, please refer to vendor documentation.

**Uptime** The amount of time since the server was last started, in number of days, hours, minutes and seconds.

- Since Flush** The amount of time since the last flush, in number of days, hours, minutes and seconds.
- Performance Trends Graph** Traces the following:
- Queries** -- traces the amount queries per second.
  - Slow Queries** -- traces the amount of slow queries per second.
  - KB Sent** -- traces the number of kilobytes sent per second.
  - KB Received** -- traces the number of kilobytes received per second.
- 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.
- 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.

## Servers Properties

View properties and property values for a single MySQL database server.

Choose an instance from the **Instance** drop-down menu. Each table row is a different property for the selected instance. Enter a search string in the **Property Filter** field to limit the number of table rows. Click a column header to sort column data in numerical or alphabetical order.

| Property                                | Value                                                   |
|-----------------------------------------|---------------------------------------------------------|
| auto_increment_increment                | 1                                                       |
| auto_increment_offset                   | 1                                                       |
| autocommit                              | ON                                                      |
| automatic_sp_privileges                 | ON                                                      |
| back_log                                | 50                                                      |
| basedir                                 | C:\Program Files\MySQL\MySQL Server 5.5\                |
| big_tables                              | OFF                                                     |
| binlog_cache_size                       | 32768                                                   |
| binlog_direct_non_transactional_updates | OFF                                                     |
| binlog_format                           | STATEMENT                                               |
| binlog_stmt_cache_size                  | 32768                                                   |
| bulk_insert_buffer_size                 | 8388608                                                 |
| character_set_client                    | latin1                                                  |
| character_set_connection                | latin1                                                  |
| character_set_database                  | latin1                                                  |
| character_set_filesystem                | binary                                                  |
| character_set_results                   | latin1                                                  |
| character_set_server                    | latin1                                                  |
| character_set_system                    | utf8                                                    |
| character_sets_dir                      | C:\Program Files\MySQL\MySQL Server 5.5\share\charsets\ |

### Title Bar (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- Menu** **Table** open commonly accessed displays.
- 6,047** The number of items currently in the display.

- Data OK** Data connection state. Red indicates 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.
- 23-Mar-2017 12:04** Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the **Alert Views - RTView Alerts Table** display.

### Filter By:

**Instance** Select the database for which you want to show data in the display.

### Fields and Data:

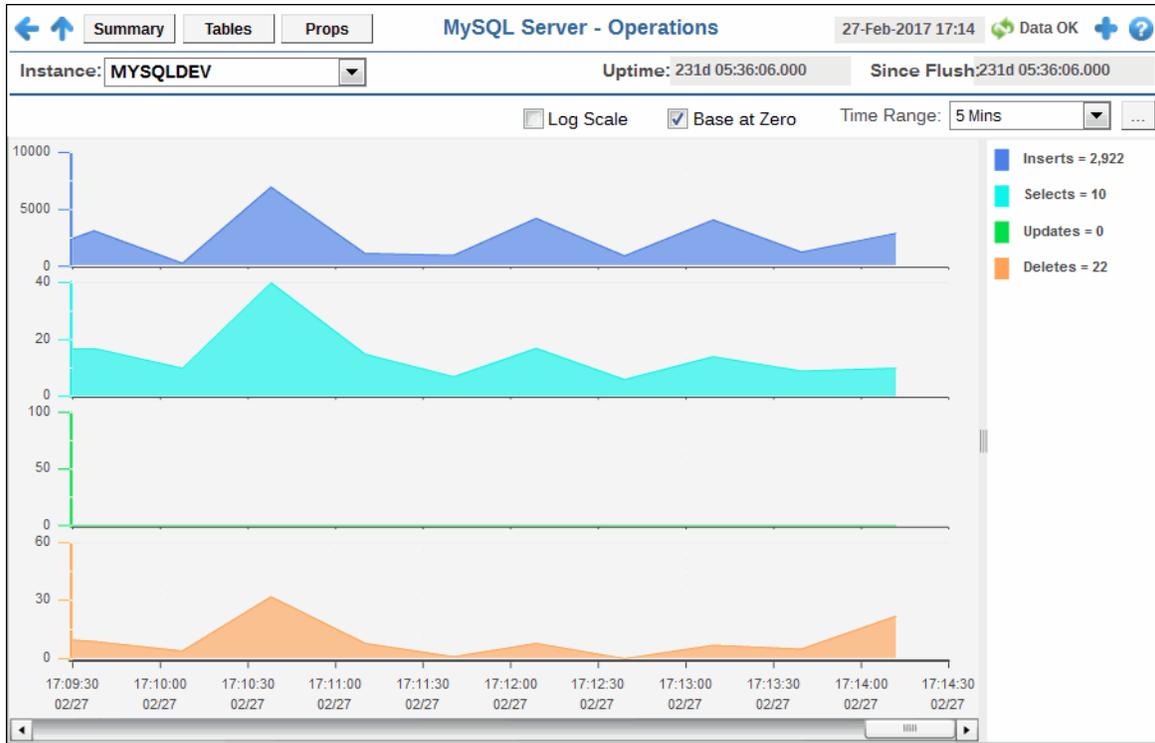
**Uptime** The amount of time since the server was last started, in number of days, hours, minutes and seconds.

**Property Filter:** Enter a search string to filter the number of table rows.

**Since Flush** The amount of time since the last flush, in number of days, hours, minutes and seconds.

## Servers Operations

View trending performance data for a single MySQL database server: **Inserts**, **Selects**, **Updates** and **Deletes**. Choose an instance from the **Instance** drop-down menu. Mouse over the trend graph to see performance metrics with time stamps.



**Title Bar (possible features are):**

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- open commonly accessed displays.
- The number of items currently in the display.
- Data OK** Data connection state. Red indicates 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.
- Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the **Alert Views - RTView Alerts Table** display.

### Filter By:

**Instance** Select the database for which you want to show data in the display.

### Fields and Data:

**Uptime** The amount of time since the server was last started, in number of days, hours, minutes and seconds.

**Property Filter:** Enter a search string to filter the number of table rows.

**Since Flush** The amount of time since the last flush, in number of days, hours, minutes and seconds.

**Performance Trends Graph**

Traces the following:

**Queries** -- traces the amount queries per second.

**Slow Queries** -- traces the amount of slow queries per second.

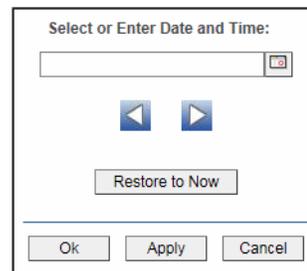
**KB Sent** -- traces the number of kilobytes sent per second.

**KB Received** -- traces the number of kilobytes received per second.

**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.

**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.

## User Tables

View performance and utilization details for cache tables for a single MySQL database server. Each row is a different cache table. Choose an instance from the **Instance** drop-down menu. Click a column header to sort column data in numerical or alphabetical order.

| Schema     | Table                       | Row Count | Index Size | Data Size   | Total Size  | Data Free  | Engine |
|------------|-----------------------------|-----------|------------|-------------|-------------|------------|--------|
| alertdefs  | alertlevels                 | 0         | 1,024      | 0           | 1,024       | 0          | MyISAM |
| alertdefs  | audit_table                 | 0         | 1,024      | 0           | 1,024       | 0          | MyISAM |
| rtvhistory | \$bw6_activities_table      | 515,918   | 13,483,008 | 47,221,756  | 60,704,764  | 0          | MyISAM |
| rtvhistory | \$bw6_activity_totals_table | 56,463    | 1,383,424  | 6,107,932   | 7,491,356   | 0          | MyISAM |
| rtvhistory | \$bw6_process_totals_app t  | 9,959     | 368,640    | 1,229,296   | 1,597,936   | 312,956    | MyISAM |
| rtvhistory | \$bw6_process_totals_appnc  | 59,718    | 2,533,376  | 6,862,184   | 9,395,560   | 1,396,252  | MyISAM |
| rtvhistory | \$bw6_process_totals_appsi  | 9,462     | 262,144    | 752,816     | 1,014,960   | 0          | MyISAM |
| rtvhistory | \$bw6_process_totals_table  | 109,461   | 4,017,152  | 14,284,080  | 18,301,232  | 4,099,164  | MyISAM |
| rtvhistory | \$bw6_processes_table       | 104,214   | 2,779,136  | 8,586,004   | 11,365,140  | 0          | MyISAM |
| rtvhistory | bw6_activity_totals         | 226,128   | 4,355,072  | 20,718,016  | 25,073,088  | 0          | MyISAM |
| rtvhistory | bw6_appnodes                | 39,409    | 764,928    | 2,597,056   | 3,361,984   | 0          | MyISAM |
| rtvhistory | bw6_process_totals          | 94,395    | 1,859,584  | 7,650,588   | 9,510,172   | 0          | MyISAM |
| rtvhistory | bw6_process_totals_app      | 10,979    | 216,064    | 777,800     | 993,864     | 0          | MyISAM |
| rtvhistory | bw6_process_totals_appnoc   | 65,919    | 1,270,784  | 4,415,924   | 5,686,708   | 0          | MyISAM |
| rtvhistory | bw6_process_totals_appsic   | 65,961    | 1,274,880  | 5,211,584   | 6,486,464   | 0          | MyISAM |
| rtvhistory | bw6_processes               | 0         | 2,048      | 0           | 2,048       | 0          | MyISAM |
| rtvhistory | bw_activities               | 3,520,325 | 35,879,936 | 330,112,152 | 365,992,088 | 0          | MyISAM |
| rtvhistory | bw_activity_totals          | 1,202,835 | 38,381,568 | 158,427,548 | 196,809,116 | 692,108    | MyISAM |
| rtvhistory | bw_engines                  | 106,159   | 4,043,776  | 14,760,112  | 18,803,888  | 820,200    | MyISAM |
| rtvhistory | bw_process_totals           | 78,638    | 4,087,808  | 15,453,984  | 19,541,792  | 5,266,124  | MyISAM |
| rtvhistory | bw_processes                | 974,430   | 39,562,240 | 198,494,576 | 238,056,816 | 47,194,296 | MyISAM |
| rtvhistory | bw_servers                  | 30,982    | 1,239,040  | 2,314,796   | 3,553,836   | 231,836    | MyISAM |
| rtvhistory | ems_admstats                | 8,309     | 158,720    | 187,194     | 345,914     | 12,705     | MyISAM |
| rtvhistory | ems_compdesstotals          | 270,012   | 2,754,560  | 8,640,384   | 11,394,944  | 0          | MyISAM |
| rtvhistory | ems_connections             | 534,561   | 5,451,776  | 39,159,128  | 44,610,904  | 0          | MyISAM |
| rtvhistory | ems_consumers               | 2,018,788 | 20,578,304 | 87,000,188  | 117,677,492 | 0          | MyISAM |

**Title Bar (possible features are):**

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- Open the online help page for this display.
- Menu** open commonly accessed displays.
- 6,047** The number of items currently in the display.
- Data OK** Data connection state. Red indicates 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.
- 23-Mar-2017 12:04** Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the Alert Views - RTView Alerts Table display.

### Filter By:

**Instance** Select the database for which you want to show data in the display.

**Fields and Data:** For details about the data in this display, please refer to vendor documentation.

**Uptime** The amount of time since the server was last started, in number of days, hours, minutes and seconds.

**Property Filter:** Enter a search string to filter the number of table rows.

**Since Flush** The amount of time since the last flush, in number of days, hours, minutes and seconds.

**Table**

|                     |                                                                                           |
|---------------------|-------------------------------------------------------------------------------------------|
| <b>Schema</b>       | The name of the database.                                                                 |
| <b>Table</b>        | The name of the table.                                                                    |
| <b>Row Count</b>    | The number of rows currently in the table.                                                |
| <b>Index Size</b>   | The size of the table indexes, in bytes.                                                  |
| <b>Data Size</b>    | The size of the data stored in the table, in bytes (Total Size - Index Size = Data Size). |
| <b>Total Size</b>   | The total size of the table, in bytes.                                                    |
| <b>Data Free RX</b> | The amount of available space that can be reclaimed to store new data, in bytes.          |
| <b>Engine</b>       | The storage engine handling the SQL operations.                                           |
| <b>Last Updated</b> | The time of the last data update.                                                         |

## Docker Engines

The Docker Engines displays provide extensive visibility into the health and performance of your Docker engines. These displays are populated with performance data if you are using the RTView Monitor for Solace AMI version.

Displays are:

- [“Engines Heatmap” on page 194](#)
- [“Engines Table” on page 197](#)
- [“Engines Summary” on page 200](#)
- [“Container Heatmap” on page 202](#)
- [“Container Table” on page 205](#)
- [“Container Summary” on page 207](#)

## Engines Heatmap

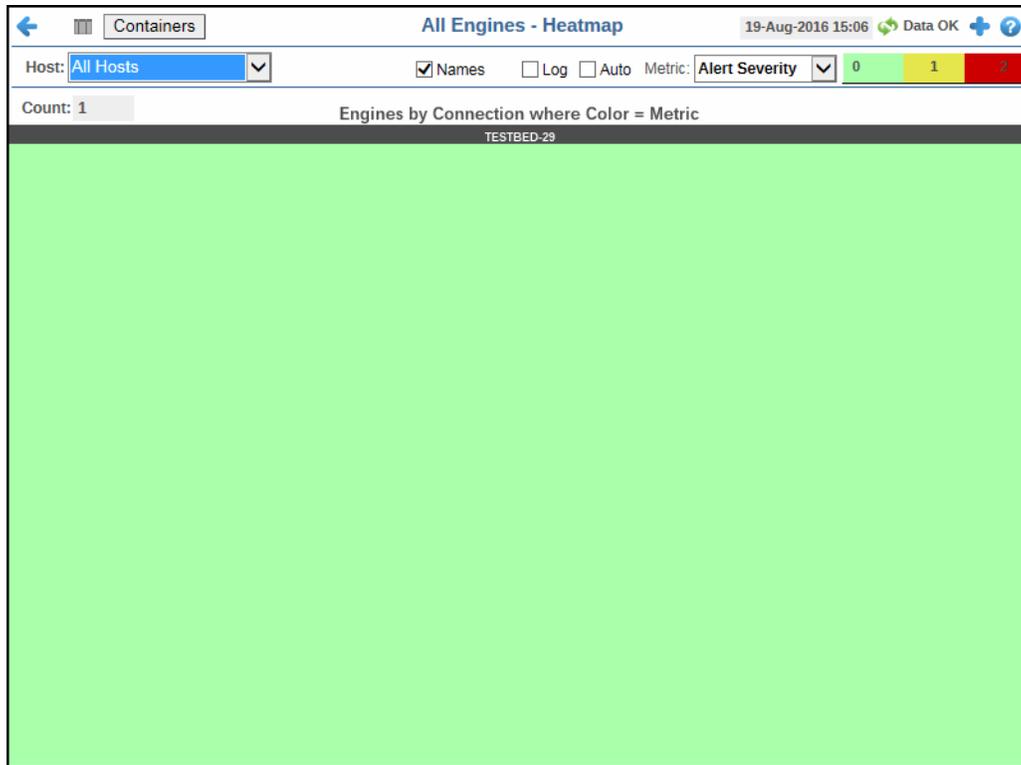
This heatmap display provides an easy-to-view interface that allows you to quickly identify the current status of each of your engines for each available metric. You can view the engines in the heatmap based on the following metrics: the current alert severity, the current alert count, the percentage 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.

---

**Note:** When the data for the engine being monitored expires, the color of the rectangle representing that engine in the heatmap automatically changes to a color that is not included in the color gradient bar so that you can easily identify when the data is stale. Expired data could occur for a number of reasons

including, but not limited to, the connection to the engine may have been lost, or the engine could have experienced a problem and may no longer be up-and-running.



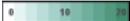
#### Title Bar (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- open commonly accessed displays.
- The number of items currently in the display.

- Data connection state. Red indicates 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.
- Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the **Alert Views - RTView Alerts Table** display.

#### Fields and Data:

- Host** Select the host for which you want to show data in the display.
- Count** Lists the total number of engines found using the search parameters.
- Names** Select this check box to display the names of the engines at the top of each rectangle in the heatmap.

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Log</b>            | Select 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>    | 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 <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 Usage</b>      | <p>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 <b>DocEngineCpuUsageHigh</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>Memory</b>         | <p>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 <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>                                                                                                                                                                                                                                                                      |

**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.

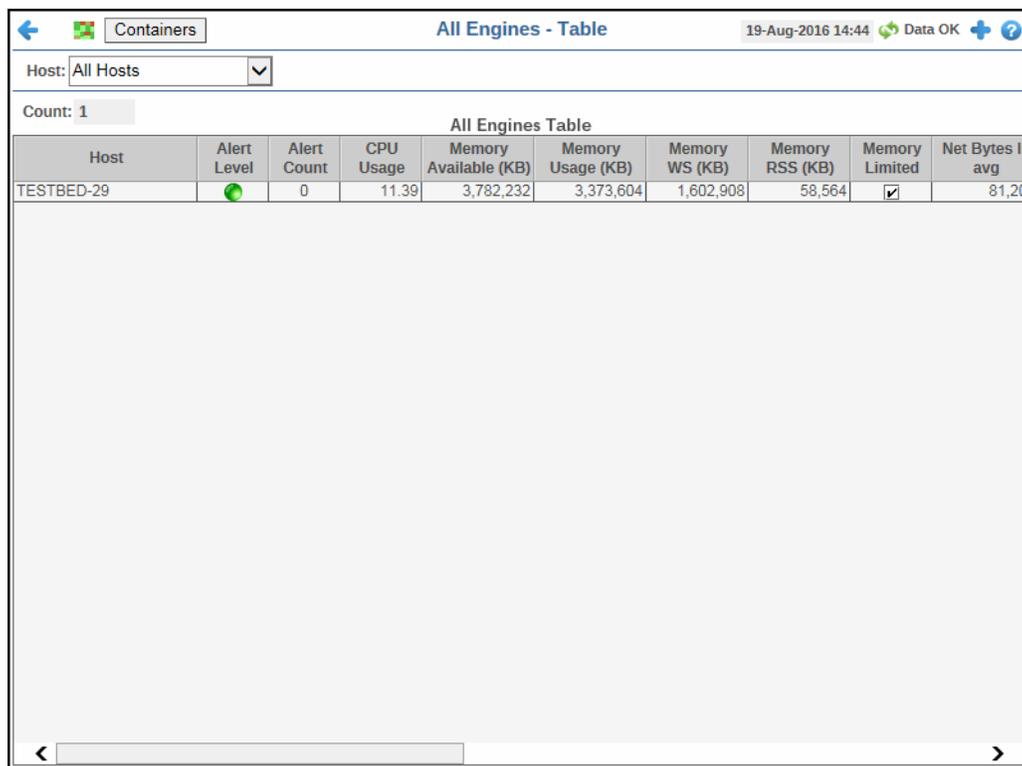
When **Auto** is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.

**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



Containers All Engines - Table 19-Aug-2016 14:44 Data OK

Host: All Hosts

Count: 1

| 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 | <span style="color: green;">●</span> | 0           | 11.39     | 3,782,232             | 3,373,604         | 1,602,908      | 58,564          | <input checked="" type="checkbox"/> | 81,20            |

**Title Bar** (possible features are):



Open the previous and upper display.



**Menu**

and **Table** open commonly accessed displays.

23-Mar-2017 12:04

Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green

**Data OK** icon is a strong indication that data is current and valid.

6,047

The number of items currently in the display.



**Data OK** Data connection state. Red indicates the data source is disconnected (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.

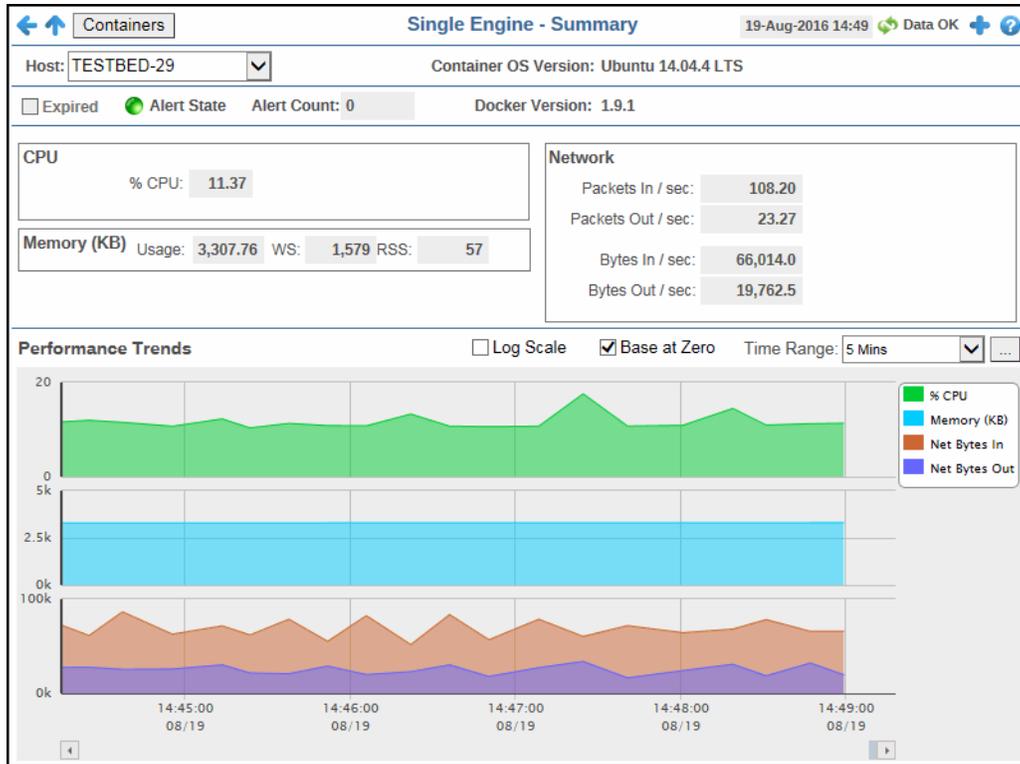
**Net Packets In avg** The average number of incoming packets per second.

**Net Packets Out avg** The average number of outgoing packets per second.

|                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Docker Version</b>           | The Docker software version of the Docker Engine.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Container OS Version</b>     | The version of the container's operating system on which the docker engine is running.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Container Kernal Version</b> | The version of the container's Kernal in which the docker engine is running.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Expired</b>                  | <p>When checked, performance data about the engine has not been received within the time specified (in seconds) in the <b>\$docRowExpirationTime</b> field in the <b>conf\rtvapm_dockermon.properties</b> file. The <b>\$docRowExpirationTimeForDelete</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 cadvisor-rtview agent. To view/edit the current values, modify the following lines in the <b>.properties</b> file:</p> <pre>##### # CACHE / HISTORIAN SETTINGS # # Cache history settings # sl.rtvview.sub=\$docRowExpirationTime:120 sl.rtvview.sub=\$docRowExpirationTimeForDelete:0</pre> <p>In the example above, the <b>Expired</b> check box would be checked after 120 seconds, and the row would never be deleted. If <b>\$docRowExpirationTimeForDelete</b> was set to 3600, then 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

## Engines 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** (possible features are):



Open the previous and upper display.



and **Table** open commonly accessed displays.

**23-Mar-2017 12:04** Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.



The number of items currently in the display.



**Data OK** Data connection state. Red indicates the data source is disconnected (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:

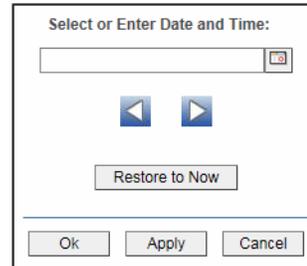
**% CPU** -- traces the percentage of CPU being used on the engine.

**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 Heatmap

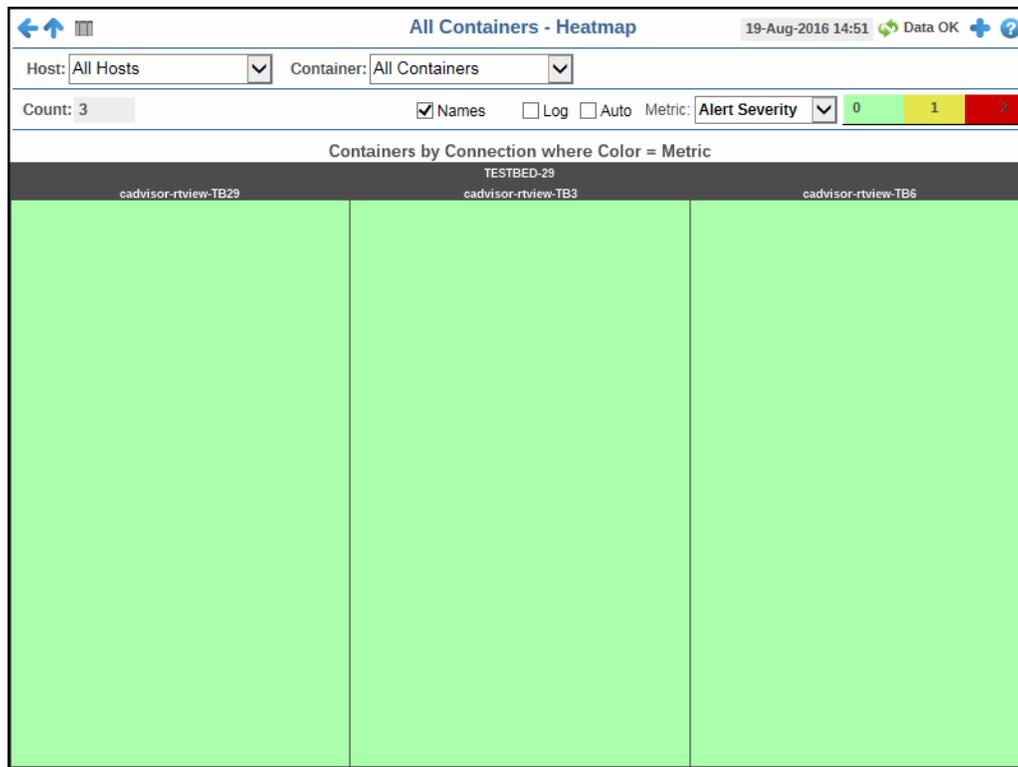
This heatmap display provides an easy-to-view interface that allows you to quickly identify the current status of each of your containers for each available metric. You can view the containers in the heatmap based on the following metrics: the current alert severity, the current alert count, the percentage 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.

---

**Note:** When the data for the container being monitored expires, the color of the rectangle representing that container in the heatmap automatically changes to a color that is not included in the color gradient bar so that you can easily identify when the data is stale. Expired data could occur for a number of reasons including, but not limited to, the connection to the container may have been lost, or the container could have experienced a problem and may no longer be up-and-running.

---



#### Title Bar (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- open commonly accessed displays.
- The number of items currently in the display.

- Data connection state. Red indicates 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.
- Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the **Alert Views - RTView Alerts Table** display.

#### Fields and Data:

- Host** Select the host (or **All Hosts**) for which you want to show data in the heatmap.
- Container** Select the container (or **All Containers**) for which you want to show data in the heatmap..
- Count** Lists the total number of containers (rows) found using the search parameters.
- Names** Select this check box to display the names of the containers at the top of each rectangle in the heatmap.
- Log** Select 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.

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <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>    | 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.                                                                                                                                                                                                                                                                                                                                                                 |
| <b>CPU Usage</b>      | <p>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.</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>Memory</b>         | <p>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 <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>Net Bytes In</b>   | <p>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 <b>DocContainerNetBytesInHigh</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>Net Bytes Out</b>  | <p>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 <b>DocContainerNetBytesOutHigh</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>                                                                                                                  |

## Container 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 | <span style="color: green;">●</span> | 0           | 0.46      | 3,782,232             | 53,704            | 3              |
| TESTBED-29 | cadvisor-rtview-TB3  | 822a5c6601a8 | <span style="color: green;">●</span> | 0           | 0.36      | 3,782,232             | 24,968            | 11             |
| TESTBED-29 | cadvisor-rtview-TB6  | 8fac67ccf6d0 | <span style="color: green;">●</span> | 0           | 0.43      | 3,782,232             | 22,168            | 11             |

**Title Bar** (possible features are):



Open the previous and upper display.



and open commonly accessed displays.

**23-Mar-2017 12:04** Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green

**Data OK** icon is a strong indication that data is current and valid.



**6,047** The number of items currently in the display.



**Data OK** Data connection state. Red indicates the data source is disconnected (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>           | 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>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>                | The current status of the container. Values are:<br><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> ).<br><b>Created</b> - indicates that the container has been created but is currently not in use.<br><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.                                                                |
| <b>Starts</b>                | 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.                                             |

**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:

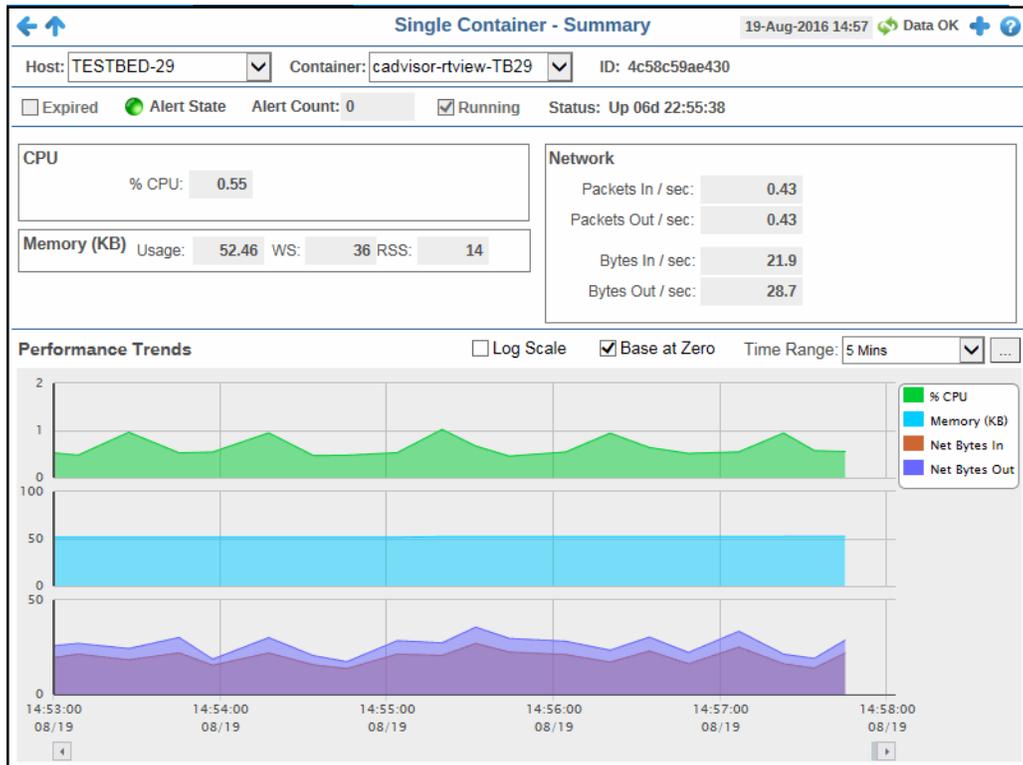
```
#####
CACHE / HISTORIAN SETTINGS
#
Cache history settings
#
sl.rtvview.sub=$docRowExpirationTime:120
sl.rtvview.sub=$docRowExpirationTimeForDelete:0
```

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.

**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** (possible features are):

← ↑ Open the previous and upper display.

Menu and Table open commonly accessed displays.

23-Mar-2017 12:04 Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green Data OK icon is a strong indication that data is current and valid.

6,047 The number of items currently in the display.

Data OK Data connection state. Red indicates the data source is disconnected (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\rtvapi\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.rtvapi.sub=$docRowExpirationTime:120
sl.rtvapi.sub=$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

**% CPU** The percentage of CPU used by the container.

## Memory (KB)

**Usage** The current memory usage by the container, 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 percentage of CPU used by the container.

**Memory (KB)** -- traces the current memory usage by the container, in kilobytes, which includes all memory regardless of when it was accessed.

**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**

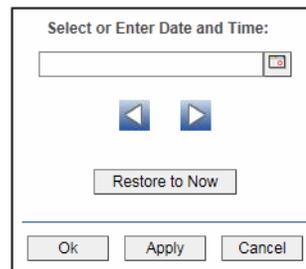
Select to enable a logarithmic scale. Use **Log Scale** to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log 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.

## Hosts

Hosts displays provide extensive visibility into the health and performance of your hosts.

Displays are:

- ["All Hosts Heatmap" on page 211](#)
- ["All Hosts Table" on page 212](#)
- ["All Hosts Grid" on page 215](#)
- ["All Processes Table" on page 217](#)
- ["All Network Table" on page 219](#)
- ["All Storage Table" on page 221](#)
- ["Host Summary" on page 223](#)

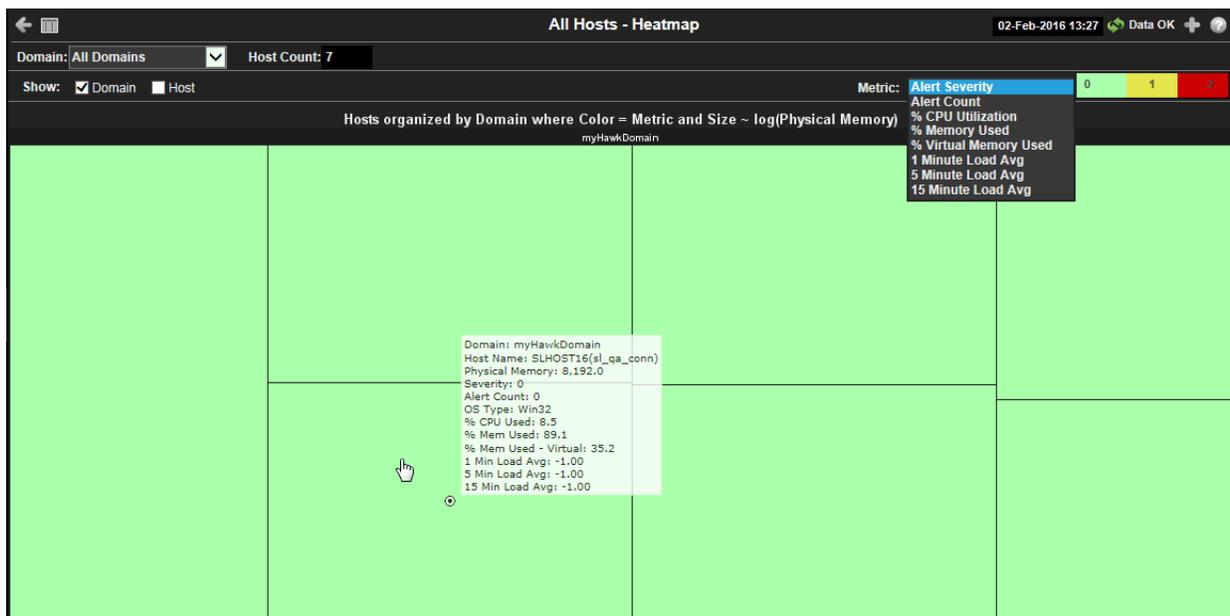
## All Hosts Heatmap

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 (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- Menu** , **Table** open commonly accessed displays.
- 6,047** The number of items currently in the display.

- Data OK** Data connection state. Red indicates 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.
- 23-Mar-2017 12:04** Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the **Alert Views - RTView Alerts Table** display.

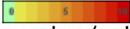
### Filter By:

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:

- Host Count:** The total number of hosts currently shown in the display.

|               |                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Show:</b>  | <b>Domain</b>                           | When selected, includes the Domain name in the display.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|               | <b>Host</b>                             | When selected, includes the Host name in the display.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <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>                      | <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 Utilization</b>                | <p>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.</p>                                                                                                                                                                                                                                                                                                                                                                                                                            |
|               | <b>% Memory Used</b>                    | <p>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.</p>                                                                                                                                                                                                                                                                                                                                                                                                                         |
|               | <b>% Virtual Memory Used</b>            | <p>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.</p>                                                                                                                                                                                                                                                                                                                                                                                                               |
|               | <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.

| 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 (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- open commonly accessed displays.
- The number of items currently in the display.

- Data connection state. Red indicates 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.
- Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the **Alert Views - RTView Alerts Table** 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.

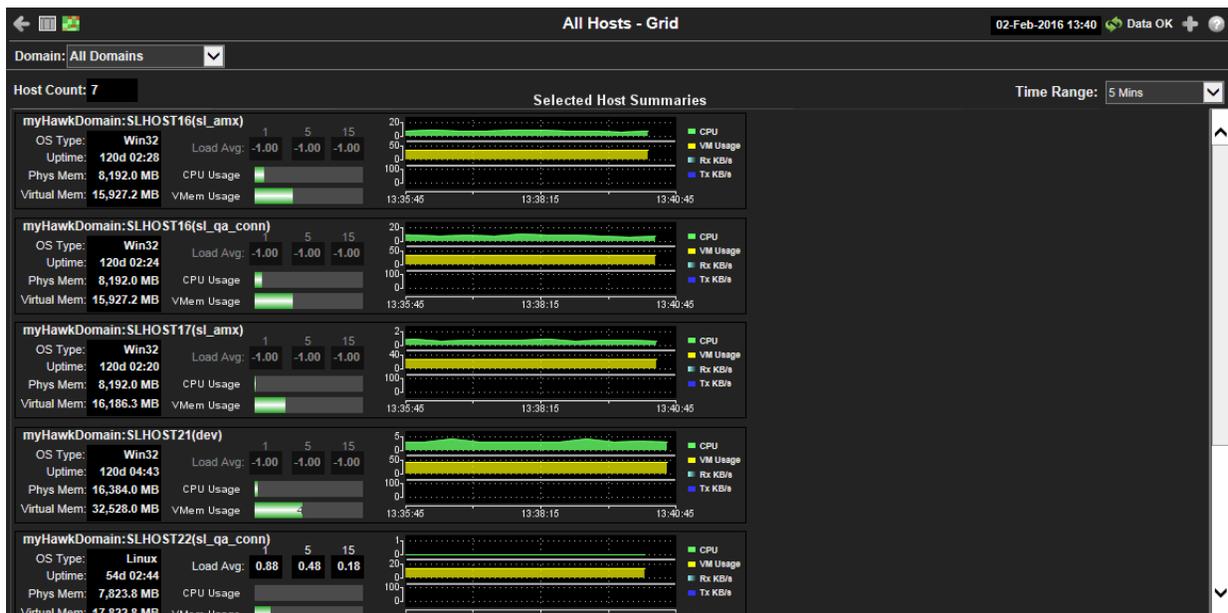
**Expired** When checked, data has not been received from this host in the specified amount of time. The host will be removed from the Monitor in the specified amount of time. The default setting is **60** seconds.

|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <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 provides a list view of utilization metrics for all hosts. 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 (possible features are):

- ← ↑ Open the previous and upper display.
- + Open an instance of this display in a new window.
- ? Open the online help page for this display.
- Menu, Table open commonly accessed displays.
- 6,047 The number of items currently in the display.

- Data OK Data connection state. Red indicates 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.
- 23-Mar-2017 12:04 Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green Data OK icon is a strong indication that data is current and valid.
- Open the Alert Views - RTView Alerts Table 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_armx) |         | 4    | <ACCESS DENIE | System               | 0.02  | 01-May-2014 23:18:11 | 17,056      | -1              | -1            | 465,4      |
| myHawkDon | SLHOST16(sl_armx) |         | 376  | NT AUTHORITY\ | smss.exe             | 0.00  | 01-May-2014 23:18:11 | 504         | -1              | -1            | 1,3        |
| myHawkDon | SLHOST16(sl_armx) |         | 540  | NT AUTHORITY\ | csrss.exe            | 0.00  | 01-May-2014 23:18:16 | 2,472       | -1              | -1            | 12,089     |
| myHawkDon | SLHOST16(sl_armx) |         | 628  | NT AUTHORITY\ | wininit.exe          | 0.00  | 01-May-2014 23:18:17 | 172         | -1              | -1            | 1,9        |
| myHawkDon | SLHOST16(sl_armx) |         | 648  | NT AUTHORITY\ | csrss.exe            | 0.00  | 01-May-2014 23:18:17 | 216         | -1              | -1            | 11,3       |
| myHawkDon | SLHOST16(sl_armx) |         | 692  | NT AUTHORITY\ | services.exe         | 0.01  | 01-May-2014 23:18:17 | 5,736       | -1              | -1            | 14,404     |
| myHawkDon | SLHOST16(sl_armx) |         | 708  | NT AUTHORITY\ | lsass.exe            | 0.02  | 01-May-2014 23:18:17 | 9,576       | -1              | -1            | 1,273,7    |
| myHawkDon | SLHOST16(sl_armx) |         | 716  | NT AUTHORITY\ | lsm.exe              | 0.00  | 01-May-2014 23:18:17 | 3,500       | -1              | -1            | 1,030,0    |
| myHawkDon | SLHOST16(sl_armx) |         | 800  | NT AUTHORITY\ | winlogon.exe         | 0.00  | 01-May-2014 23:18:17 | 172         | -1              | -1            | 3,6        |
| myHawkDon | SLHOST16(sl_armx) |         | 864  | <ACCESS DENIE | svchost.exe          | 0.00  | 01-May-2014 23:18:20 | 3,660       | -1              | -1            | 1,496,0    |
| myHawkDon | SLHOST16(sl_armx) |         | 416  | <ACCESS DENIE | svchost.exe          | 0.00  | 01-May-2014 23:18:20 | 4,376       | -1              | -1            | 2,872,7    |
| myHawkDon | SLHOST16(sl_armx) |         | 472  | NT AUTHORITY\ | LagonUI.exe          | 0.00  | 01-May-2014 23:18:21 | 2,960       | -1              | -1            | 164,7      |
| myHawkDon | SLHOST16(sl_armx) |         | 640  | <ACCESS DENIE | svchost.exe          | 0.00  | 01-May-2014 23:18:21 | 13,756      | -1              | -1            | 1,111,65   |
| myHawkDon | SLHOST16(sl_armx) |         | 548  | NT AUTHORITY\ | svchost.exe          | 0.05  | 01-May-2014 23:18:21 | 121,608     | -1              | -1            | 1,111,21   |
| myHawkDon | SLHOST16(sl_armx) |         | 1048 | NT AUTHORITY\ | svchost.exe          | 0.28  | 01-May-2014 23:18:21 | 26,108      | -1              | -1            | 1,605,0    |
| myHawkDon | SLHOST16(sl_armx) |         | 1220 | <ACCESS DENIE | svchost.exe          | 0.00  | 01-May-2014 23:18:22 | 7,336       | -1              | -1            | 2,716,0    |
| myHawkDon | SLHOST16(sl_armx) |         | 1316 | <ACCESS DENIE | svchost.exe          | 0.00  | 01-May-2014 23:18:22 | 13,452      | -1              | -1            | 4,123,0    |
| myHawkDon | SLHOST16(sl_armx) |         | 1548 | <ACCESS DENIE | spoolsv.exe          | 0.00  | 01-May-2014 23:18:23 | 3,336       | -1              | -1            | 434,0      |
| myHawkDon | SLHOST16(sl_armx) |         | 1576 | <ACCESS DENIE | svchost.exe          | 0.00  | 01-May-2014 23:18:23 | 4,268       | -1              | -1            | 3,881,0    |
| myHawkDon | SLHOST16(sl_armx) |         | 1796 | NT AUTHORITY\ | HeciServer.exe       | 0.00  | 01-May-2014 23:18:24 | 776         | -1              | -1            | 12,6       |
| myHawkDon | SLHOST16(sl_armx) |         | 1820 | NT AUTHORITY\ | IProsetMonitor.exe   | 0.00  | 01-May-2014 23:18:24 | 756         | -1              | -1            | 10,3       |
| myHawkDon | SLHOST16(sl_armx) |         | 2700 | <ACCESS DENIE | svchost.exe          | 0.00  | 01-May-2014 23:19:05 | 780         | -1              | -1            | 8,8        |
| myHawkDon | SLHOST16(sl_armx) |         | 684  | <ACCESS DENIE | svchost.exe          | 0.00  | 01-May-2014 23:21:06 | 2,468       | -1              | -1            | 2,909,0    |
| myHawkDon | SLHOST16(sl_armx) |         | 2944 | NT AUTHORITY\ | IAstorDataMgrSvc.exe | 0.00  | 01-May-2014 23:21:08 | 5,836       | -1              | -1            | 1,102,0    |
| myHawkDon | SLHOST16(sl_armx) |         | 2680 | NT AUTHORITY\ | jhi_service.exe      | 0.00  | 01-May-2014 23:21:19 | 980         | -1              | -1            | 16,6       |
| myHawkDon | SLHOST16(sl_armx) |         | 4248 | NT AUTHORITY\ | LSM.exe              | 0.00  | 01-May-2014 23:21:21 | 1,724       | -1              | -1            | 152,0      |

**Title Bar (possible features are):**

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- Menu** , **Table** open commonly accessed displays.
- 6,047** The number of items currently in the display.
- Data OK** Data connection state. Red indicates 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.
- 23-Mar-2017 12:04** Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the Alert Views - RTView Alerts Table 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.

| 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 RUNNING  |
| QATB   | TESTBED-26 | <input type="checkbox"/> | enp0s3  | 192.168.200.76 | 255.255.255.0 | UP BROADCAST RUNNING |
| QATB   | TESTBED-34 | <input type="checkbox"/> | lo      | 127.0.0.1      | 255.0.0.0     | UP LOOPBACK RUNNING  |
| QATB   | TESTBED-34 | <input type="checkbox"/> | ens32   | 192.168.200.34 | 255.255.255.0 | UP BROADCAST RUNNING |

### Title Bar (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- open commonly accessed displays.
- 6,047 The number of items currently in the display.

- Data OK Data connection state. Red indicates 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.
- 23-Mar-2017 12:04 Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green Data OK icon is a strong indication that data is current and valid.
- Open the Alert Views - RTView Alerts Table 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.                                                                                                                                                           |

**Tx Packets/s** The number of packets transmitted per second.

**Timestamp** 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 (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- Menu** , **Table** open commonly accessed displays.
- 6,047** The number of items currently in the display.

- Data OK** Data connection state. Red indicates 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.
- 23-Mar-2017 12:04** Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the **Alert Views - RTView Alerts Table** 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 display provides a detailed view of utilization metrics for a single server.



### Title Bar (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- open commonly accessed displays.
- 6,047** The number of items currently in the display.

- Data OK** Data connection state. Red indicates 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.
- 23-Mar-2017 12:04** Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the Alert Views - RTView Alerts Table 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.
- 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.
- Last Update** The time the display was last updated.

### Fields and Data:

Data describes the selected host except where noted.

- OS:** The operating system.
- Version:** The operating system version.
- Uptime:** 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.                                    |

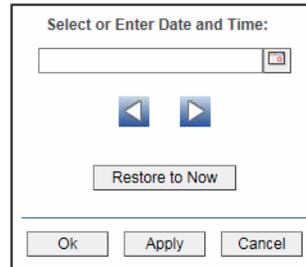
### Trend Graphs

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.

## Alert Views

This display presents detailed information about all alerts that have occurred in your Monitoring system:

- [“Alert Detail Table” on page 137](#): Shows current alert data. Use this time-ordered tabular view to track, manage and assign alerts.

### Alert Detail Table

Use this display to track and manage all alerts that have occurred in the system, add comments, acknowledge or assign Owners to alerts.

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 Sort [■] to order column data.

Alert Detail Table 04-Nov-2015 15:36 Data OK

Alert Name Filter: All Alert Types  Show Critical Alerts Only  Show Cleared Alerts (214)

Alert Text Filter:  Owner Filter: All  Show Acknowledged Alerts (1)

Total: 37 Critical: 24 Warning: 13 Alert Settings Conn OK

Select one or more alerts to enable action buttons below

| Time              | ID      | Clr'd                    | Ack'd                    | Owner | Alert Name             | Alert Index            |                                   |
|-------------------|---------|--------------------------|--------------------------|-------|------------------------|------------------------|-----------------------------------|
| 11/10/14 15:58:53 | 12150   | <input type="checkbox"/> | <input type="checkbox"/> |       | BwProcessExecutionTime | slxp10(slapm)~domains  | High Warning Limit exceeded, cu   |
| 11/10/14 15:10:14 | 11993   | <input type="checkbox"/> | <input type="checkbox"/> |       | BwEngineMemUsedHigh    | slel4-64(slmon)~domain | High Alert Limit exceeded, curre  |
| 11/10/14 15:04:12 | 11969   | <input type="checkbox"/> | <input type="checkbox"/> |       | BwServerFreeMemLow     | slel4-64(slmon)        | Low Warning Limit exceeded, cu    |
| 11/10/14 14:23:12 | 11839   | <input type="checkbox"/> | <input type="checkbox"/> |       | HostMemoryUsedHigh     | myHawkDomain~slel4-6   | High Alert Limit exceeded, curre  |
| 11/08/14 00:07:00 | 1007    | <input type="checkbox"/> | <input type="checkbox"/> |       | BwEngineStopped        | slapm(slapm)~domains   | Engine has stopped                |
| 11/08/14 00:07:00 | 1002    | <input type="checkbox"/> | <input type="checkbox"/> |       | JvmNotConnected        | localhost~domainslapm  | Server disconnected               |
| 10/31/14 14:01:36 | 1040828 | <input type="checkbox"/> | <input type="checkbox"/> |       | HawkAlert              | SLHOST6(domain6)~13    | System Uptime changed to 0 da     |
| 10/28/14 16:38:01 | 1035056 | <input type="checkbox"/> | <input type="checkbox"/> |       | HawkAlert              | slapm(slapm)~2         | System uptime changed to 14 da    |
| 10/27/14 12:34:55 | 1031840 | <input type="checkbox"/> | <input type="checkbox"/> |       | BwEngineStopped        | slvmrh2(slapm)~domair  | Engine has stopped                |
| 10/27/14 12:34:55 | 1031839 | <input type="checkbox"/> | <input type="checkbox"/> |       | BwEngineStopped        | slvmrh2(slapm)~domair  | Engine has stopped                |
| 10/24/14 00:16:36 | 1015259 | <input type="checkbox"/> | <input type="checkbox"/> |       | HawkAlert              | SLHOST6(domain6)~12    | Service Print Spooler is running. |
| 10/16/14 08:18:51 | 984247  | <input type="checkbox"/> | <input type="checkbox"/> |       | HostMemoryUsedHigh     | myHawkDomain~slhpux    | High Warning Limit exceeded, cu   |
| 10/03/14 15:50:05 | 943834  | <input type="checkbox"/> | <input type="checkbox"/> |       | HawkAlert              | SLHOST6(domain6)~11    | Server Processes are at 59.0      |
| 09/12/14 11:16:21 | 892842  | <input type="checkbox"/> | <input type="checkbox"/> |       | BwEngineStopped        | slvmware(slmon)~doma   | Engine has stopped                |
| 09/12/14 11:16:21 | 892841  | <input type="checkbox"/> | <input type="checkbox"/> |       | BwEngineStopped        | slvmware(slmon)~doma   | Engine has stopped                |
| 09/12/14 11:16:21 | 892840  | <input type="checkbox"/> | <input type="checkbox"/> |       | BwEngineStopped        | slvmware(slmon)~doma   | Engine has stopped                |
| 09/04/14 19:54:36 | 883519  | <input type="checkbox"/> | <input type="checkbox"/> |       | HostMemoryUsedHigh     | myHawkDomain~slvmrh    | High Alert Limit exceeded, curre  |

Selected Alert(s):

Acknowledge One Alert Set Owner and Comments See Details

**Title Bar (possible features are):**

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- Menu  Table open commonly accessed displays.
- 6,047 The number of items currently in the display.
- Data OK Data connection state. Red indicates 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.
- 23-Mar-2017 12:04 Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green Data OK icon is a strong indication that data is current and valid.
- Open the Alert Views - RTView Alerts 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.

**Fields and Data**

This display includes:

**Alert Name Filter** Select from a list of alert types or select All Alert Types. Filters limit display content and drop down menu selections to only those items that pass through the selected filter's criteria. Therefore if no items match the filter, you may see nothing in a given display and may not have any options available in the drop-down menu(s).  
**NOTE:** Filter selection is disabled on drill down summary displays.

**Show Critical Alerts Only** If selected, only currently critical alerts are shown in the table. Otherwise, all active alerts are shown in the table.

**Show Cleared Alerts** If selected, cleared alerts are shown in the table.

**Alert Text Filter** Enter all or part of the Alert Text to view specific alerts. For example, High selects and displays all alerts that include High in the Alert Text. **NOTE:** Wild card characters are supported.

**Owner Filter** Select the alert **Owner** to show alerts for in the table.

**All** Shows alerts for all Owners in the table: **Not Owned** and **Owned By Me** alerts.

**Not Owned** Shows only alerts without Owners in the table.

**Owned By Me** Shows only alerts for the current user in the table.

**Show Acknowledged Alerts** If selected, acknowledged alerts are shown in the table.

**Total** Total number of alerts.

**Critical** Number of critical alerts.

**Warning** Total number of alerts that are currently in a warning state.

**Alert Settings Conn OK** The Alert Server connection state:  
 Disconnected.  
 Connected.

**Alerts Table**  
 This table lists all active alerts for the current filters.

|                                    |                                                                                                                                                                                      |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Time</b>                        | The time (Java format) that the alert was activated.                                                                                                                                 |
| <b>ID</b>                          | A unique string identifier assigned to each activated alert.                                                                                                                         |
| <b>Clr'd</b>                       | When checked, this typically indicates that the alert has been resolved. An alert is automatically cleared when the value being monitored no longer in the alert threshold.          |
| <b>Ack'd</b>                       | When checked, this typically indicates that the alert is being addressed.                                                                                                            |
| <b>Owner</b>                       | The named owner assigned by the administrator.                                                                                                                                       |
| <b>Alert Name</b>                  | The name of the alert. For a list of all alerts, see Alert Administration.                                                                                                           |
| <b>Alert Index</b>                 | The IP address and port number for the source (application, server, and so forth) associated with the alert.                                                                         |
| <b>Alert Text</b>                  | Descriptive text about the alert.                                                                                                                                                    |
| <b>Severity</b>                    | The severity of the alert:<br><b>0 = Normal</b><br><b>1 = Warning / Yellow</b><br><b>2 = Alarm / Red</b><br>The color for the alert severity is shown by the row in the alert table. |
| <b>Source</b>                      | Name of RTView Data Server sending this data (or localhost).                                                                                                                         |
| <b>Selected Alerts</b>             | Lists the alerts selected in the table.                                                                                                                                              |
| <b>Acknowledge One Alert</b>       | Select one alert from the Current Alerts table and click to acknowledge.                                                                                                             |
| <b>Acknowledge Multiple Alerts</b> | Select one or more alerts from the Current Alerts table and click to acknowledge.                                                                                                    |

**Set Owner and Comments**

Select one or more alerts from the Current Alerts table and click to open the Set Owner and Comments dialog.

**See Details**

Select an alert from the Current Alerts table and click to open the Set Owner and Comments dialog.

## Administration

These displays enable you to set alert thresholds, observe how alerts are managed, and view internal data gathered and stored by RTView (used for troubleshooting with SL Technical Support). Displays in this View are:

- [“Alert Administration” on page 140](#): Displays active alerts and provides interface to modify and manage alerts.
- [“Alert Administration Audit” on page 146](#): View cached data that RTView is capturing and maintaining, and use this data use this for debugging with SL Technical Support.
- [“RTView Cache Tables” on page 148](#): Display information about RTView Agent data servers.
- [“RTView Agent Admin” on page 150](#): Display information about RTView Agent data servers.

### Alert Administration

This section includes:

- [“Tabular Alert Administration” on page 232](#)
- [“Setting Override Alerts” on page 234](#)

Set global or override alert thresholds. Alert settings are global by default.

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 CI Type. For example, the EMS CI Type 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. The Index Types available are determined by the CI Type. For example, with the EMS CI Type you set an alert for a specific *topic* on a specific *server* (such as the PerServerTopic Index option), rather than for all topics on all servers.

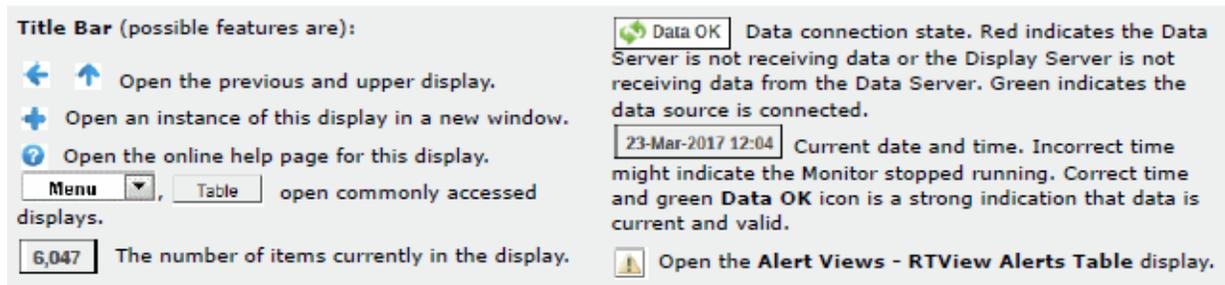
For details about alerts for Solace, see **Appendix A, Alert Definitions**.

The screenshot shows the 'Alert Administration' interface. At the top, there is a title bar with a back arrow, the text 'Alert Administration', the date and time '03-Dec-2015 16:33', and status indicators for 'Data OK' and 'Alert Settings Conn OK'. Below the title bar, there is an 'Alert Filter' field with a 'Clear' button, and two buttons: 'Alert Engine Enabled' (with a green indicator) and 'Disable' (with a red indicator).

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 table lists various alerts such as 'JvmCpuPercentHigh', 'JvmGcDutyCycleHigh', 'JvmMemoryUsedAfterGCHigh', etc., with their respective threshold values and durations.

Below the table is a section titled 'Settings for Selected Alert'. It contains several input fields: 'Name' (with a dropdown menu showing '<select one alert from the table to edit>'), 'Warning Level', 'Duration (Secs.)', 'Description', 'Alarm Level', and 'Enabled' (with a checkbox). A 'Save Settings' button is located at the bottom right of this section.

| Alert                         | Warning Level | Alarm Level | Duration | Alert Enabled            | Override Count |
|-------------------------------|---------------|-------------|----------|--------------------------|----------------|
| JvmCpuPercentHigh             | 50            | 75          | 30       | <input type="checkbox"/> |                |
| JvmGcDutyCycleHigh            | 50            | 75          | 30       | <input type="checkbox"/> |                |
| JvmMemoryUsedAfterGCHigh      | 1             | 80          | 0        | <input type="checkbox"/> |                |
| JvmMemoryUsedHigh             | 50            | 75          | 30       | <input type="checkbox"/> |                |
| JvmNotConnected               | NaN           | NaN         | 30       | <input type="checkbox"/> |                |
| JvmStateData                  | NaN           | NaN         | 30       | <input type="checkbox"/> |                |
| JvmThreadCountHigh            | 50            | 75          | 30       | <input type="checkbox"/> |                |
| SolBridgeInboundByteRateHigh  | 8000000       | 10000000    | 30       | <input type="checkbox"/> |                |
| SolBridgeInboundMsgRateHigh   | 40000         | 50000       | 30       | <input type="checkbox"/> |                |
| SolBridgeOutboundByteRateHigh | 8000000       | 10000000    | 30       | <input type="checkbox"/> |                |
| SolBridgeOutboundMsgRateHigh  | 40000         | 50000       | 30       | <input type="checkbox"/> |                |
| SolClientInboundByteRateHigh  | 8000000       | 10000000    | 30       | <input type="checkbox"/> |                |
| SolClientInboundMsgRateHigh   | 40000         | 50000       | 30       | <input type="checkbox"/> |                |
| SolClientOutboundByteRateHigh | 8000000       | 10000000    | 30       | <input type="checkbox"/> |                |
| SolClientOutboundMsgRateHigh  | 40000         | 50000       | 30       | <input type="checkbox"/> |                |
| SolClientSlowSubscriber       | 1             | NaN         | 30       | <input type="checkbox"/> |                |



## 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 Engine Enabled**
  - Alerting is disabled.
  - Alerting is enabled (by default).
- Disable** Suspends all alerting.
- Alert Settings Conn OK** 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**.

|                        |                                                                                                                                                                                     |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <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="button" value="..."/> 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><b>NOTE:</b> 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><b>NOTE:</b> 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.                  |
| <b>Duration</b>          | 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. <b>0</b> is for immediate execution. This setting is global.                                                                                                                                                                                                                                                                                |
| <b>Enabled</b>           | Check to enable alert globally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Save Settings</b>     | Click to apply alert settings.                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Override Settings</b> | Click to open the <b>Tabular Alert Administration</b> 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**.

The screenshot shows the 'Tabular Alert Administration' window. At the top, it displays the date and time '10-Nov-2014 09:35' and a status indicator 'Data OK'. Below this, the title is 'Override Settings For Alert: TbeBackingStoreLoadRateHigh' with a sub-status 'Alert Settings Conn OK'. The main area contains a table with the following data:

| Index Type | Index                                  | Override Settings                   | Warning Level | Alarm Level | Alert Enabled                       |
|------------|----------------------------------------|-------------------------------------|---------------|-------------|-------------------------------------|
| PerBECache | new51Cache~be_gen_Events_CreateAccount | <input checked="" type="checkbox"/> | 80            | 95          | <input checked="" type="checkbox"/> |

Below the table, there are input fields for 'Index Type' (set to 'PerBECache') and 'Index' (set to 'new51Cache~be\_gen\_Events\_CreateAccount'). To the right are 'Add', 'Remove', and 'Save Settings' buttons. Below these is a section for 'Unassigned Indexes' with a table:

| Connection | beCacheName                            |
|------------|----------------------------------------|
| new51Cache | be_gen_Concepts_Account                |
| new51Cache | be_gen_Events_AccountOperations        |
| new51Cache | be_gen_Events_Debit                    |
| new51Cache | be_gen_Events_Deposit                  |
| new51Cache | be_gen_Events_Unsuspend                |
| new51Cache | be_gen_FraudCriteria                   |
| new51Cache | com_fibco_cep_runtime_model_element... |

To the right of this table is the 'Alert Settings' section with input fields for 'Warning Level' (80.0) and 'Alarm Level' (95.0), and checkboxes for 'Alert Enabled' and 'Override Settings', both of which are checked. A 'Back to Alerts' button is at the bottom right.

### Fields and Data

This display includes:

|                                      |                                          |
|--------------------------------------|------------------------------------------|
| <b>Alert Settings Conn OK</b>        | The connection state.                    |
| <span style="color: red;">●</span>   | No servers are found.                    |
| <span style="color: green;">●</span> | 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**.

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Index Type</b> | Select the type of alert index to show in the <b>Values</b> table. Options in this drop-down menu are populated by the type of alert selected, which are determined by the CI Type. For example, the EMS Monitor has the following Index Types: <ul style="list-style-type: none"> <li>PerServer: Alert settings are applied to a specific server.</li> <li>PerQueue: Alert settings are applied to the queue on each server that has the queue defined.</li> <li>PerServerQueue: Alert settings are applied to a single queue on a specific server.</li> <li>PerTopic: Alert settings are applied to the topic on each server that has the topic defined.</li> <li>PerServerTopic: Alert settings are applied to a single topic on a specific server.</li> </ul> |
| <b>Index</b>      | The value of the index column.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

|                           |                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Override Settings</b>  | When checked, the override settings are applied.                                                                                                                                                                                                                                                                                                                                     |
| <b>Alert Enabled</b>      | When checked, the alert is enabled.                                                                                                                                                                                                                                                                                                                                                  |
| <b>Index Type</b>         | 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. <b>NOTE:</b> Options in this drop-down menu are populated by the type of alert selected from the <b>Alert Administration</b> display. Index Types available depend on the Package installed. |
| <b>Index</b>              | The selected index column to be edited. This field is populated by the selection made in the <b>Unassigned Indexes</b> table.                                                                                                                                                                                                                                                        |
| <b>Unassigned Indexes</b> | 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 <b>Index</b> field. Edit settings in the <b>Alert Settings</b> fields, then click <b>Add</b> .                                                                                               |
| <b>Add</b>                | Click to add changes made in <b>Alert Settings</b> , then click <b>OK</b> to confirm.                                                                                                                                                                                                                                                                                                |
| <b>Remove</b>             | Click to remove an alert selected in the <b>Index Alert Settings</b> table, then click <b>OK</b> to confirm.                                                                                                                                                                                                                                                                         |
| <b>Save Settings</b>      | 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.

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Warning Level</b>     | <p>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.</p> <p><b>NOTE:</b> 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.</p> <p>Click <b>Save Settings</b> to save settings.</p> |
| <b>Alarm Level</b>       | <p>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.</p> <p><b>NOTE:</b> 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. Click <b>Save Settings</b> to save settings.</p>                         |
| <b>Alert Enabled</b>     | Check to enable the alert, then click <b>Save Settings</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Override Settings</b> | Check to enable override global setting, then click <b>Save Settings</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Back to Alerts</b>    | Returns to the <b>Administration - Alert Administration</b> display.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

## Setting Override Alerts

Perform the following steps to set an override alert. Index Types available depend on the CI Type. 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 an alert in the **Active Alert Table** and click **Edit Index Levels**. The **Tabular Alert Administration** display opens.
2. In the **Tabular Alert Administration** display, from the **Index Type** drop-down menu, select the Index type (options are populated by the type of alert you previously selected). For example, with the EMS Monitor, 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 **Values** table, select the server to apply alert settings and click **Add**. In a few moments the server appears in the **Index Alert Settings** table.
4. In the **Index Alert Settings** table select the server.
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.  
**Levels Enabled** Select this option.  
To turn off the alert for only this index (global alert thresholds will no longer apply to this index):  
**Alert Enabled** Deselect this option.  
**Levels Enabled** 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.  
**Levels Enabled** Deselect this option.
7. Click **Save Settings**. In a few moments the modifications are updated in the **Index Alert Settings** table.

## Alert Administration 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                                                                                                                                                                  |       |         |                             |           |            |             |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|---------|-----------------------------|-----------|------------|-------------|--|
| 23-Sep-2015 16:08  Data OK  |       |         |                             |           |            |             |  |
| Audit Conn OK                                                                                                  |       |         |                             |           |            |             |  |
| TIME_STAMP                                                                                                                                                                                        | USER  | ACTION  | ALERTNAME                   | INDEXTYPE | ALERTINDEX | WARNINGLEVE |  |
| 09/20/15 15:27:45                                                                                                                                                                                 | admin | UPDATED | BwActivityErrorRateHigh     | Default   | Default    | 0.0         |  |
| 09/20/15 15:16:15                                                                                                                                                                                 | 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 (possible features are):

-   Open the previous and upper display.
-  Open an instance of this display in a new window.
-  Open the online help page for this display.
- open commonly accessed displays.
- The number of items currently in the display.

-   Data connection state. Red indicates 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.
- Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
-  Open the Alert Views - RTView Alerts Table display.

#### Fields and Data

This display includes:

- Audit Conn OK** The Alert Server connection state.
  -  Disconnected.
  -  Connected.
- TIME\_STAMP** The date and time of the modification.
- USER** The user name of the administrator who made the modification.
- ACTION** The type of modification made to the alert, such as **UPDATED**.
- ALERTNAME** The name of the alert modified.

|                     |                                                                                                                                                                                                                                                                                                                                              |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>INDEXTYPE</b>    | <p>The type of alert Index.</p> <p>Index Type refers to the manner in which alert settings are applied and vary among CI Types. For example, the JVM CI Type has a PerJvm Index Type, the EMS CI Type has PerServer, PerTopic and PerQueue Index Types which apply alerts to servers, topics and queues, respectively.</p>                   |
| <b>ALERTINDEX</b>   | <p>The index of the alert which identifies its source.</p>                                                                                                                                                                                                                                                                                   |
| <b>WARNINGLEVEL</b> | <p>The warning threshold value for the alert at the time this modification was made, as indicated in the <b>TIME_STAMP</b> column.</p> <p>The warning level is a threshold that, when exceeded, a warning is executed.</p>                                                                                                                   |
| <b>ALARMLEVEL</b>   | <p>The alarm threshold value for the alert at the time this modification was made, as indicated in the <b>TIME_STAMP</b> column.</p> <p>The alarm level is a threshold that, when exceeded, an alarm is executed.</p>                                                                                                                        |
| <b>DURATION</b>     | <p>The duration value for the alert at the time this modification was made, as indicated in the <b>TIME_STAMP</b> column.</p> <p>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.</p> |
| <b>ENABLED</b>      | <p>When checked, indicates the alert was enabled at the time this modification was made, as indicated in the <b>TIME_STAMP</b> column.</p>                                                                                                                                                                                                   |
| <b>USEINDEX</b>     | <p>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>.</p>                                                                                                                      |

## 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 (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- open commonly accessed displays.
- The number of items currently in the display.

- Data connection state. Red indicates 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.
- Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the **Alert Views - RTView Alerts Table** 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. |

## 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             | 8         | 58                |                |                   |         |   |
| RtvAlertTable                  | current             | 0             | 29        | 2,676             |                |                   |         |   |
| <b>RtvAlertTableLocal</b>      | current             | <b>19,906</b> | <b>38</b> | <b>36,159,374</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                  | Acknowledged             | ID   | Last |             |
| 09/23/15 14:16:19  | Sep 23, 2015 | HawkAlert  | SLHOST5(dc  | 1        | Server Proc   | <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  | SLHOST8(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 Warning  | <input type="checkbox"/> | <input type="checkbox"/> | 1046 | Sep  |             |

### Title Bar (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- Menu** , **Table** open commonly accessed displays.
- 6,047** The number of items currently in the display.

**Data OK** Data connection state. Red indicates 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.

**23-Mar-2017 12:04** Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.

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

|                   |                                                   |                                                                                                                                                                           |
|-------------------|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CacheTable</b> | The name of the cache table.                      |                                                                                                                                                                           |
| <b>TableType</b>  | The type of cache table.                          |                                                                                                                                                                           |
|                   | <b>current</b>                                    | This table is a current table which shows the current values for each index.                                                                                              |
|                   | <b>current_condensed</b>                          | This table is a current table with primary compaction configured.                                                                                                         |
|                   | <b>history</b>                                    | This table is a history table.                                                                                                                                            |
|                   | <b>history_condensed</b>                          | This table is a history table with primary compaction configured.                                                                                                         |
|                   | <b>history_combo</b>                              | 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. |
| <b>Rows</b>       | The number of rows currently in the table.        |                                                                                                                                                                           |
| <b>Columns</b>    | The number of columns currently in the table.     |                                                                                                                                                                           |
| <b>Memory</b>     | 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.

|             |                                            |
|-------------|--------------------------------------------|
| <b>Rows</b> | The number of rows currently in the table. |
|-------------|--------------------------------------------|

## 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.

The screenshot shows the 'RTView Agent Metrics Administration' window. At the top right, it displays the date and time '10-Nov-2014 16:31' and a green 'Data OK' icon. Below the title bar, the main content area is titled 'Data Received from Remote Agents' and contains a table with the following columns: AgentName, AgentClass, Client ID, Total Rows Rcvd, Delta Rows rcvd, Rows Rcvd / sec, and Last Receive Time. The table lists 20 different agents and their associated metrics.

| 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 (possible features are):

- Open the previous and upper display.
- Open an instance of this display in a new window.
- Open the online help page for this display.
- open commonly accessed displays.
- The number of items currently in the display.

- Data connection state. Red indicates 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.
- Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the **Alert Views - RTView Alerts Table** 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. |



## APPENDIX A Alert Definitions

This section describes alerts for Solace and their default settings.

| Alert                                                                                                                                                          | Warning Level | Alarm Level | Duration | Enabled |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-------------|----------|---------|
| <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   |

## Alert Definitions

|                                                                                                                                                                                                   |      |       |    |       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-------|----|-------|
| <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>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>SoIMsgRouterCspfNeighborDown</b><br>Link-detect = no for CSPF neighbor.<br>Index Type: PerAppliance                                                                                               | 1      | NaN    | 30 | FALSE |
| <b>SoIMsgRouterDelvrdUnAckMsgUtilHigh</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>SoIMsgRouterFailoverDetected</b><br>The backup message router in a HA pair has assumed control.<br>Index Type: PerAppliance                                                                       | 1      | NaN    | 30 | FALSE |
| <b>SoIMsgRouterFanSensorCheckFailed</b><br>The speed measured for one or more fans is below threshold.<br>Index Type: PerApplianceSensor                                                             | 5000   | 2657   | 30 | FALSE |
| <b>SoIMsgRouterInboundByteRateHigh</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>SoIMsgRouterInboundMsgRateHigh</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>SoIMsgRouterIngressFlowUtilHigh</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>SoIMsgRouterInterfaceDown</b><br>Link-detect = no for one or more enabled network interfaces.<br>Index Type: PerSolInterface                                                                      | NaN    | NaN    | 30 | FALSE |
| <b>SoIMsgRouterMsgCountUtilHigh</b><br>The message count utilization for the message router is excessive.<br>Index Type: PerAppliance                                                                | 70     | 85     | 30 | FALSE |
| <b>SoIMsgRouterMsgEgressUtilHigh</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>SoIMsgRouterMsgIngressUtilHigh</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>SoIMsgRouterNABUsageHigh</b><br>Network Acceleration Blade memory usage is excessive.<br>Index Type: PerNAB                                                                                       | 60     | 80     | 30 | FALSE |

## Alert Definitions

|                                                                                                                                                                                                                                                                                                 |        |        |    |       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|----|-------|
| <b>SoIMsgRouterNotConnected</b><br>The message router is not ready for collecting performance monitoring data.<br>Index Type: PerAppliance                                                                                                                                                      | NaN    | NaN    | 30 | FALSE |
| <b>SoIMsgRouterOutboundByteRateHigh</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>SoIMsgRouterOutboundMsgRateHigh</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>SoIMsgRouterPendingMsgsHigh</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>SoIMsgRouterPowerSupplyFailed</b><br>A power supply has failed.<br>Index Type: PerAppliance                                                                                                                                                                                                  | 0      | NaN    | 30 | FALSE |
| <b>SoIMsgRouterSpoolUtilization</b><br>The amount of spool space used for messages is excessive.<br>Index Type: PerAppliance                                                                                                                                                                    | 70     | 85     | 30 | FALSE |
| <b>SoIMsgRouterStandbyDiskUtilHigh</b><br>The utilization of the standby disk partition for the message router is excessive.<br>Index Type: PerAppliance                                                                                                                                        | 70     | 85     | 30 | FALSE |
| <b>SoIMsgRouterSubscriptionUtilHigh</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>SoIMsgRouterSwapUsedHigh</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>SoIMsgRouterSyslogAlert</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>SoIMsgRouterSyslog</b> alert. | -      | -      | -  | -     |
| <b>SoIMsgRouterTemperatureSensorCheckFailed</b><br>A chassis temperature measurement is above threshold.<br>Index Type: PerAppliance                                                                                                                                                            | 40     | 45     | 30 | FALSE |
| <b>SoIMsgRouterTranSessionCntUtilHigh</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>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 |



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\*\* Apache HttpClient is embedded in the RTView Core libraries and is licensed under the Apache License Version 2.0

\*\* JEval 0.9.4 is licensed under the Apache License Version 2.0

### Apache License

Version 2.0, January 2004

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That's all there is to it!

## APPENDIX C Limitations

This chapter defines the limitations experienced when using iPad Safari.

### 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.

## Limitations

- **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.