RTView Enterprise Monitor® for TIBCO® User's Guide

Version 4.2



RTView Enterprise Monitor®

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Preface	1
About This Guide	1
Audience	
Document Conventions	1
Additional Resources	2
Release Notes	
SL Documentation	
Support Knowledge Base	
Contacting SL	
Internet	
Technical Support	2
Chapter 1 - Introduction to RTView Enterprise Monitor for TIBCO	3
Overview	3
Architecture	5
RTView EM Platform	
Solution Packages	6
System Requirements	7
Installation	8
Solution Packages	9
Upgrading the Monitor	
EM 4.1	
EM 4.0 Solution Package for TIBCO ActiveMaxtrix and the Solution Package for TIBC	10
	10
	10
Property File Handling and Configuration Application	11
EM 3.8	13
EM 3.6	
EM 3.5	
	15
	16 16
	16
	17
	17
	17
	19
EM 2.0	19
EM 1.5.0.0	20
EM 1.3.0.0	21
Chapter 2 - Configuration and Deployment	23
	23

Basic Steps	24
Configure Central Servers	25
Configure Solution Package Projects Optional Additional Configurations	
Configure Remote Solution Package Project	
Configure Solution Package Connections and Settings	
Configure Sender / Receiver	
Configure Service Data Model	37
Introduction to the CMDB	38
Configuration Steps	40
Configure Databases of the Central Servers	
Configure User and Role Management Substitutions for User and Role Management	
Configure High Availability	
Chapter 3 - Alert Configuration	
Overview	59
Configure Alert Notification	
Configure Central Alert Notification	
Configure Notifications in the Configuration Application	
Configure Optional Backend Server Notification	
Configure the RTVRULES Solution Package	
Configure Dual Write for Distributed Alert Server	
Configure Alert Groups	69
Configure Alert Filters	71
Chapter 4 - User Interface Configuration	75
Change Order of Navigation Tabs	75
Modify the CUSTOM Tab	76
Replacing Tab Content	
Renaming the CUSTOM Tab	77
Removing the CUSTOM Tab	
Adding Tabs	
Configure RTView Alerts Table Columns	
Changing the Default Columns	
Exposing ID, Cleared, Cleared Reason and Alert Index Columns	
Changing the Sort Column and Order	
Add Owned By Me to RTView Alerts Table	83
Chapter 5 - Using the Monitor	85
Overview	85

Navigation Tabs	
SERVICE TREE Tab	87
SERVICE VIEWS Tab	92
COMPONENTS Tab	
ALERTS Tab	95
ADMIN Tab	98
CUSTOM Tab	99
Fundamental Structure of Displays	
Heatmaps	
Mouse-over	
Tables	
Multiple Column Sorting	
Column Visibility	
Column Filtering	
Column Locking	
Column Reordering	
Saving Settings	
Row Paging	
Row Color Code	
Row Keyboard Selection	
Trend Graphs	
Mouse-over	
Log Scale	
Time Range	
Popup Menu	
Export PDF Report	
Title Bar	
Multiple Windows	111
Enterprise Monitor Views/Displays	112
All Management Areas	
Area Heatmap	
Area Table	
Multi Area Service Views	
Group/Service Heatmap	
Group/Region Heatmap	
Group / Service Table	
Services CI Type Summary	
Services History Heatmap	
Single Area Service Views	
Single Area: Group/Service Heatmap	
Single Area: Region/Service Heatmap	
Single Area: Group / Service Table	
Single Area: Services CI Type Summary	
Single Area: Services History Heatmap	
Service Summary Views	
Service By CI Type	
Service Summary	142

Service Health Heatmap	146
Key Metrics Views	148
Service KM Heatmap	148
Service KM Table	152
Service KM History	155
Service KM History (Alt)	159
Available KM Metrics and Alerts	163
Component Views	169
CI / Service Tree View	169
CI / Service Table	171
CI / Type Heatmap	173
CI / Type Table	175
Metric Explorer	177
Metric Explorer	178
RTView Servers	182
Data Servers	
Display Servers	185
Historian Servers	
Version Info	
Alert Views	
RTView Alerts Table	
Administration	
Alert Administration	
Alert Admin Audit	
Alert Action Audit Trail	
CMDB Administration	
CMDB Admin	
Architecture	
System Overview	
RTView Data Servers	
Data Server Summary	
RTView History Table Statistics	
RTView Cache Tables	
RTView CI Stats Tables	
RTView CI Type Defs	
RTView KM Defs	
About	
Property Views	
Properties Configuration	
System Properties	
Applied Properties	
All Properties	
Properties Descriptions	
Diagram Views	
Steps to Create a Diagram Display	
Create an Object Template Display	
Node Administration Display	240

Link Admin Display	242
Diagram Properties Admin Display	243
Add Diagrams to your Project	245
View Diagram Displays	245
Optional Diagram Display Customizations	245
Chapter 6 - Solution Package for Apache Tomcat	249
Configuration Parameters You Need	249
Configure Data Collection	250
Troubleshoot	251
Log Files	251
JAVA_HOME	251
Permissions	251
Network/DNS	251
Verify Data Received from Data Server	
Verify Port Assignments	251
Tomcat Monitor Views/Displays	252
Tomcat Servers	252
All Tomcat Servers	
Tomcat Server Summary	
Tomcat Applications	
Applications Heatmap	
Applications Summary	259
Chapter 7 - Solution Package for TIBCO ActiveMatrix Businessworks	263
Enabling Monitoring in TIBCO ActiveMatrix BusinessWorks	264
Enable Monitoring via OSGi Plugin for Version 6	264
Enable Monitoring via TIBCO Hawk for Versions 5 and 6	
Enable Monitoring via JMX for Version 5	
Enable Monitoring of BWSE Engines for Version 5	270
Configuration Parameters You Need	270
Configure Data Collection	
Configure for Hawk (for BW5 and BW)	
Configuring Data Collection for Hawk	
Configure for RTView Manager	
Configuring Data Collection for RTView Manager	
Configuring Historical Data for RTView Manager Configure for TIBCO ActiveMatrix Businessworks	
Configuring Data Collection in the RTView Configuration Application for	
sion 6	
Configuring Historical Data for Version 6	
Configure for TIBCO ActiveMatrix Businessworks 5	
Configuring Data Collection in the RTView Configuration Application for	or Ver-

sion 5	290
Configuring Historical Data for Version 5	291
Configure for BWSE Engines for Version 5	296
Create Customized Filters for Version 5	299
Enable BW Servers Displays for Version 5	300
Reduce Collection of Process Data for Version 5	300
Troubleshoot	302
Log Files	303
JAVA HOME	
Permissions	303
Network/DNS	303
Verify Data Received from Data Server	
Verify Port Assignments	
BusinessWorks Monitor Views/Displays	
BW Applications	
BW All Applications Heatmap	
BW All Applications Table	
BW Single Application Summary	
BW Containers.	
All Containers Heatmap	
All Containers Table	
Single Container Summary	
BW AppNodes	
BW All AppNodes Heatmap	
BW All AppNodes Table	
BW Single AppNode Summary	
BW AppSlices	
BW All AppSlices Heatmap	
BW All AppSlices Table	332
BW Single AppSlice Summary	
BW Processes	
BW All Processes Heatmap	337
BW All Processes Table	340
BW Single Process Summary	343
BW5 Engines	346
All Engines Heatmap	346
All Engines Table	349
All Engines Grid	352
Single Engine Summary	354
BW5 Processes	357
All Processes Heatmap	357
All Processes Table	361
Single Process Summary	364
BW5 Activities	366
All Activities Heatmap	
All Activities Table	369

Single Activity Summary	372
BW5 Servers	374
All Servers Heatmap	374
All Servers Table	377
All Servers Grid	378
Single Server Summary	380
Server Processes	
Single Server Process - Summary	
Chapter 8 - Solution Package for TIBCO Enterprise Message Service [™]	385
Configuration Parameters You Need	385
Configure Data Collection	386
Additional Configurations	394
Configuring Historical Data	
Defining the Storage of EMSMON In Memory History	
Defining Compaction Rules for EMSMON	
Defining Expiration and Deletion Duration for EMSMON Metrics	
Enabling/Disabling Storage of EMSMON Historical Data	
Defining a Prefix for All History Table Names for EMSMON Metrics	
Troubleshoot	
Log Files	
JAVA_HOME	
Permissions	
Network/DNS	
Verify Data Received from Data Server	
Verify Port Assignments	400
Upgrading the Monitor	401
Version 4.2	401
Version 4.1	401
Version 4.0	401
Version 3.8	401
Version 3.7	401
Version 3.6	402
Version 3.5	
Version 3.4	
Version 3.3	
Version 3.2	-
Version 3.1	-
Version 3.0	
DB2	
SQL Server	
MySQL	
SyBase	409
EMS Monitor Views/Displays	411
All EMS Servers	411

All Servers Heatmap	411
All Servers Table	414
All Servers Grid	418
All Servers Topology	420
Single EMS Server	424
Single Server Summary	424
Single Server Trends	429
Single Server Tables	430
EMS Topics	435
All Topics Heatmap	435
All Topics Table	440
All Topics Summary	443
Single Topic Summary	446
Single EMS Topic-Clients	450
Single Topic By Server	453
EMS Queues	455
All Queues Heatmap	
All Queues Table	460
All Queues Summary	463
Single Queue Summary	467
Single EMS Queue-Clients	471
Single Queue By Server	474
EMS Clients	476
Connections	477
Bridges, Users, Ports	479
Routes	481
Producers	485
Producer Summary	487
Consumers	490
Consumer Summary	493
Durables	496
TIBCO Spotfire Reports	498
System Requirements	
Configuring Spotfire Reports	
MySQL Report Configuration	
Oracle Report Configuration	504
Reports	511
EMS Queue Message Metrics Report	512
EMS Server Message Metrics Report	513
Chapter 9 - Solution Package for TIBCO ActiveSpaces	515
Product Overview	
Configuration Parameters You Need	517
Configure Data Collection	517
Enabling & Disabling Archival of Historical Data	521

Defining the Storage of TASMON In Memory History	521
Defining TASMON Compaction Rules	522
Defining Expiration and Deletion Duration for TASMON Metrics	523
Enabling/Disabling Storage of TASMON Historical Data	524
Defining a Prefix for All History Table Names for TASMON Metrics	525
Troubleshoot	526
Log Files	526
JAVA_HOME	
Permissions	527
Network/DNS	527
Verify Data Received from Data Server	527
Verify Port Assignments	
Upgrading the Monitor	527
Version 4.0	
Version 3.8	
TIBCO ActiveSpaces Monitor Views/Displays	
Spaces View All Metaspaces Table	
Metaspace Summary	
All Spaces Table	
All Spaces Heatmap	
Space Summary	
All Queries Table	
Query Summary	
Members View	
All Members Table	
All Members Heatmap	
Member Summary	
Member Summary - Process	
Member Summary -JVM	
Member Summary Store Table	
Members by Space Heatmap	
Spaces by Member Table	
Member by Space Summary	
Chapter 10 - Solution Package for TIBCO BusinessEvents	577
Setup	
Configuration Parameters You Need	578
Configure Data Collection	578
Additional Configurations	581
Enable Collection of Historical BEMON Data	582
Defining the Storage of In Memory BEMON History	
Defining Compaction Rules for BEMON	583

Defining Expiration and Deletion Duration for BEMON Metrics	584
Enabling/Disabling Storage of BEMON Historical Data	585
Defining a Prefix for All History Table Names for BEMON Metrics	
Limitations for TIBCO BusinessEvents Installation	587
Troubleshoot	588
Log Files	
JAVA HOME	
Permissions	
Network/DNS	
Verify Data Received from Data Server	
Verify Port Assignments	
TIBCO BusinessEvents Monitor Views/Displays	589
Clusters / Nodes View	
Clusters	589
Cluster Summary	593
Cluster Nodes Table	596
Cluster Nodes Heatmap	598
Inference Node Summary	601
Storage Node Summary	606
Events / Concepts View	
Agent Events	
Agent Event Summary	
Event Cache Hits	
Event Hit Summary	
Concept Cache Hits	
Concept Hit Summary	
Channels	
All Inference Agents	
All RTC Reports	631
Chamber 11 Calution Dealerse for TIPCO Adapters	C 2E
Chapter 11 - Solution Package for TIBCO Adapters	
Configuration Parameters You Need	635
Configure Data Collection	636
Additional Configurations	640
Troubleshoot	645
Log Files	645
JAVA_HOME	646
Permissions	646
Network/DNS	646
Verify Data Received from Data Server	646
Verify Port Assignments	646
TIBCO Adapters Monitor Views/Displays	646
All Adapters View	
All Adapters Heatmap	647

All Adapters Table	649
Single Adapter View	651
Adapter Summary	652
Chapter 12 - Solution Package for TIBCO FTL	655
Configuration Parameters You Need	
Configure Data Collection	
Configure CONNECTIONS	
Setup DATA COLLECTION	
Configure DATA STORAGE	
Troubleshoot	
Log Files	
JAVA_HOME	
Permissions	
Network/DNS	
Verify Data Received from Data Server	662
Verify Port Assignments	662
TIBCO FTL Monitor Views/Displays	662
FTL Servers	662
All Servers Heatmap	663
All Servers Table	665
All Group Servers Table	669
All Satellites Table	670
Server Summary	673
FTL Clients	676
All Clients Heatmap	676
All Clients Table	679
Clients by Group	682
Client Summary	684
Client Metrics	687
FTL Events	
Events	688
Chapter 13 - Solution Package for TIBCO ActiveMatrix	601
Product Overview	
Configuration Parameters You Need	693
Configure Data Collection	693
Configuring Hawk for TIBCO ActiveMatrix	
Configuring Data Collection for Hawk	
Verifying BW5 Processes Metrics are Collected	
Configuring Data Collection for TIBCO ActiveMatrix	
Configuring Historical Data Collection for TIBCO ActiveMatrix	699
Troubleshoot	704
Log Files	704

JAVA_HOME	705
Permissions	705
Network/DNS	705
Verify Data Received from Data Server	705
Verify Port Assignments	
Chapter 14 - Solution Package for JVM	707
Configuration Parameters You Need	
Configure Data Collection	707
Troubleshoot	708
Log Files	709
JAVA_HOME	709
Permissions	709
Network/DNS	709
Verify Data Received from Data Server	709
Verify Port Assignments	709
JVM Processes View/Displays	709
All JVMs	
All JVMs Heatmap	
All JVMs Table	712
Single JVM	715
JVM Summary	715
JVM System Properties	719
JVM Memory Pool Trends	720
JVM GC Trends	724
Chapter 15 - Solution Package for RTView Manager	727
Configuration Parameters You Need	728
Configure Data Collection	
Configure CONNECTIONS	
Setup DATA COLLECTION	
Configure DATA STORAGE	
Troubleshoot	
Log Files	
JAVA HOME	
Permissions	
Network/DNS	
Verify Data Received from Data Server Verify Port Assignments	
RTView Manager Displays	
Data Servers	
Display Servers	
Historian Servers	
Version Info	740

JVM Displays	742
All JVMs	743
All JVMs Heatmap	743
All JVMs Table	745
Single JVM	748
JVM Summary	
JVM System Properties	752
JVM Memory Pool Trends	753
JVM GC Trends	
Tomcat Displays	759
Tomcat Servers	
All Tomcat Servers	
Tomcat Server Summary	
Tomcat Applications	
Applications Heatmap	
Applications Summary	
Chapter 16 - Solution Package for RTView Host Agent	771
Troubleshoot	771
Log Files	
JAVA_HOME	
Permissions	
Network/DNS	
Verify Data Received from Data Server	
Verify Port Assignments	
General Hosts Views/Displays	
All Hosts	
All Hosts Heatmap	
All Hosts Table	
All Hosts Grid	
All Processes Table	
All Network Table	
All Storage Table	
Single Host	
Host Summary	
,	
Chapter 17 - Solution Package for VMware vCenter	789
Configuration Parameters You Need	
Configure Data Collection	
Additional Configurations	
Enabling/Disabling Historical Data Collection	
Defining the Storage of VMWare In Memory History	
Defining Compaction Rules for VMWare	
Defining Expiration and Deletion Duration for VMWare Metrics	797

Enabling/Disabling Storage of VMWare Historical Data	. 798
Defining a Prefix for All History Table Names for VMWare Metrics	. 799
Troubleshoot	. 800
Log Files	. 800
JAVA_HOME	
Permissions	
Network/DNS	. 801
Verify Data Received from Data Server	. 801
Verify Port Assignments	
Common Problems when Connecting to a vSphere Server	
VMware vCenter Monitor Views/Displays	. 802
Clusters View	
All Clusters	. 802
Hosts View	. 805
All Hosts	. 805
Single Host Summary	. 808
Host Health	. 811
Host NICs	. 813
Virtual Machines View	. 815
All VMs Heatmap	. 815
All VMs Table	. 818
All VMs Disk Table	. 821
Single VM Summary	. 822
Datastores View	. 825
All Datastores Table	. 826
Hosts by Datastore Table	. 828
VMs by Datastore Table	. 829
Single Datastore Summary	. 831
Networks View	
All Networks Table	. 833
Events/Alarms View	
All Events Table	
All Alarms Table	. 838
	0.44
Chapter 18 - Solution Package for TIBCO Hawk	
Configuration Parameters You Need	. 842
Configure Data Collection	
Configure CONNECTIONS	
Setup DATA COLLECTION	
Configure DATA STORAGE	. 846
Troubleshoot	. 847
TIBCO Hawk Displays	. 847
Hawk Agents Table	
Hawk Alerts Table	
RTView Agent Administration	

Appendix A - RTView Configuration Application	853
Open the RTView Configuration Application	853
HOME Page	853
Apply Changes	854
Settings for RTView Central Servers Central Server Configuration>General Central Server Configuration>Data Servers>CONNECTIONS Central Server Configuration>Central Config Server Central Server Configuration>Central Alert Server Central Server Configuration>Central Alert Historian Central Server Configuration>Central Display Server	855 858 859 863 867
Settings for Solution Package Servers Solution Package Server Configuration>General Solution Package Server Configuration>Data Server>DATA SERVER Tab Solution Package Server Configuration>Data Server>DATA SERVER Tab Solution Package Server Configuration>Data Server>SENDER Tab Solution Package Server Configuration>Historian Solution Package Server->Solution Package Configuration	869 872 873 873 874
Appendix B - RTView EM Scripts	877
Scripts	877
rtvservers.dat	885
Appendix C - Properties	889
Appendix C - Properties Overview	
Overview Properties File Format Property Filters	889 889 890
Overview Properties File Format	889 889 890
Overview Properties File Format Property Filters	889 889 890 890
Overview Properties File Format Property Filters Applying Properties Files and Filters.	889 889 890 890 891
Overview Properties File Format Property Filters Applying Properties Files and Filters Sample Properties Files	889 889 890 890 891 893
Overview Properties File Format Property Filters Applying Properties Files and Filters Sample Properties Files. Appendix D - Alert Definitions	889 889 890 890 891 893 893
Overview Properties File Format Property Filters Applying Properties Files and Filters Sample Properties Files. Appendix D - Alert Definitions RTView Host Agent.	889 890 890 891 893 893 893
Overview Properties File Format Property Filters Applying Properties Files and Filters Sample Properties Files Appendix D - Alert Definitions. RTView Host Agent RTView Manager and RTView Rules	889 890 890 891 893 893 893 895 897
Overview Properties File Format Property Filters Applying Properties Files and Filters Sample Properties Files Appendix D - Alert Definitions RTView Host Agent RTView Manager and RTView Rules TIBCO ActiveMatrix BusinessWorks	889 890 890 891 893 893 893 895 897 902
Overview Properties File Format Property Filters Applying Properties Files and Filters Sample Properties Files Appendix D - Alert Definitions RTView Host Agent RTView Manager and RTView Rules TIBCO ActiveMatrix BusinessWorks TIBCO ActiveSpaces	889 890 890 891 893 893 893 895 897 902 904
Overview Properties File Format Property Filters Applying Properties Files and Filters Sample Properties Files Appendix D - Alert Definitions RTView Host Agent RTView Manager and RTView Rules TIBCO ActiveMatrix BusinessWorks TIBCO ActiveSpaces TIBCO Adapters	889 890 890 891 893 893 893 895 897 902 904 905
Overview Properties File Format Property Filters Applying Properties Files and Filters Sample Properties Files Appendix D - Alert Definitions RTView Host Agent RTView Host Agent RTView Manager and RTView Rules TIBCO ActiveMatrix BusinessWorks TIBCO ActiveSpaces TIBCO Adapters TIBCO BusinessEvents	889 890 890 891 893 893 893 895 897 902 904 905 906

opendix E - Limitations	7
iPad Safari Limitations	7
TIBCO ActiveMatrix BusinessWorks	-
Servers	9
Business Works 5.7.1 Engine Status 919	9
BWSE Components	9
opendix F - Third Party Notice Requirements	1
RTView EM	1
RTView Core®	7

Preface

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

- "About This Guide" on page 1
- "Additional Resources" on page 2
- "Contacting SL" on page 2

About This Guide

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

Audience

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

Document Conventions

This guide uses the following standard set of typographical conventions.

Convention	Meaning
italics	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: amnesiac > enable amnesiac # configure terminal
< >	Values that you specify appear in angle brackets: interface <ipaddress></ipaddress>

Additional Resources

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

- "Release Notes" on page 2
- "SL Documentation" on page 2

Release Notes

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

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

SL Documentation

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

Support Knowledge Base

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

Contacting SL

This section describes how to contact departments within SL.

Internet

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

Technical Support

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

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

CHAPTER 1 Introduction to RTView Enterprise Monitor for TIBCO

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

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

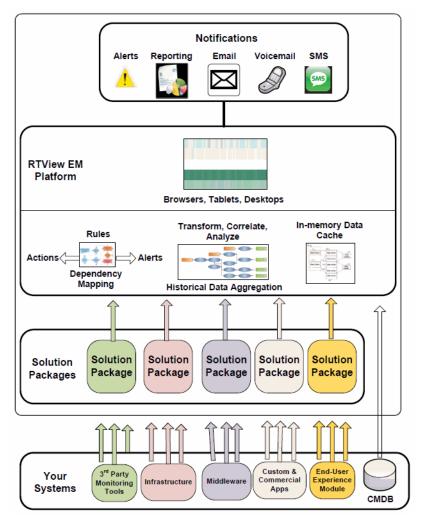
Overview

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

RTView Enterprise Monitor® for TIBCO® enables application support teams to:

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

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



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

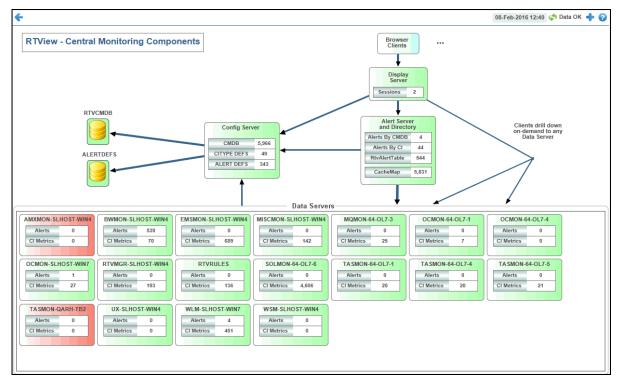
The following figure illustrates the many types of critical sources for which RTView Enterprise Monitor® for TIBCO® gathers key performance data.

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

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

Architecture

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



RTView EM Platform

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

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

Solution Packages

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

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

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

System Requirements

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.

Installation

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

The SL Download Center provides access to the RTView Enterprise Monitor via **.zip** file, **RTViewTIBCOMonitor_<version>.zip**, which includes all available RTView Enterprise Monitor® for TIBCO® Solution Packages.

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

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

Windows

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

UNIX/Linux

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

../rtvapm_init.sh

Multi-Machine Installations

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

Documentation

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

Application Server

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

Solution Packages

The RTView Enterprise Monitor contains an assortment of available Solution Packages. Each Solution Package is in a directory under **<installation directory>/RTViewTIBCOMonitor/rtvapm**. For example, the Solution Package for TIBCO Enterprise Message Service(TM) is in the **emsmon** directory (**RTViewTIBCOMonitor/rtvapm/emsmon**). Most Solution Packages are configured via the Configuration Application. For those that are not included in the Configuration Application, property file examples are available in the **conf** subdirectory of each Solution Package.

Upgrading the Monitor

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

- "EM 4.1" on page 9
- "EM 4.0" on page 10
- "EM 3.8" on page 13
- "EM 3.6" on page 14
- "EM 3.5" on page 15
- "EM 3.3" on page 15
- "EM 3.2" on page 16
- "EM 3.1" on page 16
- "EM 3.0" on page 17
- "EM 2.3" on page 19
- "EM 2.0" on page 19
- "EM 1.5.0.0" on page 20
- "EM 1.3.0.0" on page 21

EM 4.1

There are no upgrade steps required for EM 4.1.

EM 4.0

Solution Package for TIBCO ActiveMaxtrix and the Solution Package for TIBCO BusinessWorks version 6

The ports used by the sample projects for the Solution Package for TIBCO ActiveMaxtrix and the Solution Package for TIBCO BusinessWorks version 6 have changed. Projects created in previous releases will continue to use the old ports. Users of these solution packages should just be aware the ports have been changed in the new sample projects as follows:

• For BusinessWorks Monitor the new port prefix is **45**. This results in the following default port assignments:

dataserver data port 4578

dataserver JMX port 4568

datserver SC port 4570

dataserver rtvhttp port 4575

dataserver rtvagent port 4572

dataserver sender data port 4576

dataserver sender JMX port 4566

displayserver data port 4579

displayserver JMX port 4569

historian JMX port 4567

database (hsqldb) JMX port 4561

 For ActiveMatrix Monitor the new port prefix is 44. This results in the following default port assignments:

dataserver data port 4478

dataserver JMX port 4468

datserver SC port 4470

dataserver rtvhttp port 4475

dataserver rtvagent port 4472

dataserver sender data port 4476

dataserver sender JMX port 4466

displayserver data port 4479

displayserver JMX port 4469

historian JMX port 4467

database (hsqldb) JMX port 4461

Custom Solution Package

The custom solution package example has been removed from EM. Contact SL technical support for information on creating custom solution packages.

Existing custom solution packages will continue to work as they did before. It is recommended, but not required that existing custom solution packages make the following changes. These changes are needed in order to be compatibe with the new Configuration Application. Custom solution packages will continue to work as before without these changes, but data servers containing custom solution packages without these changes should not be configured via the Configuration Application:

1. Move the following server level properties from **conf\rtvapm.sp.properties** to **conf\rtvapm.sp.compat.properties**:

- all ports
- all proctag properties
- sender.sl.rtview.sub=\$rtvAgentName
- sl.rtview.alert.persistAlertEngineName
- sl.rtview.sub=\$domainName

2. Put the custom solution package directory under **RTVAPM_HOME** or

RTVAPM_USER_HOME. If under **RTVAPM_HOME**, the solution pacakge name must end in **mon** for the "RTView Configuration Application" to detect it.

This will add the custom solution package to the list of available solution packages in the Configuration Application.

3. Add **rtvadmin\sp.meta.json** under **lib** with the following - the "RTView Configuration Application" will use this as the display name for your solution package:

{

"displayname": "The Display Name for your SP"

}

4. Copy **src\rtfiles\rtvconfig.sp.xml** to **lib\rtvadmin** so the "RTView Configuration Application" can read its CI Types.

Property File Handling and Configuration Application

Property file handling has been modified in order to support the Configuration Application. Existing applications will continue to work as before with no changes. However, customers should be aware of the following if they want to merge their old properties into the new version of emsample.

In previous releases, each solution package defined its own ports, sender target and server identification properties. These properties have been removed from the solution package properties and should be defined in the project properties instead. The emsample project been updated to include these properties which have been set to the same values that they inherited from the solution package properties in previous releases (except for TIBCO ActiveMatrix and TIBCO Businessworks version - see note above). Upward compatibility support is included for projects created previous to EM 4.0. In EM 4.0, the **rtview.properties** files in all sample projects were replaced with **project.properties** files. Any project with an **rtview.properties** file is recognized as a project created with a previous release. In that case, RTView will automatically read in the old ports, sender target and server identification properties for all solution packages in the **rtview.properties** file. Therefore, projects created

with previous of EM will continue to run with no modifications. However, projects containing an **rtview.properties** file cannot be configured using the new "**RTView Configuration** Application". The **emsample\conf\emcommon.properties** file has been replaced by **emsample\conf\project-common.properties** which is read just before **project.properties** at the end of the property file list. The **emcommon.properties** file will still be read, but the properties in it will be overridden by the properties in **project-common.**

Merging properties from an old version of emsample to the new release has 2 parts. First there are the central and common settings. Second there are the solution package server setting.

There are two options for merging old central server and common properties from a previous release into the new version of emsample.

The first option for applying central server settings from a previous version is to use the "RTView Configuration Application" to reapply the settings. This is more work, but has the benefit of allowing you to use the Configuration Application moving forward. If you haven't done much to customize emsample central servers, this won't be a big effort. To do this, run the new version of emsample, bring up the Configuration Application and apply all configurations that were part of your previous emsample project. See Chapter 2, "Configuration and Deployment" for more information on how to configure your central servers using the "RTView Configuration Application".

The second option for applying central server settings from a previous version is to use your old properties files. This has the downside that you will not be able to use the Configuration Application to configure your common properties or central servers. To use this option, do the following:

1. Start with the new emsample.

2. Copy the old **conf\emcommon.properties** into the new **emsample\conf** directory.

3. In the new emsample, delete **conf\project.properties** and **conf\project.properties.json**.

4. Copy the old **servers\central\central.properties** and the old **servers\central\rtview.properties** into the new **emsample\servers\central** directory.

5. In the new emsample, delete **servers\central\project.properties** and **servers\central\project.properties.json**.

There are three options for merging old solution package server properties from a previous release into the new version of emsample.

The first option for applying solution package server settings from a previous version is to use the "RTView Configuration Application" to reapply the settings. If you have a lot of connections, this isn't really practical, but if you only have a few, it could be worthwhile since you'll be able to use the Configuration Application for everything moving forward. To do this, run the new version of emsample, bring up the Configuration Application and apply all configurations that were part of your previous emsample project. See Chapter 2, "Configuration and Deployment" for more information on how to configure your solution package servers using the "RTView Configuration Application".

The second option for applying solution package server settings from a previous version is to use your old properties files instead of the Configuration Application. This has the downside that you cannot use the Configuration Application moving forward. To do this, do the following in each solution package project directory under **emsample\servers**:

1. Start with the new emsample

2. Copy the properties files from the old solution package server directory into the new solution package server directory including the old **rtview.properties**.

3. Remove the **project.properties** and **project.properties.json** from the new solution package project directory.

4. Add your properties files to the appropriate lines in **servers\rtvservers.dat**.

The third option for applying solution package server settings from a previous version is a combination of the above. This has the benefit of allowing you to use the "RTView Configuration Application" without having to re-enter all of your connections.

1. Start with the new emsample.

2. Copy the properties files from the old solution package server directory into the new solution package project directory. Do NOT copy the old **rtview.properties** into the new solution package project directory.

3. Edit the properties file you just copied over to comment out or remove all non-connection properties.

4. Run emsample and use the Configuration Application to apply all settings from your previous project except connections. See Chapter 2, "Configuration and Deployment" for more information on how to configure your solution package servers using the Configuration Application.

5. Add your properties files from step 2 to the appropriate lines in **servers\rtvservers.dat**.

6. Moving forward, new connections can be added via the Configuration Application or by hand editing the properties file from step 2, whichever is more convenient. However, only connections added via the Configuration Application will be editable in the Configuration Application.

NOTE: The following files are read and written by the Configuration Application and should never be manually edited: **project.properties**, **project.properties.json**, **conf\project-common.properties.json**.

EM 3.8

Refer to the following instructions as appropriate. If:

- "Your project contains a project.properties file"
- "You are upgrading from RTView Enterprise Monitor 3.7"

Your project contains a project.properties file

If you are upgrading from versions previous to RTView Enterprise Monitor 3.8, and your project contains a **project.properties** file, be aware that this file will be used even if it is not specified on the command line. To avoid this, rename or remove your **project.properties** file.

You are upgrading from RTView Enterprise Monitor 3.7

Users of v3.7 might need to update your three existing database table names to the new names. If you used the Historian auto-creation you will already have the correct table names. The following are examples:

Oracle

alter table MYSQL_BYTES_TABLE rename to MYSQL_BYTES; alter table MYSQL_CRUD_TABLE rename to MYSQL_CRUD; alter table MYSQL_QUERIES_TABLE rename to MYSQL_QUERIES;

DB2

RENAME TABLE MYSQL_BYTES_TABLE TO MYSQL_BYTES; RENAME TABLE MYSQL_CRUD_TABLE TO MYSQL_CRUD; RENAME TABLE MYSQL_QUERIES_TABLE TO MYSQL_QUERIES;

MySQL

RENAME TABLE MYSQL_BYTES_TABLE TO MYSQL_BYTES; RENAME TABLE MYSQL_CRUD_TABLE TO MYSQL_CRUD; RENAME TABLE MYSQL_QUERIES_TABLE TO MYSQL_QUERIES;

SQL Server

(replace "database_name" with the name of your database)

use database_name

```
go
exec sp_rename '[MYSQL_BYTES_TABLE]', '[MYSQL_BYTES]'
exec sp_rename '[MYSQL_CRUD_TABLE]', '[MYSQL_CRUD]'
exec sp_rename '[MYSQL_QUERIES_TABLE]', '[MYSQL_QUERIES]'
go
```

Sybase

sp_rename 'MYSQL_BYTES_TABLE', 'MYSQL_BYTES'; sp_rename 'MYSQL_CRUD_TABLE', 'MYSQL_CRUD'; sp_rename 'MYSQL_QUERIES_TABLE', 'MYSQL_QUERIES';

EM 3.6

Sender/receiver deployments

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

 If the project properties files overwrite the sender.sl.rtview.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.rtview.sub=\$rtvAgentTarget:'localhost:3172'

would be changed to

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

 If the project properties file adds additional targets using the sender.sl.rtview.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.rtview.cache.config=pck_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.

For details, see "Configure Sender / Receiver" on page 38.

Multi-use Service names

Enterprise Monitor has been enhanced to support using the same service name in multiple Groups and in multiple Environments. With the new changes, all entries must have an associated Environment. Previously saved CMDB entries that do not have an associated Environment can no longer be edited or viewed in the **CMDB Administration** display although they are still visible in the **Service Summary** displays.

To support using the same service name in multiple Environments, the schema for the RTVCMDB database has been changed to add the **Environment** column to the table index. Existing projects from previous releases will continue to work against an RTVCMDB database without this index. However, if you have an existing project and you want to take advantage of this new feature, you need to add the **Environment** column to the table index and fill in an Environment for any entries where it is blank.

EM 3.5

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

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

1. Add the following line to <project_dir>\servers\central\rtview.properties:

rtvapm_package=dg

- 2. Copy RTVAPM_HOME\dg\dbconfig\rtvdiagram.script to <project_dir>\DATA.
- **3.** Add the following lines to **<project_dir>\servers\central\server.properties**: server.database.6=file:../../DATA/rtvdiagram server.dbname.6=rtvdiagram
- **4.** Add the Diagram Admin displays to your navigation tree or to <project_dir>\servers\central\custom_views_navtree.xml:
- <node label="DG Admin" mode="" display="rtv_dir_dgadmin">
 - <node label="Nodes" mode="" display="rtvdiagram_admin_node"/>
 - <node label="Links" mode="" display="rtvdiagram_admin_link"/>
 - <node label="Diagram Props" mode="" display="rtvdiagram_admin_diagramprops"/>

</node>

EM 3.3

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

EM 3.2

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

EM 3.1

Refer to the following instructions as appropriate. If you:

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

Created an EM project using a previous release

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

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

sl.rtview.cmd_line=-rtvapm_packages:pck
sl.rtview.cp=%RTVAPM HOME%/pck/lib/rtvapm pck.jar

CI Type Defs

ConfigCollector.sl.rtview.xml.xmlsource=rtvconfig.pck.xml 0 rtvconfig.pck.xml 0 1 ConfigCollector.sl.rtview.cache.config=rtv_config_cache_source_xml.rtv \$package:pck

Navigation

uiprocess.sl.rtview.xml.xmlsource=pck_navtree.xml 0 pck_navtree.xml 0 1
uiprocess.sl.rtview.xml.xmlsource=pck.navinfo.xml 0 pck.navinfo.xml 0 1
uiprocess.sl.rtview.cache.config=rtv_tabtree_cache_source_comp.rtv \$package:pck

AlertAggregator.sl.rtview.cache.config=rtv_alerts_source.rtv \$rtvDataServer:PCK-LOCAL AlertAggregator.sl.rtview.cache.config=rtv_cistats_source.rtv \$rtvDataServer:PCK-LOCAL lertAggregator.sl.rtview.cache.config=rtv_cimap_source.rtv \$ciType:XYZ \$rtvDataServer:PCK-LOCAL

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

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

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

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

rtvapm_reference=pck

Created a custom Solution Package

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

sl.rtview.cmd_line=-rtvapm_packages:pck
sl.rtview.cp=%RTVAPM_HOME%/pck/lib/rtvapm_pck.jar

CI Type Defs
ConfigCollector.sl.rtview.xml.xmlsource=rtvconfig.pck.xml 0 rtvconfig.pck.xml 0 1
ConfigCollector.sl.rtview.cache.config=rtv_config_cache_source_xml.rtv \$package:pck

Navigation
uiprocess.sl.rtview.xml.xmlsource=pck_navtree.xml 0 pck_navtree.xml 0 1
uiprocess.sl.rtview.xml.xmlsource=pck.navinfo.xml 0 pck.navinfo.xml 0 1
uiprocess.sl.rtview.cache.config=rtv_tabtree_cache_source_comp.rtv \$package:pck

Are not using standard RTView Enterprise Monitor run scripts

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

EM 3.0

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

- 1. Merge the following properties from the new **emsample/servers/central/ central.properties** into your central.properties file:
- Everything in the NAVIGATION section:

NAVIGATION

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

uiprocess.sl.rtview.sub=\$rtvPackages:wls,wsm,jbossmon,tomcat,bwmon,bw6mon,emsmon, tasmon,tbemon,ocmon,mqmon,oramon,db2mon,hawkmon,jvm,rtvprocs,hostbase,vmwmon, acwmon,solmon,uxmon # list of Technologies in the order they should be shown uiprocess.sl.rtview.sub=\$rtvTechs:'Application / Web Servers,Middleware,Databases,Processes,Hosts / VMs,Connectors,Other'

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

CUSTOM tab

uiprocess.sl.rtview.xml.xmlsource=custom_views_navtree.xml 0 custom_views_navtree.xml 0 1

uiprocess.sl.rtview.cache.config=rtv_tabtree_cache_source.rtv \$rtvNavTreeFilename:custom_views_navtree.xml \$rtvNavTabName:Custom

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

Navigation

uiprocess.sl.rtview.xml.xmlsource=emsmon_navtree.xml 0 emsmon_navtree.xml 0 1 uiprocess.sl.rtview.xml.xmlsource=emsmon.navinfo.xml 0 emsmon.navinfo.xml 0 1 uiprocess.sl.rtview.cache.config=rtv_tabtree_cache_source_comp.rtv \$package:emsmon

- 2. Copy the following files from the new **emsample/servers/central** directory to your project directory:
- custom_view.rtv
- custom_views_dir.rtv
- rtv_custom.xml
- custom_views_acc.rtv
- custom_views_navtree.xml
- rtv_appmon_panels.xml
- **3.** In your **project directory/webapps** directory, run **update_wars** to rebuild the war file and redeploy **emsample.war** to your application server.
- 4. If you have added custom nodes to rtv_appmon_navtree.xml in your projects, replace the nodes in custom_views_navtree.xml with your custom nodes. Your custom nodes will show up on the CUSTOM tab in the new navigation framework. See "Modify the CUSTOM Tab" on page 78 for details about configuring the CUSTOM tab.

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

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

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

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

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

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

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

See "Creating Custom Solution Packages" on page 1329 for more information.

EM 2.3

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

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

DB2:

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

Oracle:

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

SQL Server:

ALTER TABLE [RTVCMDB] ALTER COLUMN [CIName] VARCHAR(255)

MySQL:

ALTER TABLE "RTVCMDB" MODIFY "CIName" VARCHAR(255);

SyBase:

ALTER TABLE "RTVCMDB" MODIFY "CIName" VARCHAR(255) NOT NULL

EM 2.0

Key Metrics

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

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

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

Include km package

rtvapm_package=km

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

<node label="Key Metrics Views" mode="" display="rtv_dir_km">

<node label="Service KM Heatmap" mode="" display="rtv_km_current_heatmap"/>

<node label="Service KM Table" mode="" display="rtv_km_current_table"/>

<node label="Service KM History" mode="" display="rtv_km_history_heatmap_sh"/>

<node label="Service KM History (Alt)" mode="" display="rtv_km_history_heatmap"/>

</node>

EM 1.5.0.0

Metric Explorer

The Metric Explorer (MX) is a new feature added in RTView EM 1.5.0 that allows end-users to create custom dashboards. For details, see "Metric Explorer" on page 186. To add MX to your existing application, perform the following steps:

1. Add the following to the **rtview.properties** file, located in the directory where you are running the Central RTView Enterprise Monitor servers: **rtvapm_package=mx**

2. Add the following to your navigation tree:

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

3. Add the RTVMX database as described in Steps 2 and 4 in "Configure Databases of the Central Servers" on page 49.

EM 1.3.0.0

Alert Notifications

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

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

CHAPTER 2 Configuration and Deployment

This section describes how to configure RTView Enterprise Monitor $\ensuremath{\mathbb{R}}$ for TIBCO $\ensuremath{\mathbb{R}}$. This section includes:

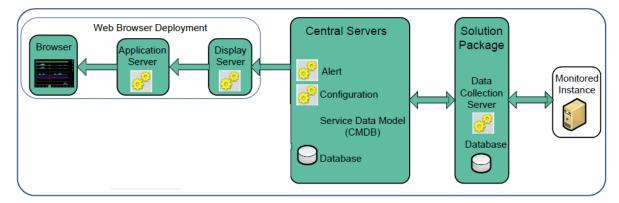
- "Overview," next
- "Configure Central Servers"
- "Configure Solution Package Projects"
- "Configure Service Data Model"
- "Configure Databases of the Central Servers"
- "Configure User and Role Management"
- "Configure High Availability"

Overview

This section summarizes how you configure RTView Enterprise Monitor® for TIBCO®. This section includes "Basic Steps," next.

For the most part, you configure RTView Enterprise Monitor by using the "RTView Configuration Application". Some Solution Packages are configured via properties file instead. The following figure illustrates the main functional RTView Enterprise Monitor components. In this figure, the components are situated where they might reside when multiple machines are used in a production environment. Lines connecting the rectangles indicate the components are connected in a production environment. Green indicates the component is a subject of the current configuration steps, white indicates the component is not.

For example, this Configuration section does not address the application server, nor the Monitored Instance, therefore they are white.



Note that for best performance in a production environment, the Data Collection Server resides close to the data sources (Monitored Instances).

The term *server* refers to a Java process (not a physical machine). And the Web Browser Deployment requires an application server and a Display Server.

Basic Steps

Some of the configuration steps described here are required (where noted) and others are optional.

Project Directory

These instructions are executed in the **RTViewTIBCOMonitor/em-tibco** project directory.

- **Step 1 (required):** "Configure Central Servers". This section describes how to configure the Central Servers. At the conclusion of these steps you will have access to RTView Enterprise Monitor displays via Web browser. The displays will contain JVM monitoring data for RTView Enterprise Monitor processes, gathered by the RTVMGR Solution Package that comes with RTView Enterprise Monitor. The displays will not yet contain monitoring data for other Solution Packages. This Step is required.
- Step 2 (required): "Configure Solution Package Projects". This section describes how to configure a Solution Package for RTView Enterprise Monitor. At the conclusion of these steps your Solution Package-specific displays will contain monitoring data from the Solution Package. This Step is required.
- Step 3 (optional): "Configure Service Data Model". This section describes how to configure the RTView Enterprise Monitor Service Data Model. At the conclusion of these steps you will have a "single-pane-of-glass" view in which data from your Solution Packages are visible in all relevant RTView Enterprise Monitor displays. This Step is optional.
- Step 4 (optional): "Configure Databases of the Central Servers". This section describes how to setup a production database. At the conclusion of these steps your RTView Enterprise Monitor deployment will use the production database rather than the default HSQLDB database. This Step is optional.
- Step 6 (optional): "Configure User and Role Management". This section describes how to setup user access control for RTView Enterprise Monitor. At the conclusion of these steps defined roles will determine user access to your RTView Enterprise Monitor deployment. This Step is optional.
- Step 7 (optional): "Configure High Availability". This section describes how to configure high availability for RTView Enterprise Monitor. At the conclusion of these steps your HA configuration will prevent the loss of data and alerts in the event of a failover. This Step is optional.

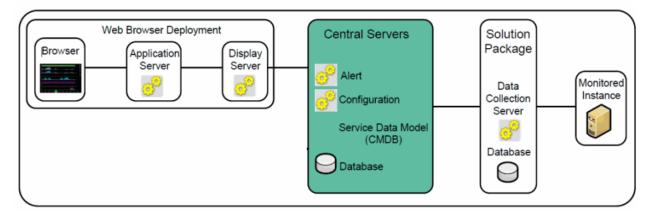
Optionally, also see:

- Step 8 (optional): "Alert Configuration". This section describes how to configure alert behavior such as alert notification, as well as the RTVRULES Solution Package. This Step is optional.
- **Step 9 (optional):** "User Interface Configuration". This section describes how to configure the RTView Enterprise Monitor user interface. This Step is optional.

Configure Central Servers

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

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



At this point you have:

- Verified "System Requirements".
- Completed instructions in "Installation" for the RTView Enterprise Monitor® for TIBCO®.

To configure the Central Servers:

- **1.** Set the JAVA_HOME environment variable to the location of your Java installation.
- 2. Execute the **start_central_servers** script, located in the **RTViewTIBCOMonitor/bin** directory, to start the Central Servers.
- **3.** Execute the **start_data_servers** script, located in the **RTViewTIBCOMonitor/bin** directory, to start the Data Servers.
- **4.** Point a browser to the RTView Enterprise Monitor® for TIBCO®:

http://localhost:8068/em-tibco

The RTView Enterprise Monitor® for TIBCO® Login dialog opens.

5. Login to RTView Enterprise Monitor.

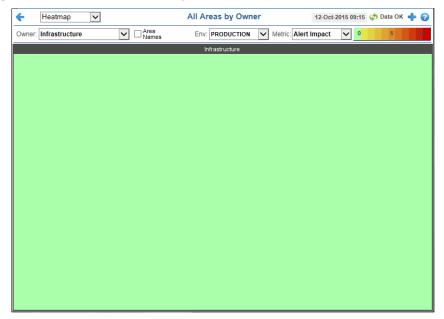
User: **admin** Password: **admin** The SERVICE TREE tab opens by default.

SL	SERVICE TREE	SERVICE VIEWS	COMPONENTS	ALERTS	ADMIN	сизтом	RTView Enterprise Monitor® demo (read) Log Out
Service Tree Service Filter *	0	Heatmap	•		All Ar	eas by Owner	08-Mar-2018 11:09 💠 Data OK 💠 💡
		Owner: All Owners	▼ Area Name	25		Env: PRODUCTION	Metric: Alert Impact V 0 5 00
v 🗢 Infrastructure					Ini	frastructure	
🗸 😋 Middleware							
> 🗢 TOMCAT							
V O Processes							
NVE 😋 🔇							

6. Verify that the JVM Procces displays are populated with data.

Note: The Solution Package for RTView Server Manager, which is preconfigured and enabled by default, provides the JVM data.

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



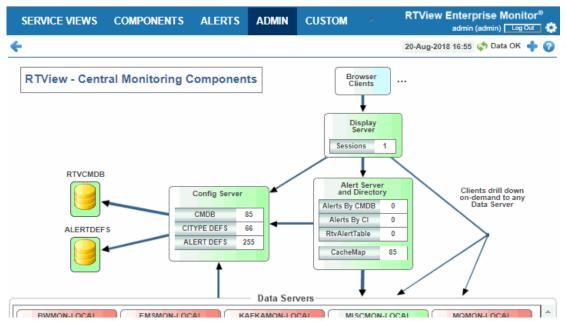
- 7. Verify your setup by opening the Architecture "System Overview" display using the navigation tree (in the left panel) and confirming that the following objects in the display topology are green (indicating the processes are running): the Configuration Server, Alert Server, Display Server, as well as each Data Server that has a corresponding Solution Package installed.
- 8. Open the **rtvservers.dat** file, located in the **RTViewTIBCOMonitor/em-tibco/servers** directory, and locate a Solution Package Server(s) you wish to enable. Uncomment (delete the **#**) on the Data Server line for each of the Solution Package Servers you left enabled

in the Data Servers list you just edited. For example, to enable the Solution Package Server for TIBCO BW6, uncomment the bw6mon dataserver line as in the following figure.

If you would like to store history for this Solution Package Project, also uncomment the historian line.

### BW6MON #				
bw6mon	./bw6mon			-propfilter:receiver
#bw6mon	./bw6mon	historian	runhist	-da

9. Save the rtvservers.dat file.



10.Click 2 (upper right) to open the "RTView Configuration Application".

Note: The icon is only visible if you are logged in as admin. You also might need to disable your browser popup blocker. If you are not logged in as admin or cannot disable your popup blocker, open the "RTView Configuration Application" at the following URL:

http://localhost:8068/em-tibco_rtvadmin

Login to "RTView Configuration Application".

User: rtvadmin

Password: rtvadmin

The RTView Configuration Application **HOME** page opens.

e RTVie)	ew [®] Project Configuration	:
Select p	roject to configure	MANAGE DATA SERVER CONNECTIONS
E	RTView Central Servers RTView Enterprise Monitor localhost:10018	REQUIRES RESTART
12 10 Aug	BWMON-LOCAL TIBCO ActiveMatrix Businessworks 5 Monitor localhost:3378	
	EMSMON-LOCAL TIBCO Enterprise Message Service Monitor localhost:3178	
- 10 Hilling	MISCMON-LOCAL Miscellaneous Monitor localhost:3978	
	RTVMGR-LOCAL RTView Manager Monitor localhost:3078	
	RTVRULES RTVRULES DataServer localhost:3878	

- **11.**Choose RTView Central Servers.
- **12.**Step is for LINUX users only: LINUX users might see inconsistently aligned labels in displays. To resolve inconsistently aligned labels in displays: Select Display Server in the left navigation pane. Turn on **Enable Cross Platform Fonts**.
- **13.**Under **Server Configuration**, select **Data Servers** to see the list of configured Solution Package Data Servers.
- **14.**Enable/disable any Solution Package data servers you do /do not want to use by clicking on the checkbox for that row. The COMPONENTS tab in the Monitor only includes displays for Solution Packages in enabled Solution Package servers, so disabling the ones you don't want removes uneeded displays from the COMPONENTS tab.
- **15.**Save your changes and click **HOME** to return to the **HOME** page.
- **16.**Execute the **stop_central_servers** script, located in the **RTViewTIBCOMonitor/bin** directory, then the **start_central_servers** script to restart the Central Servers.
- **17.**Execute the **start_data_servers** script, located in the **RTViewTIBCOMonitor/bin** directory, to start all of the Solution Package Data Servers.
- **18.**In the "RTView Configuration Application" HOME page, verify that the only servers shown are those you left enabled in the Data Server list and that they are all connected.
- **19.**In the RTView Enterprise Monitor **Architecture -** "System Overview" display and verify that the enabled servers are shown as connected.

To summarize the current state of your RTView Enterprise Monitor $\ensuremath{\mathbb{R}}$ for TIBCO $\ensuremath{\mathbb{R}}$ deployment, the:

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

←	Alert Administration 12-Oct-201			2015 09:26 📫	Data OK 🔶 🕜	
Alert Filter:	Clear				🌔 Alert S	ettings Conn OK
	Alert =	Warning ≡ Level	Alarm ≞ Level	Duration =	Alert = Enabled	Override ₌ Count
AcwinstanceCpul	High	70	80	60	~	-1
AcwInstanceDisk	ReadBytesHigh	10000	20000	35		-1 🔨
AcwInstanceDisk	ReadOpsHigh	100	200	30		-1
AcwInstanceDisk	WriteBytesHigh	1000000	2000000	30		-1
AcwInstanceDisk	WriteOpsHigh	100	300	30		-1
AcwInstanceNetv	vorkReadBytesHigh	1000000	20000	30		-1
AcwInstanceNetw	vorkWriteBytesHigh	10000	20000	30		-1
AmxServiceHitRa	ateHigh	160	200	60	2	C
AmxServiceNode	FaultRateHigh	200	400	30		C
AmxServiceNode	HitRateHigh	75	100	60	r	C
AmxServiceNode	MovingAvgHitRateHigh	200	400	30		C
AmxServiceNode	AmxServiceNodeMovingAvgResponseTimeHigh		400	30		C
AmxServiceNode	AmxServiceNodeResponseTimeHigh		6	30		C
AmxServiceResp	onseTimeHigh	5	6	60		C
BirdExpired		NaN	NaN	0		-1
BirdTooHigh		1600	2001	0		-1
Bw6AppNodeCpu	JUsedHigh	50	80	30		C
		<				>
H Pag	ge 1 of 3 PM				1 - 200	0 of 402 items
		Settings for Sele	cted Alert			
Name:	<select alert="" from="" one="" table="" td="" the="" to<=""><td>edit> V</td><td>Varning Level:</td><td>Du</td><td>uration (Secs.)</td><td></td></select>	edit> V	Varning Level:	Du	uration (Secs.)	
Description:			Alarm Level:		Enabled	
					Sav	e Settings
						,

20.This step completes validation of your Web Deployment.

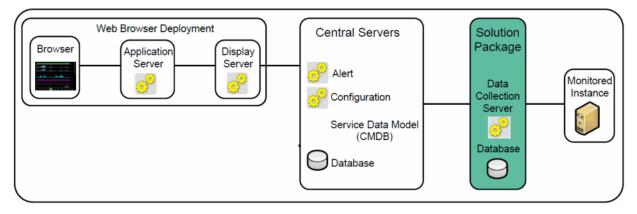
Proceed to "Configure Solution Package Projects".

Configure Solution Package Projects

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

This section includes "Optional Additional Configurations" on page 32.

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



At this point you have:

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

To configure a Solution Package Project:

- **1.** "Open the RTView Configuration Application" and choose the Solution Package project you want to configure. This example uses the RTVMGR-LOCAL project.
- **2.** Click the Solution Package you want to configure. This example uses the Solution Package for RTView Server Manager.
- **3.** If you see this message: "This solution package is not configurable in this application", see the **Configuration Parameters You Need** and **Properties File Configuration** sections in the chapter for your Solution Package, then return here to step 8.

Otherwise, click the **CONNECTIONS** tab.

- **4.** If the CONNECTIONS tab contains a classpath field, fill in the path to the directory containing the jars for your Solution Package (note that some Solution Packages do not have this field).
- **5.** Click in the **Connections** section to add a connection. The connection fields vary for different Solution Packages. See the **Configure Data Collection** section in the chapter for your Solution Package if you need information on how to fill out these fields. Fill in the connection fields and click **Save** to close the connection dialog.

Repeat for each Connection you want to add.

6. When you have finished adding Connections click Save to save your changes, then click Home to go back to the top level page.

Override

Count

~

-1

-1

-1

- **7.** Repeat the previous steps for each Solution Package Server you want to configure.
- 8. Execute the stop_data_servers script, located in the RTViewTIBCOMonitor/bin directory, then the **start data servers** script to restart all of your Solution Package Data Servers.
- **9.** Open the **Administration** "Alert Administration" display and locate alerts for your Solution Package Data Server. They all start with **AlertPrefix**. For example, the WebLogic alert prefix is **WIs**.

a. Identify an alert for your Solution Package that is likely to activate and set the alert Warning Level to zero (0) and the Alarm Level to ten (10). This ensures the alert thresholds are exceeded and you can verify your Solution Package configuration. For example, for WebLogic we set the WIsThreadsTotalHigh alert Warning Level to zero (0) and the Alarm Level to ten (10). Keep in mind that eventually your alert thresholds should be changed to more meaningful values within your system.

- b. Select Enabled to enable the alert.
 - Alert Administration 09-Oct-2015 14:46 📣 Data OK 📥 😱 Alert Filter: Clear Alert Settings Conn OK Warning Alarm Alert Duration Alert Level Level Enabled WIsJmsDestinationMessagesPendingHigh 95 30 V WIsJmsDestinationsCurrentLow 85 30 WIsJmsMessagesPendingHigh 85 30 WIsJmsServerHealthNotOK NaN NaN 30 2 WIsLockedUserCurrentHigh 85 95 30 r 85 95 30 WIsOpenSocketsHigh 85 WIsPendingRequestCurrentHigh 95 85 95 30 WIsQueueLengthHigh WIsServerCpuHigh 95 r NaN 30 WIsServerHealthNotOk NaN 7 WIsServerHostCpuHigh 30 WIsServerMemoryUsageHigh 85 95 30 2 WIsServerNewSessionsLow 30 2 2 WIsServerOpenSessionsHigh 85 05 30 WIsServerPendingUserRequestsHigh 85 30 WIsServerReloadsHigh 85 95 30 r

c. Click Save Settings and OK.

Wisderver StaleDa	ala	INDIN	INDIN				_
WIsServerStateNo	otRunning	NaN	NaN	30	Ľ	-1	
WIsThreadsTotalH	High	50	95	30	v	-1	~
WIsTransactionRolledBackTotalHigh		85	95	30	Ľ	-1	
Settings for Selected Alert					_		
Name: V Description:	WIsThreadsTotalHigh		Warning Level		Duration (Secs.) Enabled Sav		

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

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

If you encounter issues, see the **Troubleshooting** section in the chapter for your Solution Package.



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

If you need a Data Server to collect Solution Package data on a system that your RTView Enterprise Monitor system cannot otherwise access, see "Configure Sender / Receiver," next.

To configure the CMDB, see "Configure Service Data Model" on page 37.

Optional Additional Configurations

This section describes the following optional Solution Package configurations:

- "Configure Remote Solution Package Project":
- "Configure Sender / Receiver," next: This type of deployment is useful in cases where you need a Data Server to collect Solution Package data on a system that your RTView Enterprise Monitor system cannot otherwise access.

If you do not need these configuration options, proceed to "Configure Service Data Model" on page 37.

Configure Remote Solution Package Project

This section describes how to install, configure and run the RTViewDataServerSP deliverable for use with RTView Enterprise Monitor.

Multi-Machine Installations

If you would like to distribute your RTView Enterprise Monitor across multiple systems, extract and install the RTView Enterprise Monitor onto the system where you will run the Central Servers. Then install one or more RTViewDataServerSP deliverables on any additional system(s) where you would like to run a Solution Package project which includes a Data Server to collect Solution Package data and an optional Historian to store data.

Installation

The SL Download Center provides access to the RTView Enterprise Monitor via **.zip** file, **RTViewDataServerSP** _**<version>.zip**. To install the RTViewDataServerSP, download the archive and extract the file.

Configure the Solution Package Project For RTView Enterprise Monitor

These steps are performed on the system where you installed the RTViewDataServerSP.

- **1.** Set the JAVA_HOME environment variable to the location of your Java installation.
- 2. Open RTViewDataServerSP/projects/project-common/rtvservers.dat in a text editor and add -propfilter:ConfigClient to the end of the data server and historian lines as follows:

default . dataserver rundata -propfilter:receiver -propfilter:ConfigClient
#default . historian runhist -ds -propfilter:ConfigClient

- **3.** If you want to use the Historian to store your Solution Package data to a database, uncomment the historian line by removing the *#* at the beginnning of that line.
- 4. Save RTViewDataServerSP/projects/project-common/rtvservers.dat.
- 5. Execute the **start_server** script located in the **RTViewDataServerSP** directory. This will start a Solution Package Data Server on port **3278** with Jetty Eclipse on port **3270**. If these ports conflict with other processes running on your system, you can change the first 2 digits of the ports with the **-portprefix:** command line argument.
- 6. Open a browser to http://localhost:XX70 to open the "RTView Configuration Application" and login as rtvadmin/rtvadmin where XX is 32 if you did not change the port prefix in the previous step or the port prefix you specified in the previous step. Select the RTView Server project. In the General->GENERAL tab, fill in the Display Name and Description. These will be used to identify this project when you connect to it from the RTView Central Servers. If you changed the port in the previous step, go to the General->GENERAL tab and enter the Port Prefix so that you do not need to specify it on the command line every time you run.

- Still in the "RTView Configuration Application", click on the pencil icon in the navigation bar to add the Solution Packages you want to run in this Data Server project. Click Save to close the Solution Packages dialog.
- **8.** Click **SAVE** to save your changes and HOME to navigate back to the home page.
- **9.** Execute the **stop_server** script located in the **RTViewDataServerSP** directory followed by the **start_server** script to restart the Data Server. This is needed to apply the changes you just made in the RTView Configuration Application.

Connect to the Solution Package Project from Enterprise Monitor

These steps are performed on the system where you are running the Enterprise Monitor Central Servers. They assume you have already installed and configured the Central Servers.

- 1. In the "RTView Configuration Application", select **RTView Central Servers** and navigate to the **Data Servers->CONNECTIONS** tab.
- **2.** Click **•** to add a new data server connection and fill in the fields as follows:
- **Name** The name to use for the Data Server connection. This must be unique.
- URL The URL to connect to the Data Server. This can either be in the form host:port or in the form http://host:port/rtvdata. By default, RTViewDataServerSP hosts the rtvdata servlet in Eclipse Jetty. You can access it at http://host:XX70/rtvdata where host is the name of the host where you are running the RTViewDataServerSP project and XX is either 32 or the alternative port prefix you configured.
- Connection Enabled set to true
- Solution Packages or CI Types If you want to include all CI Types for the Solution Packages in your Data Server, select Solution Packages. This will show the Solution Packages dialog where you can select all of the Solution Packages in your Data Server. If you want to inlucde a subset of CI Types for the Solution Packages in your Data Server, select CI Types. This will show the CI Types dialog where you can select all CI Types you want to include in your Data Server.
- Monitor Data Server Check if you want to monitor this Data Server and enter the JMX host and port. The port will be XX68 where XX is either 32 or the port prefix you configued.
- Monitor Historian Check if you want to monitor this Historian and enter the JMX host and port. The port will be XX67 where XX is either 32 or the port prefix you configued.
- 3. Click Save to close the Add Connection dialog.
- **4.** Click **SAVE** to save your changes then click on **HOME** to go back to the home page of the Configuration Application.
- **5.** Execute the **stop_central_servers** script located in the **RTViewTIBCOMonitor/bi**n directory followed by the **start_server** script to restart the Central Servers. This is needed to apply the changes you just made in the Configuration Application. You should now see the server you just added in the **HOME** page and it should be connected.
- 6. Select **RTView Central Servers** which shows the **General->COMMON** tab.

- **7.** Under **Copy Common Configuration to Remote Servers**, select the server you just added and click **COPY**. This will copy the common properties to your RTViewDataServerSP project so that it will use the common Historian and Alert Threshold database connections.
- 8. Return to the system where you installed the RTViewDataServerSP project and execute the stop_server script located in the RTViewDataServerSP directory followed by the start_server script to restart the Data Server. This is needed to pick up the common properties you just copied.

This completes the Configure Remote Solution Package Project.

Configure Solution Package Connections and Settings

Follow the instructions under "Configure Solution Package Projects" to configure your Solution Packages.

Configure Sender / Receiver

If you wish to deploy the Solution Package as a sender/receiver configuration, continue with instuctions in this section. Otherwise, skip these steps and go to "Configure Service Data Model" on page 37.

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

The sender Data Server collects Solution Package data and stores the data in its local Solution Package 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.

Note: The Solution Package for Oracle Coherence requires one sender per receiver and the receiver should not be configured to both collect and receive data.

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.

Receiver Data Server Setup

These instructions assume you completed the instructions in "Configure Solution Package Projects" for the Data Server you will be using as a receiver.

 In the rtvservers.dat file, located in RTViewTIBCOMonitor\em-tibco\servers, add propfilter:receiver to the end of the data server line as follows (this example adds receiver to RTVMGR-LOCAL):

rtvmgr ./rtvmgr dataserver rundata -propfilter:receiver

- 2. Execute the **stop_data_servers** script, located in the **RTViewTIBCOMonitor/bin** directory, then the **start_data_servers** script to restart Solution Package Data Servers.
- **3.** Senders can either send data to the host and port of the receiver data server or to the rtvagent server.
- If the sender(s) will connect via host and port, make note of the port prefix (on the General tab of the "RTView Configuration Application"). The receiver will accept sender data on port XX72 where XX is the port prefix assinged in the "RTView Configuration Application". When you fill in the target url for the sender, you will use host:XX72 where host is the hostname or IP address of the system where the receiver is running and XX is the port prefix.
- If the sender(s) will connect via rtvagent servlet, go to the receiver's "Project Directory" and run the make_wars script. This will generate a war file ending in _rtvagent.war. If you are using the preconfigured Tomcat that came with the Monitor, no further actions are needed. If you are using your own application server, install the rtvagent war file to your application server. When you fill in the target URL for the sender you will use http:// host:port/warfilename without the .war extension where host is the host where the application server is running and port is the application server's port. For the preconfigured Tomcat that comes with the Monitor, the port is 8068. For example http://myhost:8068/emsmon_rtvagent.

Proceed to "Sender Data Server Installation and Setup," next.

Sender Data Server Installation and Setup

These instructions assume that you have setup the receiver Data Server.

- **1.** Extract the **RTViewDataCollector_version.zip** file on the system where you will be running the sender. The RTViewDataCollector must be the same version as the receiver.
- 2. Execute the start_collector script in the RTViewDataCollector directory.
- 3. Open a browser to http://localhost:3270/rtvadmin and login as rtvadmin/rtvadmin.
- 4. Select **RTView Data Server** in the top level page.
- **5.** In the **Project** page, click on the ¹ to and add each Solution Package for which you would like this sender to collect data.
- 6. Click SAVE.
- 7. Execute the **stop_collector** script in the **RTViewDataCollector** directory followed by the **start_collector** script to restart the collector.
- 8. Refresh the browser tab from step 3 and login as rtvadmin/rtvadmin.
- 9. Choose RTView Data Server in the top level page.

10. Choose the Server Configuration>Data Server>SENDER tab.

- **11.**Select the **target1 Sender Target** to edit it and fill in the URL for the receiver as noted in step 3 of the receiver setup.
- **12.Save** to close the Sender Target dialog.
- **13.**Select the first Solution Package in the navigation bar and fill in the **CONNECTIONS** tab as described in the documentation for that Solution Package. Repeat for each Solution Package in the navigation bar.
- **14.SAVE** your settings.
- **15.**Execute the **stop_collector** script in the **RTViewDataCollector** directory followed by the **start_collector** script to restart the collector.

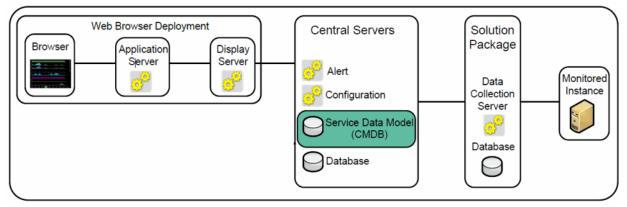
Proceed to "Configure Service Data Model" on page 37.

Configure Service Data Model

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

Configuration of the Service Data Model is optional.

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



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

This section includes:

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

Introduction to the CMDB

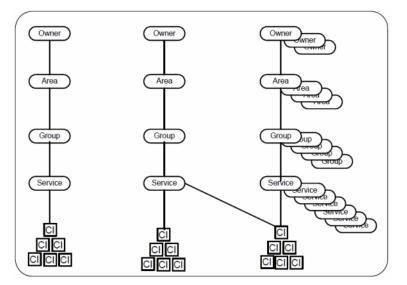
The Service Data Model, or CMDB, is an RTView Enterprise Monitor database that contains the map of all Configuration Items (CIs) in your system to each hierarchical level in the CMDB. The CMDB has four hierarchical levels which suits the monitoring needs of most organizations. The four levels are, from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

- Owner
- Area
- Group
- Service

When you configure your CMDB you associate each CI in your system with a Service, each Service with a Group, each Group with an Area and each Area with an Owner. These associations form the map that enables aggregation of data in RTView Enterprise Monitor displays. There is no limit on the number of associations a level can have. A Service can be associated with multiple Groups and Environments.

When you make any changes to Owners, Areas, Groups or Services the associated levels are automatically updated. For example, when you move a Group from one Area to another, all Services associated with that Group move with it, and the RTView Enterprise Monitor displays are updated.

By default, the CMDB contains a single Owner named Infrastructure. The names of the CMDB levels cannot be modified. The following figure illustrates the four hierarchical levels of the CMDB.



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

EM-SERVICE CI Type

You can also associate Services with other Services using the EM-SERVICE CI Type. The EM-SERVICE CI Type enables you to use the alerts provided by the RTVRULES Solution Package. For details, see "Configure the RTVRULES Solution Package".

Defining the CMDB

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

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

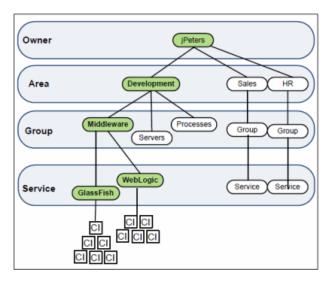
After you determine how to adapt your organization to the four levels of the CMDB, use the **Administration -** "CMDB Admin" display to map each CI to a Service, Group, Area and Owner. The name of the CI can indicate which Service you want to associate the CI with.

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

After you configure a Service Data Model, the automatically generated Infrastructure Service Data Model looks for matching CI's in your Service Data Model in order to set the Environment. For each CI in the automatically generated Infrastructure Service Data Model, if a matching CI is found in your Service Data Model, the Environment from your Service Data Model is used for the Infrastructure CI. If the CI is found in your Service Data Model multiple times with multiple Environments, it is added multiple times to the Infrastructure CMDB--once for each Environment in your Service Data Model for that CI. If no matching CI is found in your Service Data Model, the Environment in the Infrastructure Service Data Model is set to PRODUCTION by default. You can override the default Environment by specifying a different environment in the "RTView Configuration Application" under **RTView Central Servers>Central Config Server>CMDB>Default Environment Filter**.

Small Company Example

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



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

Owner	Area	Group	Service
jPeters			

Development

Middleware WebLogic GlassFish

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

Configuration Steps

This section describes how to configure the CMDB using the **Administration** -"CMDB Admin" display and uses the "Small Company Example" to illustrate. This section assumes you have determined a structure for your CMDB configuration. For details about the CMDB structure, see "Introduction to the CMDB" on page 38. To configure the CMDB you associate each CI in your system with a Service, Group, Area and Owner. After you configure the CMDB all relevant RTView Enterprise Monitor displays will contain monitoring data from your Solution Packages. Configuration of the Service Data Model is optional. There are several ways to create the CMDB:

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

At this point you have:

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

	SERVICE VIEWS			DMIN	CUSTOM	RTView	Enterprise Monitor® demo (read) Log Out
Administration	←	BW-ENGINE	CMDB -	Admin	istration	19-Jan-20)17 16:13 💠 Data OK 💠 🕜
✓Alert Administration Alert Administration	Owner: Te: Area: Hy	BW-PROCESS BW-SERVER CUSTOM DB2			Manage Owner Manage Area	rce: RTV_C	MDB
Alert Admin Audit	Group: ES	DOCKER-ENGINE			Manage Group Manage Service		
Alert Action Audit	Environment: QA	EM-SERVICE EMS-QUEUE			Manage Service	Update	e Criticality like selected CI
CMDB Administration	CI List for Selecte CIType	EMS-SERVER EMS-TOPIC FUN-FUNCTION	e detail and to e ame	dit:	Criticality *	Region: Criticality:	•
> Architecture	JVM JVM JVM	FUN-PACKAGE	-3 -3 3-3		C C C	SiteName:	•
> Property Views	JVM JVM	HOST JBOSS-APP	B-3 -3		C C	Country:	•
		JBOSS-SERVER JVM	-3 1-3 TD 2			OSType:	▼ Delete
	Selected CI Type	11	CIName Filter:		R		dd Cl Add Cl To
	Available Comp Dimension	onents (CIs): CINa	me		DataServ	erName	

To configure the CMDB:

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

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

Connection	Location	CIName	DataServerNa
examplesServer	examplesServer	examplesServer;examplesServer	WLM-LOCAL
TestDomain	AdminServer	TestDomain;AdminServer	WLM-LOCAL
TestDomain	ManagedServer1	TestDomain;ManagedServer1	WLM-LOCAL
TestDomain	ManagedServer2	TestDomain;ManagedServer2	WLM-LOCAL

The Available Components table populates with CIs for WebLogic.

3. Select one or more CIs from the Available Components table and click Add CI To....

Note: To determine which CIs to associate with a Service, refer to the **CIName** column. The **CIName** column contains descriptive information entered by your administrator about the CI.

	Add Cl into a Service
CIType:	WLS
CIName:	Amazon;e2crtvofmwlbkr02
Owner:	
Area:	
Group:	!
Service:	Add Cl
Environment:	Close

The Add CI into a Service dialog opens.

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

Owner:	jPeters
--------	---------

Area: Development

Group: Middleware

Service: WebLogic

Environment: PRODUCTION

5. Click Add CI and OK.

Owner:	jPeters 💌		nage ce: l	RTV_CMDB	
Area:	Development 👻		je Area		
Group:	Middleware 💌		nage	Undets Collins lite	
Service:	WebLogic 💌	Mar	nage Vice Environ:	Update Criticality like	selected Cl
CI List for Se	elected Service - select a CI to see detail and to edit:	00	ALCE ENVIOLE		
CiType	CIName	Criticality	Region:		•
WLS	TestDomain;AdminServer		Criticality:		
	C3		SiteName:		•
			City:		-
			Country:		
			OSType:		
•	III	F		Update	Delete

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

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

Region	Optionally, enter a geographic region in which the CI resides
SiteName:	Optionally, enter a site name in which the CI resides.
City:	Optionally, enter a city in which the CI resides.
Country:	Optionally, enter country in which the CI resides.

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

Click **Update** to save the entries.

 Associate more CIs to this Service by selecting them and clicking Add CI. The CIs appear in the CI List for Selected Service table and the CIs are now associated with the Service. Use the Selected CI Type drop-down menu to associate a different CI Type.

Note: To modify settings (Criticality, Environ, etc.) for a CI, select the CI, change the settings and click **Update**. To remove a CI from a Service, select the CI and click **Delete**.

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

The Add CI into a Service dialog opens.

CIType: WLS	Add CI into a Service	
	CIName	Ξ
Amazon;e2crtv	rofmwlbkr02	
Owner:	jPeters	
Area:	Development	
Group:	Middleware	
Service:	GlassFish	Add Cl
Environment:	PRODUCTION	Close

10.Make the appropriate entries and click Add CI and OK. For example, for our "Small Company Example" we make the following entries for the jPeters / Development / Middleware / GlassFish branch.

Owner: jPeters

Area: Development

Group: Middleware

Service: GlassFish

Environment: PRODUCTION

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

- 11.Specify the rank of importance for the CI using the Criticality drop-down menu, where A is the highest importance and E is the lowest. For our "Small Company Example", we set the Criticality to A.
- **12.**Optionally, enter the following for the CI using the remaining drop-down menus:
 - **Region:** Optionally, enter a geographic region in which the CI resides.
 - **SiteName:** Optionally, enter a site name in which the CI resides.
 - **City:** Optionally, enter a city in which the CI resides.
 - **Country:** Optionally, enter country in which the CI resides.
 - **OSType:** Optionally, enter the operating system on the CI.

Click **Update** to save the entries.

- 13.Add more CIs to this Service by selecting a CI and clicking Add CI. The CIs appear in the CI List for Selected Service table and the CI is now associated with the Service. Modify settings (Criticality, etc.) for a CI as needed and click Update.
- 14.Click Close to close the Add CI into a Service dialog.

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



Continuing with our "Small Company Example", we see the **jPeters** branch we configured in the display which has two Services in the Middleware Group:

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

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

16.To enable alerts, open the **Administration** - "Alert Administration" display and locate alerts for your installed Solution Package Data Server.

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

Click Save Settings and Yes.

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

This completes your Service Data Model configuration. Solution Package data is visible in all relevant displays. You now have a "single-pane-of-glass" view in which data for all Solution Packages are visible in all RTView Enterprise Monitor displays. For details about using the CMDB display, see "CMDB Admin" on page 215.

Proceed to "Configure Databases of the Central Servers" on page 46.

Large Company Example

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

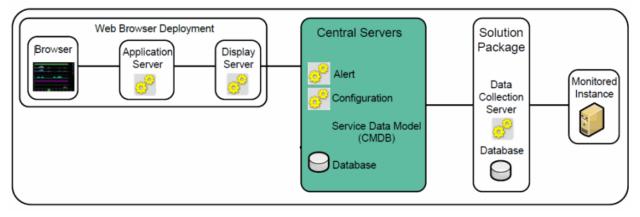
Owners:	jSmith rJones tSchmidt bRoberts	There are four managers in the company and they are the members of the CMDB Owner level. The IT manager is jSmith.
Area:	IT Core IT SVCS	There are two CMDB Areas associated with jSmith. The two Areas are based on expertise-based subdivisions of personnel in the company: IT Core and IT SVCS.
Group:	Core Apps SMS Core Apps WEB Core Oracle	There are three CMDB Groups associated with the IT Core branch. The three Groups are based on the three subdivisions of personnel in the IT Core Department: Core Apps SMS, Core Oracle and Core Apps WEB. The other Areas in the company might have different Groups. This example continues with the Core Oracle branch belonging to jSmith. This example does not describe the Core Apps SMS and Core Apps WEB branches belonging to jSmith.
Service:	R&D Production Web Stores	There are three CMDB Services associated with the Core Oracle Group. The three Services are based on the infrastructure Services that the company provides to its customers: R&D, Production and Web Stores. The other Groups in the company might have different Services.

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

Configure Databases of the Central Servers

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

Note: These instructions assume that the Historian database connection is shared by all Data Servers. However, this configuration might not be suitable for your system needs and architecture. You can optionally configure a different Historian database for a Solution Package Project in the "RTView Configuration Application". The following figure illustrates the RTView Enterprise Monitor components that are the subject of this section.



At this point you have:

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

To configure the databases of the Central Servers:

1. Choose and install a database of your choice. Supported databases are Oracle, Sybase, DB2, Microsoft SQL Server and MySQL.

Note: Users of the Docker platform have access to an image of MySQL 5.7 configured for use with RTView, on Docker hub at **slcorp/mysql-rtview**. For more information refer to **rtvapm/containers/docker/myql-rtview/README.txt**.

- **2.** Gather the following information for each database you wish to connect:
- URL Full URL to use when connecting to this database using the specified JDBC driver.
- Driver Fully qualified name of the driver class to use when connection to this database via JDBC.
- Classpath The classpath to the jar containing the driver class.
- Username (optional) User name to enter into this database when making a connection.
- Password (optional) Password to enter into this database when making a connection.
- Run Queries Concurrently If true, each query on the connection is run on its own execution thread. Note: This option should be used with caution since it may cause SQL errors when used with some database configurations and may degrade performance due to additional database server overhead. See your database documentation to see whether it supports concurrent queries on multiple threads.
- **3.** "Open the RTView Configuration Application" and navigate to **RTView Central Servers**.
- 4. Navigate to Server Configuration>General.
- **5.** Configure the Historian Database: Choose the database connection under **Historian Database Connection** and fill in the connection fields.
- 6. Save to close the dialog.

Tip: Click **Copy to clipboard** to make this database connection available for pasting into other Database Connections.

- 7. Configure the Alert Threshold Database: Choose the database connection under Alert Threshold Database Connection and fill in the connection fields.
- 8. Save to close the dialog.
- Configure the CMDB Database: Navigate to the Central Config Server>CMDB tab, select the database connection under CMDB Database Connection and fill in the connection fields.
- 10.Save to close the dialog
- **11.**If you wish to use the "Metric Explorer", configure the Metric Explorer Database Connection:

Navigate to the **Central Config Server>CONFIGURATION SERVER** tab, select the database connection under **Metric Explorer** and fill in the connection fields.

- 12.Save to close the dialog
- **13.SAVE** (next to HOME) to save your changes.
- **14.**Click **HOME** to return to the home page.
- 15. Manually create the tables needed for each database connection. To create tables for your database, use the .sql template files provided for each supported database platform, located in the RTVAPM_HOME/common/dbconfig directory: ALERTDEFS

create_common_alertdefs_tables_<db>.sql

RTVCONFIG, RTVCMDB

create_<rtvcmdb|rtvconfig|>_tables_<db>.sql

RTVHISTORY

Templates for the central RTVHISTORY tables are located in RTVAPM_HOME/common/ dbconfig:

create_rtvhistory_tables_<db>.sql

Templates for the Solution Package specific RTVHISTORY tables are located in the dbconfig subdirectory of each Solution Package under RTVAPM_HOME. For example, the .sql templates file for the Solution Package for TIBCO Enterprise Message Service[™] are located in **/rtvapm/emsmon/dbconfig** (%RTVAPM_HOME%\emsmon\dbconfig on Windows (or \$RTVAPM_HOME/ emsmon /dbconfig on Linux). The user should use the schemas for the Solution Packagess that s/he is planning to use.

The following is the file naming format for the dbconfig directory:

create_<package>_history_tables_<db>.sql

where <package> ={emsmon, bwmon, ocmon, wlm, etc.} and <db>={db2, hsqldb, mysql, oracle, sqlserver, sybase}

RTVMX

Templates for RTVMX tables are located in the RTVAPM_HOME/mx/dbconfig directory:

create_rtvmx_tables_<db>.sql

where ={db2, mysql, oracle, sqlserver, sybase}

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

- 16.Open the rtvservers.dat file, located in the RTViewTIBCOMonitor/em-tibco/servers directory, and locate a Solution Package Server(s) for which you want to store history. Uncomment (delete the #) on the historian line.
- 17.Execute the stop_data_servers script, located in the RTViewTIBCOMonitor/bin directory, then the start_data_servers script to restart all of your Solution Package Data Servers and Historians.

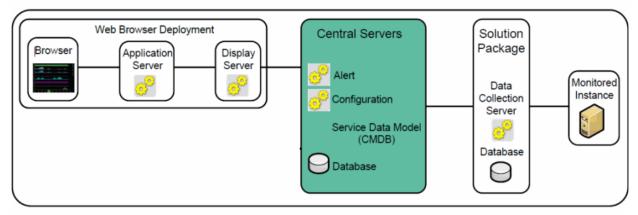
You have finished configuring the databases on the Central Servers.

Proceed to "Configure User and Role Management" on page 50.

Configure User and Role Management

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

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



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

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

Substitutions for User and Role Management

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

\$rtvOwnerMask:	Set this to filter the Owners a user or role will see in the Service Tree, Service Views and Alerts tabs. For example,
\$rtvAreaMask:	Set this to filter the Areas a user or role will see in the Service Tree, Service Views and Alerts tabs. For example,
\$rtvGroupMask:	Set this to filter the Groups a user or role will see in the Service Tree, Service Views and Alerts tabs. For example,
<pre>\$rtvServiceMask:</pre>	Set this to filter the Services a user or role will see in the Service Tree, Service Views and Alerts tabs. For example,
<pre>\$rtvManageableCompID:</pre>	Set this to limit the alerts that can be closed by a user or role to alerts where the Primary Service value matches one of the items in the list.

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

Role Permission

read Access to all displays and functionality except administrator functions.

admin/ Access to all displays and functionality including all actions on "RTView Alerts Table", write access in the "Alert Administration" and write access "CMDB Admin" views.

full/ Access to all displays. Access to all actions on "RTView Alerts Table".

event

At this point you have:

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

To configure role management:

 Open the roles.xml file, located in your RTViewTIBCOMonitor/em-tibco/servers/ central directory, in a text editor. By default, the read, admin and super roles are defined as follows:

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

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

```
<role>
<name>ITmanager</name>
<displays>
<include>ALL</include>
```

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

- 3. Save the file.
- 4. Open the users.xml file, located in the your RTViewTIBCOMonitor/em-tibco/ servers/central directory, in a text editor. By default, there are three users defined, super, admin and demo:

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

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

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

6. Save the file.

7. Add as many users to the **users.xml** file as needed.

Note: Use the encode_string utility to *Encrypt Password*.

8. Save the file.

9. Restart the Display Server if you have installations that are working locally.

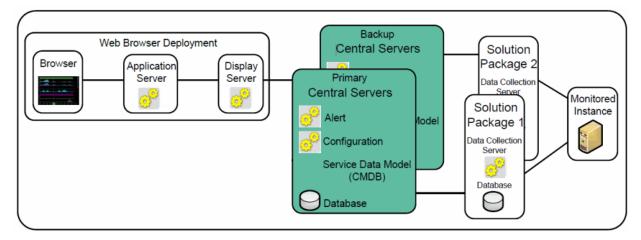
You have finished configuring RTView Enterprise Monitor Role Management.

Configure High Availability

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

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

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



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

At this point you have:

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

To setup HA on the Primary and Backup Hosts:

- **1.** Configure "Alert Notification Persistence" on the Primary and Backup Host.
- **2.** On each of the hosts in the HA pair, define two environment variables: PRIMARYHOST and BACKUPHOST, which are loaded by the property files on both Windows and UNIX.
- **3.** On the Primary Host, rename the following files as described:

a. Rename the **rtvservers.dat** file, located in your **RTViewTIBCOMonitor/em-tibco/** servers directory, to **rtvservers.dat.keep**.

b. Rename the **rtvservers-ha.dat** file, located in your **RTViewTIBCOMonitor/em-tibco/servers** directory, to **rtvservers.dat**.

- **4.** "Open the RTView Configuration Application", navigate to the **RTView Central Servers > COMMON** tab and do the following.
 - Toggle on Access the Alert Threshold Database via the Central Config Server Instead of Connecting Directly
 - Enter a fault tolerant URL for the Central Config Server Connection field as follows:
 %PRIMARYHOST%:10018,%BACKUPHOST%:10018
- 5. Navigate to Central Alert Server>ALERTS tab and toggle on Persist Alerts.
- 6. Save.
- **7.** From the Primary Host, copy the following files to the Backup Host as described:

a. Copy the **rtvservers.dat** file, located in your **RTViewTIBCOMonitor/em-tibco/ servers** directory, to the Backup Host **RTViewTIBCOMonitor/em-tibco/servers** directory.

b. Copy the **project-common.properties** and **project-common.properties.json** files, located in your **RTViewTIBCOMonitor/em-tibco/conf** directory, to the Backup Host **RTViewTIBCOMonitor/em-tibco/conf** directory.

- 8. On the Backup Host, in an initialized command window change directory (cd) to your **RTViewTIBCOMonitor/em-tibco/servers** directory.
- **9.** Create a script file (for example, **start_backup_servers.bat**) to execute the following scripts which start all RTView Enterprise Monitor processes:

Windows

start_rtv central-backup
start_rtv rtvrules-backup
start_rtv rtvmgr-backup
start_rtv <packagename>-backup dataserver

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

UNIX

star_rtv.sh central-backup
start_rtv.sh rtvrules-backup
start_rtv.sh rtvmgr-backup
start_rtv.sh <packagename>-backup dataserver

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

10.Test your HA setup:

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

Windows start_rtv all UNIX start_rtv.sh all

b. On the Backup Host, in an initialized command windowchange directory (**cd**) to your **RTViewTIBCOMonitor/em-tibco/servers** directory and execute the script you created in the previous step. For example, if you created the file **start_backup_servers.bat** previously, type: **start_backup_servers.bat**.

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

Windows start_rtv viewer UNIX start_rtv.sh viewer

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

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

a. Back-End Servers: Open the **Architecture** - "System Overview" display and mouseover the rectangle associated with the servers to view the IP address of the host.

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

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

c. Historian Servers: Open the **RTView Servers** - "Historian Servers" display, select the Source and Connection of your Historian from the drop-down menus and verify the **Primary Server** light is green.

13.Test failover to the Backup Host:

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

b. In the **JVM Process Views** - "All JVMs Heatmap" display, verify that all JVMs on the Primary Host are shown as inactive.

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

14.Verify the Primary Host takes over as the Primary Host:

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

b. On the Primary Host, in an initialized command windowchange directory (**cd**) to your **RTViewTIBCOMonitor/em-tibco/servers** directory and start all RTView Enterprise Monitor processes by typing:

Windows start_rtv all UNIX start rtv.sh all

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

You have finished configuring High Availability.

CHAPTER 3 Alert Configuration

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

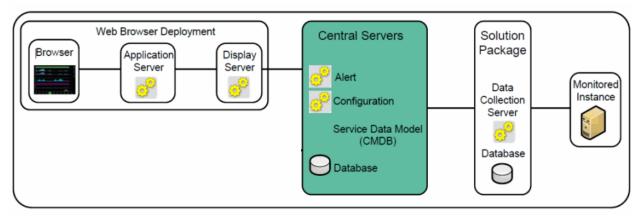
- "Overview," next
- "Configure Alert Notification": This section describes how to configure alerts to execute an automated action.
- "Configure the RTVRULES Solution Package": This section describes how to configure the RTVRULES Solution Package.
- "Configure Dual Write for Distributed Alert Server": This configuration mitigates the delays with Alert Table updates which occur in distributed deployments.
- "Configure Alert Groups": Create groups of alerts that you can then use to filter the displays in the following views: "All Management Areas", "Multi Area Service Views", "Single Area Service Views" and "Component Views".
- "Configure Alert Filters": Create custom filters and a Custom Filter drop-down menu for the Alert Views - "RTView Alerts Table" display.

These configurations are optional.

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

Overview

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



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

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

Configure Alert Notification

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

If you are upgrading from RTView Enterprise Monitor 1.2 or earlier, see the Upgrade Notes for "Alert Notifications" on page 21.

You can configure alerts to notify on the following events:

- when a new alert is created
- the first time the Severity field on an alert changes
- when an alert is cleared
- periodically renotify for unacknowledged alerts

By default, a **.bat** script is executed for new alerts and on the first severity change for an alert. 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). The following is a sample output from the alert command script:

----- Alert command script executed: DOMAINNAME=MYMON-1, ALERTNAME=someAlert, ALERTINDEX=alertIndex1~alertIndex2, ALERTID=1075, ALERTSEVERITY=2, ALERTTEXT=High Alert Limit exceeded current value: 100.0 limit: 80.0 #####

This section includes:

- "Configure Central Alert Notification" on page 61
- "Configure Optional Backend Server Notification" on page 65

At this point you have:

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

Configure Central Alert Notification

There are two options for configuring alert notification actions:

- "Using a Batch File or Shell Script": This technique 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 and a sample shell script are also provided which are customized as needed.
- "Using the Java Command Handler": The Java source for the Monitor Java command handler is provided to facilitate customization.

In order to configure alert notifications you will:

- 1. "Configure Notifications in the Configuration Application," next, to specify when to execute alert notifications and also what action to perform.
- **2.** Configure either the script or java command handler.

Configure Notifications in the Configuration Application

- 1. "Open the RTView Configuration Application", click on RTView Central Servers and go to the **Central Alert Server>ALERTS** tab.
- 2. In the Notifications section, make sure the **Enable Alert Notifications** toggle is set to on.
- **3.** If you will be executing a script for your alert notifications, set the **Notification Platform** to the platform where this project is running.
- **4.** Select the events on which you want to notify:
- Notify on New Alerts your action will be executed every time a new alert is created
- Nofity on First Severity Change your action will be executed the first time the Severity changes for each alert
- Nofity on Cleared Alerts your action will be executed every time an alert is cleared
- Periodically Renotify on Unacknowledged Alerts your action will be executed on the Renotification Interval (seconds) for each unacknowledged alert

If you will be executing a script for your alert notifications, skip to step 6.

5. If you will be executing the java command, click on the **General->CUSTOM PROPERTIES** tab and add the following:

name=sl.rtview.cp
value=../../custom/lib/rtvapm_custom.jar
filter=dataserver

name=sl.rtvapm.customcommandhandler value=com.sl.rtvapm.custom.RtvApmCommandHandler filter=dataserver

• If you selected **Notify on New Alerts** in step 4:

name=sl.rtview.alert.notifiercommandnew

value=system cust 'my_alert_notification.\$domainName.\$alertNotifyType.\$alertNotifyCol' \$alertNotifyTable

filter=dataserver

• If you selected **Notify on First Severity Change** in step 4:

name=sl.rtview.alert.notifiercommandfirstsevchange value=system cust 'my_alert_notification.\$domainName.\$alertNotifyType.\$alertNotifyCol' \$alertNotifyTable filter=dataserver

• If you selected **Notify on Cleared Alerts** in step 4:

name=sl.rtview.alert.notifiercommandcleared value=system cust 'my_alert_notification.\$domainName.\$alertNotifyType.\$alertNotifyCol' \$alertNotifyTable filter=dataserver

• If you selected **Periodically Renotify on Unacknowledged Alerts** in step 4:

name=sl.rtview.alert.notifiercommandrenot value=system cust 'my_alert_notification.\$domainName.\$alertNotifyType.\$alertNotifyCol' \$alertNotifyTable filter=dataserver

6. **Save** to save your changes. You must restart your project to apply these changes after you complete the "Using a Batch File or Shell Script" instructions or the "Using the Java Command Handler" instructions.

Using a Batch File or Shell Script

A sample batch file, my_alert_actions.bat, and a sample shell script,

my_alert_actions.sh, which are located in the **rtvapm/common/bin** directory, are provided as templates that you can modify as needed. Use the appropriate file for the platform that hosts the Central Alert Server. By default, both scripts send alert information to standard output.

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

- "Windows Batch File," next
- "Unix Shell Script"

Windows Batch File

- 1. Copy the my_alert_actions.bat file, located in the RTViewTIBCOMonitor/rtvapm/ common/bin directory, into RTViewTIBCOMonitor/em-tibco/servers/central.
- 2. Open the my_alert_actions.bat file, located in the RTViewTIBCOMonitor/em-tibco/ servers/central directory and uncomment the echo line (near the end of the file) to print alert information to standard output. Or, you can modify the script to execute an automated action (such as sending an email alert). This script will be executed for new alerts and on first severity change.
- 3. If you selected Notify on Cleared Alerts in the "RTView Configuration Application", copy my_alert_actions.bat from step 2 to my_alert_actions.cleared.bat. Optionally modify the script to execute a different action for cleared alerts. This script will execute when an alert is cleared.

- 4. If you selected Periodically Renotify on Unacknowledged Alerts in the "RTView Configuration Application", copy my_alert_actions.bat from step 2 to my_alert_actions.renotify.bat. Optionally modify the script to execute a different action for renotifications. This script will execute periodically for unacknowledged alerts.
- **5.** Execute the **stop_central_servers** script, located in the **RTViewTIBCOMonitor/bin** directory, then the **start_central_servers** script to restart the Central Servers.

Unix Shell Script

- 1. Copy the my_alert_actions.sh file, located in the common/bin directory, into your **RTViewTIBCOMonitor/em-tibco/servers/central** directory.
- 2. Open the my_alert_actions.sh file, located in the RTViewTIBCOMonitor/em-tibco/ servers/central directory, and uncomment the echo line (near the end of the file) to print alert information to standard output. Or, you can modify the script to execute an automated action (such as sending an email alert). This script will be executed for new alerts and on first severity change.
- 3. If you selected Notify on Cleared Alerts in the "RTView Configuration Application", copy my_alert_actions.sh from step 2 to my_alert_actions.cleared.sh. Optionally modify the script to execute a different action for cleared alerts. This script will execute when an alert is cleared.
- 4. If you selected Periodically Renotify on Unacknowledged Alerts in the Configuration Application, copy my_alert_actions.sh from step 2 to my_alert_actions.renotify.sh. Optionally modify the script to execute a different action for renotifications. This script will execute periodically for unacknowledged alerts.
- **5.** Execute the **stop_central_servers** script, located in the RTViewEnterpriseMonitor/bin directory, then the **start_central_servers** script to restart the Central Servers.

Batch File or Shell Script Substitutions

The default **my_alert_actions** scripts use the substitutions described in the table below.

Substitution	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.	Text or Numeric
	For example, if the CapactityLimitAllCaches 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	

\$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

Using the Java Command Handler

- **1.** Verify that the rtvapm_custom.jar file is built per Step 4 in the "Customizing the Java Command Handler" instructions.
- 2. Execute the **stop_central_servers** script, located in the **RTViewTIBCOMonitor/bin** directory, then the **start_central_servers** script to restart the Central Servers.

Customizing the Java Command Handler

The source for the RTView Enterprise Monitor Java handler is provided in the **RtvApmCommandHandler.java** file, located in the

RTViewTIBCOMonitor\custom\src\com\sl\rtvapm\custom directory. By default, the handler prints the alert data to standard output. To change this behavior perform the following steps:

- 1. Open the RtvApmCommandHandler.java file.
- 2. Modify the **OutputAlertString** method as needed. You can replace this method with your own if you modify the **invokeCommand** method to call it, and your method accepts the same arguments as **OutputAlertString**.
- 3. Save the RtvApmCommandHandler.java file.
- Compile RtvApmCommandHandler.java and rebuild rtvapm_custom.jar using the supplied script (make_classes.bat or make_classes.sh) in RTViewTIBCOMonitor/ em-tibco\custom\src directory.
- 5. Execute the **stop_central_servers** script, located in the **RTViewTIBCOMonitor/bin** directory, then the **start_central_servers** script to restart the Central Servers.

Java Command Handler Substitutions

When you customize the Java Command Handler, there is no need to modify the **sl.rtview.alert.notifiercommandnew** and

sl.rtview.alert.notifiercommandfirstsevchange properties in the

custom_handlers.properties file. The entire **Alert Table** row is passed into the Java Command Handler for each alert that notifies so that all information regarding those alerts is available. The following substitutions are used:

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

Alert Notification Persistence

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

- ALERT_PERSIST_TABLE_CENTRAL
- ALERT_NOTIF_PERSIST_TABLE: Notification information is persisted to this table.

The schemas for both tables are in **RTVAPM_HOME\common\dbconfig**. For ALERT_PERSIST_TABLE_CENTRAL, use the same schema as ALERT_PERSIST_TABLE. To enable notification persistence, in the "RTView Configuration Application", click on RTView Central Servers and go to the Central Alert Server->ALERTS tab and turn on the Persist Alerts toggle.

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

Configure Optional Backend Server Notification

The above sections describe configuring the Central Alert Server to execute all notifications. You may also configure any of the Solution Package Data Servers to notify on only the alerts in that server in the "RTView Configuration Application". To enable notification on a Solution Package Data Server, select the Solution Package Project to which you want to add notifications, then select the **General->ALERT** tab. Under Notifications turn on the toggle that says "Configure notifications for this server in addition to central notifications.", then fill in the Notifications section as described for the central notification above. This notification is in addition to the Central Alert Server notification.

Configure the RTVRULES Solution Package

This section describes how to configure the RTVRULES Solution Package, located in your **RTViewTIBCOMonitor/em-tibco/servers/rtvrules** directory.

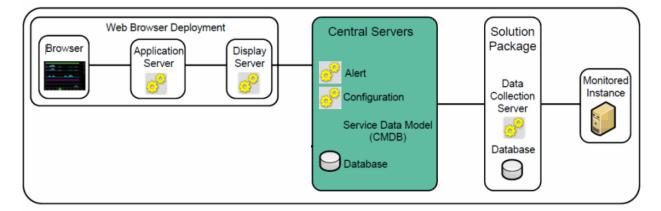
The RTVRULES Solution Package is designed to reduce the number of escalated, low-level alerts to upper management tiers. This enables you to, for example, set a time frame for IT to resolve an alert before the alert is escalated.

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

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

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

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



At this point you have:

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

To configure the RTVRULES Solution Package:

- 1. If relationships are not yet established among Services, define these relationships using the new CI Type in the **Administration** "CMDB Admin" display. For details, see Configure the Service Data Model, "EM-SERVICE CI Type" on page 41.
- 2. In an initialized command window, change directory (cd) to the your RTViewTIBCOMonitor/em-tibco/servers directory.
- **3.** Execute the **stop_central_servers** script, located in the **RTViewTIBCOMonitor/bin** directory, then the **start_central_servers** script to restart the Central Servers.

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

4. In the Monitor, open the Administration -"Alert Administration" display and enable the **RtvEmServiceAlert** and **RtvEmServiceAlertImpactHigh** alerts.

You have finished configuring the RTVRULES Solution Package.

Configure Dual Write for Distributed Alert Server

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

By default, this feature is disabled.

Default Behavior

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

Dual Write Enabled Behavior

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

To Enable Dual Write

To enable dual write, in the "RTView Configuration Application", click **RTView Central Servers** and go to the **General->CUSTOM PROPERTIES** tab and add the following:

name=sl.rtview.sub value=\$rtvUserEnableAlertDualWrite:1

Save to close the Add Property dialog and **SAVE** (next to the **HOME** button) to save your changes. Execute the **stop_central_servers** script, located in the **RTViewTIBCOMonitor/ bin** directory, then the **start_central_servers** script to restart the Central Servers.

Limitations

The following limitations apply when dual write is enabled:

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

Configure Alert Groups

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

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

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

Alert Group: All

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

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

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

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

These instructions the "Project Directory".

To configure Alert Groups

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

GROUP-Availability -- JvmNotConnected

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

GROUP-Availability -- JvmNotConnected GROUP-Availability -- xyzAlertName

GROUP-Availability -- 123AlertName

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

4. "Open the RTView Configuration Application", click on RTView Central Servers, go to the General>CUSTOM PROPERTIES tab and add the following:

```
name=sl.rtview.cache.config
value=rtv_config_cache_source_db.rtv
filter=ConfigCollector
```

name=sl.rtview.sql.sqldb value=RTVCONFIG <username> <password> <url> <driver> - false true filter=ConfigCollector

Where:

- username is the user name to enter into this database when making a connection. Enter
 if blank.
- password is the password to enter into this database when making a connection. Enter if blank.
- **url** is the full URL to use when connecting to this database using the specified JDBC driver.
- driver is the fully qualified name of the driver class to use when connection to this database via JDBC.
- 5. Open the All Management Areas "Area Heatmap" display and verify that the Alert Group drop-down menu appears at the top.
- **6.** Select an Alert Group from the **Alert Group** drop-down menu and verify that only alerts for the selected Alert Group are included in the heatmap.
- 7. Open the Architecture "RTView Cache Tables" display, select CONFIG-SERVER from the Data Server drop-down menu, then select the RtvAlertGroupMap cache table from the upper table. This cache lists all defined Alert Groups.
- 8. Verify the list of defined Alert Groups and their alert name members in the **RtvAlertGroupMap** table.

Note: The table includes the **None** Alert Group, which is defined, by default, to include all alerts that are not members of a user-defined Alert Group.

9. Optionally, specify the default Alert Group filter. To add an application default, set the \$rtvAlertGroupFilter substitution to the name your default Alert Group filter in the "RTView Configuration Application". In the Configuration Application, click on RTView Central Servers and go to the General->CUSTOM PROPERTIES tab and add the following: name=sl.rtview.sub value=\$rtvAlertGroupFilter:Availability filter=uiprocess

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

sub name="\$rtvAlertGroupFilter" value="Availability"

For details about the **users.xml** or **roles.xml** files, see "Configure User and Role Management" on page 52.

For details about configuring Alert Groups for custom displays, see the Chapter 34, "Creating Custom Solution Packages".

Configure Alert Filters

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

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

Currer	nt 🗸	Admin				Alerts Table			09-Oct-2015 16:06 🗳 Data	ок 🔶 🕜
Field Filter:							V Clear	🔿 All 💿 Open	🔿 Closed 🛛 🌔 Alert Setting	js Conn OK
Search Text:							RegEx	Owner Filter: All	Custom Filter:	\checkmark
CMDB Filter:	wner = infrastructure	Area = * C	iroup = ^	Service = * E	inv = *				Clear C	MDB Filter
Total 2064/	rotal 2064/2064 Critical 🗹 1987/1987 Warning 🗹 77/77 Suppressed 🗋 0						ess <u>C</u> lose			
First Occ	Last Occ	Count	Sup	Owner	Alert Name	Primary Service	CI			
10/09/15 16:06:29	10/09/15 16:06:29	1			BwActivityErrorRateHigh	BW-PROCESS	SLHOST6(domain6);d	High Alert Limit exceeded,	ourrent value: 0.032257023966968806 limit: 0.	02
10/00/15 16:08:27	10/00/15 16:08:27	1			BwActivityErrorReteHigh	BW-PROCESS	SLHOST6(domain6):d	High Alert Limit exceeded	ourrent value: 0.03466204506065858 limit: 0.0	2

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

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

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

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

Note: The CUSTOM_ALERT_FILTERS table was added to the ALERTDEFS database in version 1.3.0. Users upgrading from previous versions must add this table to the ALERTDEFS database.

To configure Alert Filters

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

Column Name	Value
User	Specifies the name of the user who can use this filter. This must correspond to the value specified for the User in the RTView Enterprise Monitor login.
Кеу	Specifies the name of the filter. This value is used in the Custom Filter drop-down menu.
rtvAlertDynFilter	Specifies the name of the column in the Alerts Table to filter on. This corresponds to the value in the Field Filter drop-down menu in the display. This must be the actual column name, which is sometimes different than the displayed column name. Valid values are blank, Time , Last Update Time , Count , ID , Cleared , Acknowledged , Owner , Alert Name , Primary Service , CIName , CIType , Alert Index , Alert Text , Severity , Source , Cleared Reason , AlertClass , CompID , TicketID , TicketGroup and any other custom columns you added to the RTView Alerts Table . A <blank> value indicates this filter should not be used. Note: If you specified an RTView Alerts Table columns list, you can use any values from the RTView Alerts Table columns list.</blank>
rtvAlertDynTextFilter	Specifies the value in the rtvAlertDynFilter column must equal. This corresponds to the Search Text field in the display.
rtvAlertDynTextFilterRegEx	Specifies whether to use Regex for the rtvAlertDynFilter and rtvAlertDynTextFilter filters, where 1 is use to Regex and 0 is NOT to use Regex. This corresponds to the RegEx check-box in the display.
rtvClearedFilter	Specifies to filter on the Cleared column. This corresponds to the All/Open/Closed radio buttons in the display. Valid values are:
	 false shows only open alerts
	 true shows only closed alerts
	 * (asterisk) shows both
rtvAckFilter	Specifies to filter on the Suppressed column. This corresponds to the Suppressed check-box in the display. Valid values are:
	 false shows only unsuppressed alerts
	 true shows only suppressed alerts
	 * (asterisk) shows both

ownerFilter	Specifies to filter on the Owner column. This corresponds to the Owner Filter drop-down menu in the display. Valid values are:			
	 <blank> shows alerts that are not owned as well as the logged in user name (which corresponds to the Owned by Me drop-down menu selection)</blank> 			
	 * (asterisk) shows owned and not owned alerts 			
rtvWarningFilter	Specifies to filter on warning alerts. That is, where the alert Severity is equal to 1 . Valid values are:			
	1 shows warning alerts			
	 <blank> does NOT show warning alerts</blank> 			
rtvCriticalFilter	Specifies to filter on critical alerts. That is, where the alert Severity is equal to 2 or 3 . Valid values are:			
	• 2 shows critical alerts			
	• 3 shows critical alerts			
	 <blank> does NOT show critical alerts</blank> 			
rtvOwnerLoc	Specifies to filter on the CMDB owner. This corresponds to the Owner value in the CMDB Filter field. Valid values are:			
	 the name of an owner from your CMDB which shows only alerts for that owner 			
	 * (asterisk) which does NOT filter by CMDB owner 			
	 <blank> shows only alerts without an owner</blank> 			
rtvAreaLoc	Specifies to filter on the CMDB area. This corresponds to the area value in the CMDB Filter field. Valid values are:			
	 the name of an area from your CMDB which shows only alerts for that area 			
	 * (asterisk) which does NOT filter by CMDB area 			
rtvGroupLoc	Specifies to filter on the CMDB group. This corresponds to the Group value in the CMDB Filter field. Valid values are:			
	 the name of a group from your CMDB which shows only alerts for that group 			
	 * (asterisk) which does NOT filter by CMDB group 			
rtvServiceLoc	Specifies to filter on the CMDB service. This corresponds to the Service value in the CMDB Filter field. Valid values are:			
	 the name of a service from your CMDB which shows only alerts for that service 			
	 * (asterisk) which does NOT filter by CMDB service 			
rtvEnvironmentLoc	Specifies to filter on the CMDB environment. This corresponds to the Environment value in the CMDB Filter field. Valid values are:			
	 the name of an environment from your CMDB which shows only alerts for that environment 			
	 * (asterisk) which does NOT filter by CMDB environment 			

CHAPTER 4 User Interface Configuration

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

- "Change Order of Navigation Tabs" on page 75: Modify order of Monitor tabs and hide globally or per-role.
- "Modify the CUSTOM Tab" on page 76: Modify, add or remove Monitor tabs and add or remove custom views.
- "Configure RTView Alerts Table Columns" on page 79: Change which columns are shown in the Alerts Table, which column to sort on and whether to sort a column by ascending or descending order.
- "Add Owned By Me to RTView Alerts Table" on page 83: Add a table that only shows alerts for the logged in user to the RTView Alerts Table.

Change Order of Navigation Tabs

This section describes how to change the order and visibility of the navigation tabs (**SERVICE TREE**, **SERVICE VIEWS**, **COMPONENTS**, **ALERTS** and **ADMIN**). For details about modifying user-defined tabs (such as **CUSTOM**), see "Modify the CUSTOM Tab" on page 76.

SERVICE TREE SERVICE VIEWS COMPONENTS ALERTS ADMIN CUSTOM

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

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

uiprocess.sl.rtview.sub=\$rtvNavTabList:Custom,CMDB,Admin

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

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

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

To apply a modification of your navigation tabs globally:

1. "Open the RTView Configuration Application" and choose **RTView Central Servers**.

2. Go to General>COMMON PROPERTIES.

- **3.** Click **to** add a new Custom Property, replacing **Custom,CMDB,ALERTS** with your comma separated list of tab id's:
- name=sl.rtview.sub
- value=\$rtvNavTabList:Custom,CMDB,ALERTS
- filter=uiprocess
- 4. Save to close the Add Property dialog.
- 5. SAVE (next to the HOME button) to save your changes.
- 6. Execute the **stop_central_servers** script, located in the **RTViewTIBCOMonitor/bin** directory, then the **start_central_servers** script to restart the Central Servers.

To apply per role:

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

<role>

<name>admin</name>

<displays>

<include>ALL</include>

</displays>

<sub name="\$rtvNavTabList" value="Admin,CMDB,Alerts"/>

</role>

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

Modify the CUSTOM Tab

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

- "Replacing Tab Content," next
- "Renaming the CUSTOM Tab" on page 77
- "Removing the CUSTOM Tab" on page 77
- "Adding Tabs" on page 77

Replacing Tab Content

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

- 1. Copy your custom view (.rtv) files to the RTViewTIBCOMonitor/em-tibco/servers/ central directory.
- 2. Modify custom_views_navtree.xml to replace the tree contents with your custom views.

Renaming the CUSTOM Tab

To rename the **CUSTOM** tab:

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

Removing the CUSTOM Tab

To remove the **CUSTOM** tab:

Modify **rtv_custom.xml** to remove the Custom row from the **TabTable** and **TabTreeSelection** tables.

Adding Tabs

- Choose a Tab ID for your CUSTOM tab. This is not the label, but a unique ID that will be used internally to identify your tab. For this example, we will use MyCustomTab for the Tab ID. You cannot use the following for the Tab ID:
- Custom
- CMDB
- Service
- Alerts
- Components
- 2. Create a navigation accordion view for your tab in the **RTViewTIBCOMonitor/em-tibco/** servers/central directory:
- Copy custom_views_acc.rtv to a new file name. In this example, we copy it to mycustomtab_acc.rtv.
- Open mycustomtab_acc.rtv in the Display Builder:
 - 1. runb_appmon mycustomtab_acc.rtv.
 - 2. Modify the **Custom Views** label above the navigation accordion.

3. Select the navigation accordion and edit the **selectedValue** property. Change the **Filter** value to your Tab ID (**MyCustomTab** in this example).

4. Open the data attachment in the **navOptionsForFilter** function and change the **Filter** value to your Tab ID (**MyCustomTab** in this example).

5. Save your display and exit the Display Builder.

- **3.** Create a navigation tree for your tab. Note that each node in the tree must be a unique display/substitution value.
- Copy custom_views_navtree.xml to a new filename, mycustomtab_navtree.xml.
- Replace the nodes in mycustomtab_navtree.xml with your nodes.
- **4.** Add the new navigation tree to your project:
- In the "RTView Configuration Application", select RTView Central Servers.
- Go to General>COMMON PROPERTIES.
- Click of to add a new Custom Property:

```
name=sl.rtview.xml.xmlsource
```

value=mycustomtab navtree.xml 0 mycustomtab navtree.xml 0 1 filter=uiprocess

- Save to close the Add Property dialog
- Click 💛 to add a new Custom Property:

name=sl.rtview.cache.config value=rtv_tabtree_cache_source.rtv \$rtvNavTreeFilename:mycustomtab_navtree.xml \$rtvNavTabName:MyCustomTab filter=uiprocess

- Save to close the Add Property dialog
- **SAVE** (next to the **HOME** button) to save your changes
- Execute the **stop_central_servers** script, located in the **RTViewTIBCOMonitor/bin** directory, then the **start_central_servers** script to restart the Central Servers.
- 5. Add your new tab to rtv_custom.xml. In a text file editor, open rtv_custom.xml and edit the following:
- Add a new row to the TabTable with the label, Tab ID and navigation view you created in Step 2:

```
MvCustomTabLabel
MyCustomTab
mycustomtab acc
```

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

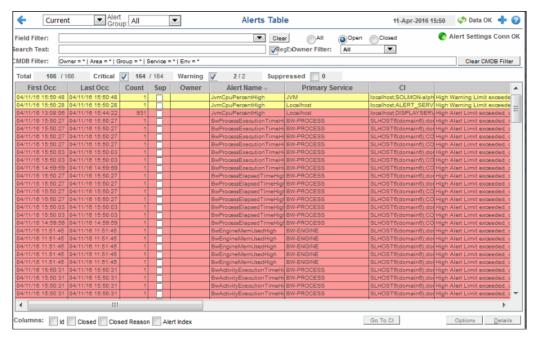
```
MyCustomTab
MyCustomTab 1
MyCustomTab
```

Configure RTView Alerts Table Columns

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

This configuration impacts the **RTView Alerts Table** in the following displays and any custom displays that include **rtv_alerts_table_common.rtv**:

- Alert Views "RTView Alerts Table" display (rtv_alerts_table.rtv)
- Service Summary Views "Service By CI Type" display (rtv_service_citype_summary.rtv)
- Service Summary Views "Service Summary" display (rtv_service_summary.rtv)
- Multi Area Service Views "Services CI Type Summary" display (rtv_allareas_allservices_citype_summary.rtv)
- Single Area Service Views Services CI Type Summary display (rtv_area_allservices_citype_summary.rtv) By default, this display is not included in the navigation tree.



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

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

Changing the Default Columns

To change the default columns:

1. "Open the RTView Configuration Application" and choose **RTView Central Servers**.

2. Go to General>COMMON PROPERTIES.

3. Click **•** to add a new Custom Property:

name=sl.rtview.sub

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

filter=uiprocess

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

'colName:colWidth colName2:colWidth2'

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

- 5. Save to close the Add Property dialog
- 6. SAVE (next to the HOME button) to save your changes
- 7. Execute the **stop_central_servers** script, located in the **RTViewTIBCOMonitor/bin** directory, then the **start_central_servers** script to restart the Central Servers.

Exposing ID, Cleared, Cleared Reason and Alert Index Columns

The ID, Cleared, Cleared Reason and Alert Index columns are always included, but are hidden by default. To control the visibility of these columns, do the following using **0** in the value to hide the column, and using **1** in the value to show it:

1. "Open the RTView Configuration Application" and choose RTView Central Servers.

2. Go to General>COMMON PROPERTIES.

3. Click 🕙 to add a new Custom Property to control the visibility of the **Closed** column:

name=sl.rtview.sub value=\$rtvUserShowCleared:1 filter=uiprocess

4. Save to close the Add Property dialog

5. Click • to add a new Custom Property to control the visibility of the **Closed Reason** column:

name=sl.rtview.sub
value=\$rtvUserShowClearedReason:1
filter=uiprocess

6. Save to close the Add Property dialog

7. Click 🕙 to add a new Custom Property to control the visibility of the **ID** column:

name=sl.rtview.sub value=\$rtvUserShowId:1 filter=uiprocess

8. Save to close the Add Property dialog

9. Click 💿 to add a new Custom Property to control the visibility of the **Alert Index** column:

name=sl.rtview.sub
value=\$rtvUserShowAlertIndex:1
filter=uiprocess

10.Save to close the Add Property dialog

- 11.SAVE (next to the HOME button) to save your changes
- **12.**Execute the **stop_central_servers** script, located in the **RTViewTIBCOMonitor/bin** directory, then the **start_central_servers** script to restart the Central Servers.

If the ID, Cleared and Cleared Reason columns are specified in the **\$rtvUserAlertTableColumns**, the columns are positioned in columns according to that

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

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

Changing the Sort Column and Order

By default, the RTView Alerts Table is sorted by the Time column in descending order to show new alerts first. You can configure the RTView Alerts Table to sort by a different column and by descending order. To configure the columns in this way:

1. "Open the RTView Configuration Application" and choose RTView Central Servers.

2. Go to General>COMMON PROPERTIES.

3. Click • to add a new Custom Property, replacing **Time** with the name of the column you want to sort by:

name=sl.rtview.sub value=\$rtvUserAlertTableSortColumn:Time filter=uiprocess

- 4. Save to close the Add Property dialog.
- **5.** Click to add a new Custom Property, using a value of **1** to sort ascending or **0** to sort descending:

name=sl.rtview.sub value=\$rtvUserAlertTableSortAsc:0 filter=uiprocess

- 6. Save to close the Add Property dialog.
- 7. SAVE (next to the HOME button) to save your changes.
- 8. Execute the **stop_central_servers** script, located in the **RTViewTIBCOMonitor/bin** directory, then the **start_central_servers** script to restart the Central Servers.

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

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

Add Owned By Me to RTView Alerts Table

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

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

Admin					Alerts Table	0	9-Oct-2015 1	6:27 📫 Data OK	+ 0
Field Filter:				•	Clear 🔘 All 🔘	Open 🔘 Closed		🌔 Alert Settings (Conn OK
Search Text:									
CMDB Filter: Owner = * Area = * Group = * Service = * Env = PRODUCTION Clear CMDB Filter Clear CMDB Filter									
Total 12	Critical 🗹 11	Warning	1	Suppre	essed 📃 1	<u>O</u> wn	Suppress	<u>U</u> nSuppress	Close
First Occ V	Last Occ	Count	Sup	Owner	Alert Name	Primary Se	rvice	CI	
06/20/13 16:06:53	3 06/20/13 16:06:53	1			EmsServerPendingMsgsH	EMS-SERVER	to	p://192.168.200.172	. High W
06/20/13 16:06:53	8 06/20/13 16:06:53	1			EmsServerPendingMsgsH	EMS-SERVER	to	p://192.168.200.171	. High Al
06/20/13 16:06:53	3 06/20/13 16:06:53	1			EmsServerPendingMsgsH	EMS-SERVER	to	p://192.168.200.171	. High Al
06/20/13 16:06:53	8 06/20/13 16:06:53	1			EmsServerPendingMsgsH	EMS-SERVER	to	op://192.168.200.172	. High Al
06/20/13 16:06:52	2 06/20/13 16:09:07	3		admin	JvmNotConnected	JVM	lo	calhost;BWMON-LO	Server
06/20/13 16:06:52	2 06/20/13 16:08:47	2			JvmNotConnected	MQ-WLM	lo	calhost;WLM-LOCAL	Server
06/20/13 16:06:52	2 06/20/13 16:08:47	2			JvmNotConnected	MQ-WLM	lo	calhost;MQMON-LO	. Server
	2 06/20/13 16:09:07	3		admin	JvmNotConnected	WSM-PROD		ocalhost;WSM-LOCAL	Server
06/20/13 16:06:52	2 06/20/13 16:08:47	2			JvmNotConnected	CUSTOM-DEV		ocalhost;CUSTOM-L	Server
	2 06/20/13 16:08:47	2			JvmNotConnected	OCMON-PROD		calhost;OCMON-LO	Server
	2 06/20/13 16:08:47	2			JvmNotConnected	JVM	lo	ocalhost;TOMCAT	Server
06/20/13 16:06:52	00/20/13 10:08:47	2			JvmNotConnected	MISCMON-PROD	lo	ocalhost;MISCMON-L	. Server
• • • • • • • • • • • • • • • • • • •		2				MISCMON-PROD	lo	ocalhost;MISCMON-L	Server
•				1	erts Owned by Me			ocalhost;MISCMON-L	
First Occ /	Last Occ	Count	Sup	Owner	erts Owned by Me Alert Name	Primary Se	rvice	CI	•
✓ First Occ / 06/20/13 16:06:53	Last Occ 06/20/13 16:09:08	Count 6		Owner admin	lerts Owned by Me Alert Name EmsServerPendingMsgsH	Primary Se EMS-SERVER	rvice to	CI op://SLPR029:7222	High A
✓ First Occ / 06/20/13 16:06:52 06/20/13 16:06:52	 Last Occ 06/20/13 16:09:08 2 06/20/13 16:09:07	Count 6 3	Sup	Owner admin admin	erts Owned by Me Alert Name EmsServerPendingMsgsH JvmNotConnected	Primary See EMS-SERVER JVM	rvice to	CI pp://SLPR029:7222 posilhost;BWMON-LO	High A Server
First Occ / 06/20/13 16:06:52 06/20/13 16:06:52	Last Occ 06/20/13 16:09:08	Count 6	Sup	Owner admin	lerts Owned by Me Alert Name EmsServerPendingMsgsH	Primary Se EMS-SERVER	rvice to	CI op://SLPR029:7222	High A
First Occ / 06/20/13 16:06:52 06/20/13 16:06:52	Last Occ 0.06/20/13 16:09:08 0.06/20/13 16:09:07 0.06/20/13 16:09:07	Count 6 3	Sup	Owner admin admin	erts Owned by Me Alert Name EmsServerPendingMsgsH JvmNotConnected	Primary See EMS-SERVER JVM	rvice to	CI pp://SLPR029:7222 posilhost;BWMON-LO	High A Server Server
First Occ / 06/20/13 16:06:52 06/20/13 16:06:52	 Last Occ 06/20/13 16:09:08 2 06/20/13 16:09:07	Count 6 3	Sup	Owner admin admin	erts Owned by Me Alert Name EmsServerPendingMsgsH JvmNotConnected	Primary See EMS-SERVER JVM	rvice to	CI pp://SLPR029:7222 posilhost;BWMON-LO	High A Server

1. "Open the RTView Configuration Application" and choose **RTView Central Servers**.

2. Go to General>COMMON PROPERTIES.

3. Click 💽 to add a new Custom Property:

name=sl.rtview.sub

value=\$rtvUserShowDualTables:1 filter=uiprocess

- 4. Save to close the Add Property dialog.
- 5. SAVE (next to the HOME button) to save your changes.
- 6. Execute the **stop_central_servers** script, located in the **RTViewTIBCOMonitor/bin** directory, then the **start_central_servers** script to restart the Central Servers.

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

For details about how to define substitution values for custom users and roles, see "Configure User and Role Management" on page 52.

CHAPTER 5 Using the Monitor

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

- "Overview" on page 85: This section describes the GUI navigation, elements and structure.
- "Enterprise Monitor Views/Displays" on page 112: This section describes RTView Enterprise Monitor displays.

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

- "Solution Package for Apache Tomcat" on page 249
- "Solution Package for TIBCO ActiveMatrix Businessworks" on page 1071
- "Solution Package for TIBCO Enterprise Message Service™" on page 385
- "Solution Package for TIBCO ActiveSpaces" on page 515
- "Solution Package for TIBCO BusinessEvents" on page 577
- "Solution Package for TIBCO Adapters" on page 635
- "Solution Package for TIBCO FTL" on page 1467
- "Solution Package for TIBCO ActiveMatrix" on page 691
- "Solution Package for JVM" on page 707
- "Solution Package for RTView Manager" on page 909
- "Solution Package for RTView Host Agent" on page 771
- "Solution Package for VMware vCenter" on page 789
- "Solution Package for TIBCO Hawk" on page 1503

Overview

RTView Enterprise Monitor uses visual cues (such as color coding, graphic charts and sizing of shapes) to communicate the current state of all elements in your system. This section describes how displays are structured and organized, how to read heatmaps, tables and trend graphs, as well as GUI functionality and navigation. This section includes:

- "Navigation Tabs"
- "Fundamental Structure of Displays"
- "Heatmaps"
- "Tables"
- "Trend Graphs"
- "Popup Menu"
- "Title Bar"

Navigation Tabs

	RVICE VIEWS COMPO	NENTS ALERTS AD	MIN CUSTOM	RTView Enterprise Monitor® admin (admin) Log Out
Service Tree Service Filter • Q	Heatmap 💌	Viert All 💽 All	Areas by Owner	24-Mar-2016 16:01 💠 Deta OK + 🕜
Env Filter PRODUCTION	Owner: All Owners	Area Env	PRODUCTION Metric: Aler	rt Impact 💌 0 🍵 🕠
✓ ● Infrastructure			Infrastructure	
✓ ④ Middleware				
COHERENCE				
> O SOLACE				
> () TIBCO-BW				
TIBCO-EMS			er: Infrastructure	
> O WEBSPHERE			: Middleware Count: 7,795	
> O TIBCO-AS		Alert	t Impact: 2 t Count: 480	
> O TOMCAT		Alert	t Severity: 2	
> 🛦 WEBLOGIC			cality: E Level: 1	
✓ O Processes				
> O DOCKER				
> O JVM				
Servers				
> 🔿 Databases				
> O Hosts				
VO Tester				
✓ O Servers				
> 🔿 Databases				

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

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

SERVICE TREE Tab

	ERVICE VIEWS	COMPONENTS	ALERTS	ADMIN	CUSTOM	RTVi	ew Enterprise Mo admin (admin)	
Service Tree Service Filter C	Heatmap	Alert Group: All		All Areas	by Owner		-2016 16:02 🗳 Data O	
Env Filter PRODUCTION	Owner: All Owner	rs 💌	Area Names	Env: PRO	DUCTION	Metric: Alert Impact	▼ 0 5	19
✓ ⊕ Infrastructure				Infras	tructure			
✓								
> O COHERENCE								
> O SOLACE								
> 😝 TIBCO-BW								
> C TIBCO-EMS								
> O WEBSPHERE								
> C TIBCO-AS								
> O TOMCAT								
> A WEBLOGIC								
VO Processes								
> O DOCKER								
MVL O C								
C Servers								
> O Databases								
> O Hosts								
✓ ○ Tester								
Servers								
> O Databases								

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

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

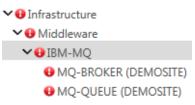
This tab allows you to filter the navigation tree content by service and environment (see figure below). The environment you select also sets the **Environment** filter on the main panel. Note that changing the **Environment** filter on the main panel does not set the **Environment** filter in the navigation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



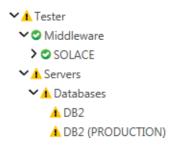
Alerts

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

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



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



Available Displays

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

Owner Level (top level)

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

Drop-down Option	Display	Description
Heatmap	"Area Heatmap" on page 113	Heatmap of the most critical alerts for all Areas of your system, with the option to filter by Owner, Environment and alert Metric.
Area	"Area Table" on page 115	Table of data shown in the "Area Heatmap" with the option to filter by Owner and Environment.

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

Area Level (second level down)

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

Drop-down Option	Display	Description
By Group	"Group/Service Heatmap" on page 117	Heatmap of alert states for Services by Area, with the option to filter by Area, Group, Environment and alert Metric, and the option to show Group and Service Names.
By Region	"Group/Region Heatmap" on page 119	Heatmap as described for the Group / Service Heatmap (above), with the option to filter by Region and no option to show Service Names.
Table	"Group / Service Table" on page 120	Table of data shown in the "Group/ Service Heatmap" on page 117.
Ву СІ Туре	"Services CI Type Summary" on page 122	Table that shows the health state of Services per CI Type.
History	"Services History Heatmap" on page 126	Heatmap of alert states, over time, for Services in a selected Area, with the option to filter by Group, Environment and alert Metric.

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

Group Level (third level down)

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

Drop-down Option	Display	Description
By Group	"Single Area: Group/Service Heatmap"	Heatmap of alert states for Services by Area, with the option to filter by Area, Group, Environment and alert Metric, and the option to show Group and Service Names.
By Region	"Single Area: Region/Service Heatmap"	Heatmap as described for the Group / Service Heatmap (above), with the option to filter by Region and no option to show Service Names.
Table	"Single Area: Region/Service Heatmap"	Table of the data shown in the "Single Area: Group/Service Heatmap" on page 128.
Ву СІ Туре	"Single Area: Services CI Type Summary"	Table that shows the health state of Services per CI Type.
History	"Single Area: Services History Heatmap"	Heatmap of alert states, over time, for Services in a selected Area, with the option to filter by Group, Environment and alert Metric.

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

Service Level (fourth level down)

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

Drop-down Option	Display	Description			
Ву СІ Туре	"Service By CI Type"	Table of alert states for a Service organized CI Type, with general alert information.			
Summary	"Service Summary"	Table of CIs by Service, with detailed alert information.			
Health	"Service Health Heatmap" on page 146	Heatmap of CIs by Service, with the option to filter by Owner, Area, Group, Environment and alert Metric, and show C Names.			
KM Heatmap	"Service KM Heatmap" on page 148	Heatmap of Key Metrics current data for one or more Services in your CMDB hierarchy.			
KM Table	"Service KM Table" on page 152	Table of Key Metrics current data for one or more Services.			
KM History	"Service KM History" on page 155	History heatmap of Key Metrics historical data for one or more Services.			
KM History (Alt)	"Service KM History (Alt)" on page 159	History heatmap of Key Metrics historical data for one or more Services.			

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

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

Button	Display	Description
MX	"Metric Explorer" on page 177	The Metric Explorer (MX) is a tool for creating and viewing custom dashboards, referred to as MX Views.

SERVICE VIEWS Tab

SL SERVICE TREE	SERVICE VIEWS	COMPONENTS	ALERTS	ADMIN	CUSTOM			RTView	®Enterprise Monitor [™] admin (admin) Log Out
Service Views	Heatmap	~				All Areas by Owner		07-Oct-	2015 09:45 💠 Data OK 🔶 🕜
	Owner: Infrastructure	V Area	es				Env: QA	Metric: Alert Impact	✓ 0 6 10
✓All Management Areas						Infrastructure			
Area Heatmap									
Area Table									
> Multi Area Service Views									
> Single Area Service Views									
> Service Summary Views									
> Key Metrics Views									
> Component Views									
> Metric Explorer									

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

- "All Management Areas": Displays in this View show the health of your entire system using aggregated data from all Areas. Use these displays to quickly identify critical conditions across all Areas in your system, then drill-down to investigate in lower-level displays.
- "Multi Area Service Views": Displays in this View show the health of Services for one or more Groups. Use these displays to identify critical conditions across all Areas or a single Area. Drill-down to investigate in lower-level displays.
- "Single Area Service Views": Displays in this View show the health of Services for one or more Groups. Use these displays to identify critical conditions across a single Area. Drilldown to investigate in lower-level displays.
- "Service Summary Views": Displays in this View show the health of CI Types. Use these displays for a closer view of a critical condition, including alert details.
- "Key Metrics Views": The Key Metrics (KM) feature shows how close a metric is approaching its threshold (rather than your ACTIVE alerts and their impact on the overall application or service), enabling you to anticipate performance problems BEFORE the alert threshold is crossed and analyze the circumstances that led up to error conditions.
- "Metric Explorer" on page 177: The Metric Explorer (MX) is a tool that allows end-users to quickly create custom dashboards for metrics they specifically want to analyze.

COMPONENTS Tab

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

- "JVM Processes View/Displays": Displays in this View show performance data for monitored Java Virtual Machine (JVM) Processes. Use these displays to monitor performance of your JVMs.
- "Tomcat Monitor Views/Displays": Displays in this View show performance data for monitored Tomcat applications. Use these displays to monitor Tomcat connections and performance of your Web applications and modules.
- "RTView Servers" on page 182: Displays in this View show data gathered by RTView and performance metrics for your RTView Servers.

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

By Technology Button

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

		ONENTS	ALERT	s	ADMIN CUSTO	м				F	RTView [®] Ente	erprise Mo admin (admin)	
By Vendor	🗲 Heatmap						All JV	'Ms - Table Vie	w		23-Sep-2015 17:0)2 💠 Data OK	•
> Application / Web Servers	JVM Count: 51	Show Ina	ctive										
							All JI	MX Connections					
> Middleware	Connection	Expired	Connected	Alert	Host	Port	CPU %	Max Heap	Mem Used %	Display Name	URL	RtvAppTy	
Detabases	ALERT_SERVER		()	0	localhost	10023	18.6	492,896,256	55.7				3 100
Databases	ALERTHISTORIAN		õ	ŏ	localhost	10025	0.6	477,233,152	4.1				1 loc
P	AMXMON-HISTORIAN		Õ	Õ	localhost	3367		0	0				0 loca
Processes	AMXMON-SLHOST-WIN3		Õ	Õ	192.168.200.133	6368	2.0	954,466,304	37.8				3 loca
	AMXMON-SLHOST-WIN4		Õ	Õ	192.168.200.134	6368	2.0	954,466,304	31.7				3 loca
✓JVM Processes	BW6MON-SLHOST-WIN3		ě	ŏ	192.168.200.133	3368	0.9	954,466,304	20.2				3 loc:
	BW6MON-SLHOST-WIN4		ě	ŏ	192.168.200.134	3368	1.0	954,466,304	20.2				3 loc
✓All JVMs	BWMON-HISTORIAN		ŏ	ŏ	localhost	3367		0					0 loc
	BWMONITOR-WIN-8		ŏ	ŏ	192.168.200.138	3368		0					0 loc
All JVMs Heatmap	CONFIG SERVER		ě	ŏ	localhost	10013	2.4	477,233,152	34.9				3 loc
	DISPLAYSERVER		ě	ŏ	localhost	10024	4.0	477,233,152	62.9			-	5 loc
All JVMs Table	DISPLAYSERVER DARK		ě	ŏ	localhost	10124	2.5	477,233,152	29.9				5 loc
	EMSMON-HISTORIAN		ŏ	ŏ	localhost	3167		0					0 loc
Single JVM	EMSMONITOR-WIN-8		ě	ŏ	192.168.200.138	3168	1.3	954,466,304	28.6				3 loc
	EMSMON-SLHOST-WIN3		ě	ŏ	192.168.200.133	3168	1.9	954,466,304	17.1				3 loc
RTView Processes	EMSMON-SLHOST-WIN4		ě	ŏ	192.168.200.134	3168	1.6	954,466,304	20.4				3 loc
	local		ě	ŏ			1.8	954,466,304	12.8		local		3 loc
Hosts / VMs	MISCMON-HISTORIAN		Ă	ŏ	localhost	3967		0					0 loc
	MISCMON-SLHOST-WIN3		Ň	ŏ	192,168,200,133	3968	13.0	1.071.316.992	95.4				3 loc
Connectors	MISCMON-SLHOST-WIN4		ă	ŏ	192,168,200,134	3968	5.3	985.661.440	64.4				3 loc
	MQMON-64-OL7-3		ă	Ť	192,168,200,73	3468	4.2	1,037,959,168	9.4				3 loc
Other	MQMON-HISTORIAN		Ă	ŏ	localhost	3467		0					0 loc
Calei	MQMON-SLHOST-WIN3				192,168,200,133	3468	3.7	954,466,304	35.6				3 100
	OCMON-64-OL7-1		X	ŏ	192.168.200.71	9911		0					0 100
	OCMON-64-OL7-4				192,168,200,74	9911	0.4	954,728,448	1.6				3 100
	OCMONITOR-WIN-8		X	ŏ	192.168.200.138	9911		0					0 loc
	OCMON-SLHOST-WIN3				192.168.200.133	9911	3.8	954,466,304	27.6				3 100
	OCMON-SLHOST-WIN7		X	ŏ	192.168.200.137	9911	0.0	0					0 100
	RTVMGR-HISTORIAN		X	-	localhost	3067		0	-				0 100
	RTVMGR-SLHOST-WIN3		×	-	192.168.200.133	3068	1.7	954,466,304	10.9				3 100
	RTVMGR-SLHOST-WIN4		X	- 2	192.168.200.134	3068	1.8	954,466,304	12.8				3 100
	RTVRULES				192.168.200.134	3868	0.5	715.849.728	10.2				3 100
	RTVRULES-SLHOST-WIN3		2		192.168.200.134	3868	0.5	715.849,728					3 100
	INTERCED-SERUST-WINS				102.100.200.100								SHOL

By Vendor Button

The **By Vendor** button lists the displays by vendor name (for example: TIBCO, Oracle, and IBM).

		COMPONENTS	ALERTS	ADMIN	CUSTOM		RTView Enterprise	
By Technology By Vendor	Curre	ent 🔽 Alert Grou	p: All	•	Alerts Table	1	1-Apr-2016 16:03 🛛 📫 🕻	ata OK 💠 💡
✓Application / Web Servers	Field Filter:				Clear Al	••••	🌔 Alert Se	ettings Conn Ol
>Oracle WebLogic	CMDB Filter:	Owner = Infrastructure /	Area = Middleware	Group = * S	ervice = * Env = *		CI	ear CMDB Filter
>IBM WebSphere	Total 243		243 / 243	-		ressed 0		
N 10	First Occ	Last Occ	Count Sup	Owner	Alert Name	Primary Service	CI	
> JBoss		5 04/11/16 16:03:35	1			BW-ENGINE	SLHOST6(domain6);dor	
		5 04/11/16 16:03:35 3 04/11/16 16:03:33			BwEngineCpuUsedHigh BwActivityExecutionTimeHi	BW-ENGINE	SLHOST6(domain6);dor SLHOST6(domain6);dor	
> Tomcat		3 04/11/16 16:03:33			BwActivityExecutionTimeHi BwActivityExecutionTimeHi		SLHOST6(domain6);dor	
		3 04/11/16 16:03:33	1		BwActivityExecutionTimeHi		SLHOST6(domain6);dor	
>Node.js Servers		3 04/11/16 16:03:33	1		BwActivityExecutionTimeHi		SLHOST6(domain6);dor	
		3 04/11/16 16:03:33	1		BwActivityExecutionTimeHi		SLHOST6(domain6);dor	
> Middleware		3 04/11/16 16:03:33	1		BwActivityExecutionTimeHi		SLHOST6(domain6);dor	
	04/11/16 16:03:3	3 04/11/16 16:03:33	1		BwActivityExecutionTimeHi	BW-PROCESS	SLHOST6(domain6);dor	High Alert Lin
> Databases	04/11/16 16:03:3	3 04/11/16 16:03:33	1		BwActivityExecutionTimeHi	BW-PROCESS	SLHOST6(domain6);dor	High Alert Lin
/ Databases	04/11/16 16:03:3	3 04/11/16 16:03:33	1		BwActivityExecutionTimeHi	BW-PROCESS	SLHOST6(domain6);dor	High Alert Lin
N December 2		3 04/11/16 16:03:33	1		BwActivityExecutionTimeHi	BW-PROCESS	SLHOST6(domain6);dor	
> Processes		3 04/11/16 16:03:33	1		BwActivityExecutionTimeHi		SLHOST6(domain6);dor	
		3 04/11/16 16:03:33	1		BwActivityExecutionTimeHi		SLHOST6(domain6);dor	
> Hosts / VMs		3 04/11/16 16:03:33	1		BwActivityExecutionTimeHi		SLHOST6(domain6);dor	
		3 04/11/16 16:03:33	1		BwActivityExecutionTimeHi		SLHOST6(domain6);dor	
> Connectors		3 04/11/16 16:03:33	1		BwActivityExecutionTimeHi		SLHOST6(domain6);dor	
		3 04/11/16 16:03:33 3 04/11/16 16:03:33	1		BwActivityExecutionTimeHi		SLHOST6(domain6);dor	
> Other		3 04/11/16 16:03:33			BwActivityExecutionTimeHi		SLHOST6(domain6);dor	
, other		3 04/11/16 16:03:33			BwActivityExecutionTimeHi BwActivityExecutionTimeHi		SLHOST6(domain6);dor SLHOST6(domain6);dor	
		3 04/11/16 16:03:33			BwActivityExecutionTimeHi		SLHOST6(domain6);dor	
		3 04/11/16 16:03:33	1		BwActivityExecutionTimeHi		SLHOST6(domain6);dor	
		3 04/11/16 16:03:33	1		BwActivityExecutionTimeHi		SLHOST6(domain6);dor	
		3 04/11/16 16:03:33	1		BwActivityExecutionTimeHi		SLHOST6(domain6);dor	
		3 04/11/16 16:03:33	1		BwActivityExecutionTimeHi		SLHOST6(domain6);dor	
	•	111					(•
	Columns:	d 📃 Closed 📃 Close	d Reason 📃 Ale	ert Index		Go To Cl	Option	s <u>D</u> etails

ALERTS Tab

		S ALERTS	ADMIN CUSTOM	RTView Enterprise Monitor® demo (read) Log Out
Alerts Service Filter *	Current Aler Gro	ıp: All 💌	Alerts Table	11-Apr-2016 16:00 🛭 💠 Data OK 💠 💡
Env Filter PRODUCTION	Field Filter:		Clear All Ope	
✓ ● Infrastructure	Search Text:		RegExOwner Filter: All	
✓ ⊕ Middleware	CMDB Filter: Owner = Infrastructure	Area = Middleware Gr	roup = * Service = * Env = *	Clear CMDB Filter
COHERENCE	Total 197 / 197 Critical	V 197 / 197 V	Varning 🗸 0/0 Suppressed 🦳	0
> O SOLACE	First Occ Last Occ			ry Service CI
> TIBCO-AS	04/11/16 16:00:18 04/11/16 16:00:18		BwActivityErrorRateHigh BW-PROCES	
•	04/11/16 16:00:18 04/11/16 16:00:18	1	BwProcessAbortRateHigh BW-PROCES	
TIBCO-BW	04/11/16 16:00:18 04/11/16 16:00:18		BwProcessAbortRateHigh BW-PROCES	
> C TIBCO-EMS	04/11/16 16:00:06 04/11/16 16:00:06	1	BwEngineCpuUsedHigh BW-ENGINE	SLHOST6(domain6);dor High Alert Lin
✓ ♥ Processes	04/11/16 16:00:02 04/11/16 16:00:02	1	BwActivityExecutionTimeHi BW-PROCES	S SLHOST6(domain6);dor High Alert Lin
-	04/11/16 16:00:02 04/11/16 16:00:02	1	BwActivityExecutionTimeHi BW-PROCES	S SLHOST6(domain6);dor High Alert Lin
MVL 😋 <	04/11/16 18:00:02 04/11/16 18:00:02	1	BwActivityExecutionTimeHi BW-PROCES	S SLHOST6(domain6);dor High Alert Lin
✓ Servers	04/11/16 16:00:02 04/11/16 16:00:02	1	BwActivityExecutionTimeHi BW-PROCES	
> O Hosts	04/11/16 16:00:02 04/11/16 16:00:02	1	BwActivityExecutionTimeHi BW-PROCES	
> 🖸 Hosts	04/11/16 16:00:02 04/11/16 16:00:02	1	BwActivityExecutionTimeHi BW-PROCES	
	04/11/16 16:00:02 04/11/16 16:00:02	1	BwActivityExecutionTimeHi BW-PROCES	
	04/11/16 16:00:02 04/11/16 16:00:02	1	BwActivityExecutionTimeHi BW-PROCES	
	04/11/16 16:00:02 04/11/16 16:00:02	1	BwActivityExecutionTimeHi BW-PROCES	
	04/11/16 16:00:02 04/11/16 16:00:02	1	BwActivityExecutionTimeHi BW-PROCES	
	04/11/16 16:00:02 04/11/16 16:00:02		BwActivityExecutionTimeHi BW-PROCES	
	04/11/16 16:00:02 04/11/16 16:00:02	1	BwActivityExecutionTimeHi BW-PROCES	
	04/11/16 18:00:02 04/11/16 18:00:02		BwActivityExecutionTimeHi BW-PROCES	
	04/11/16 18:00:02 04/11/16 18:00:02		BwActivityExecutionTimeHi BW-PROCES	
	04/11/16 16:00:02 04/11/16 16:00:02		BwActivityExecutionTimeHi BW-PROCES	
	04/11/16 16:00:02 04/11/16 16:00:02		BwActivityExecutionTimeHi BW-PROCES	
	04/11/16 16:00:02 04/11/16 16:00:02 04/11/16 16:00:02 04/11/16 16:00:02		BwActivityExecutionTimeHi BW-PROCES	
	04/11/16 16:00:02 04/11/16 16:00:02 04/11/16 16:00:02	1	BwActivityExecutionTimeHi BW-PROCES BwActivityExecutionTimeHi BW-PROCES	
	04/11/16 16:00:02 04/11/16 16:00:02	1	BwActivityExecutionTimeHi BW-PROCES	
	04/11/16 16:00:02 04/11/16 16:00:02 04/11/16 16:00:02		BwActivityExecutionTimeHi BW-PROCES	
	04/11/16 16:00:02 04/11/16 16:00:02	1	BwAdivityExecutionTimeHi BW-PROCES	
	 III 		WHANNYEXE BUILDIN TIMEN BWHROCES	
	Columns: I Id Closed Close	ed Reason 📃 Alert In	ıdex	Go To Cl Options Details

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

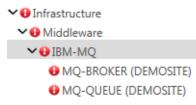
This tab allows you to filter the navigation tree content by service and environment (see figure below). The environment you select also sets the **Environment** filter on the main panel. Note that changing the **Environment** filter on the main panel does not set the **Environment** filter in the navigation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

Service Tree						
Service Filter			୍ଦ୍			
Env Filter	DEMOSITE	▼				

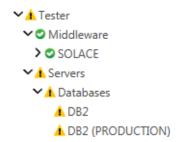
Alert Icons

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

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



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



Available Displays

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

Drop-down Option	Display	Description
Current	"RTView Alerts Table" on page 190	This display allows you to track and manage all alerts that have occurred in the system, as well as to add comments, acknowledge, or assign Owners to alerts.
History	"Alert History Table" on page 194	This display allows you to track the history of any alert that has occurred in your RTView Enterprise Monitor system.

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

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

	ERVICE VIEWS COMPONENT	S ALERTS AD	MIN CUSTOM			
Alerts Service Filter *	Current 🗸 Adn	min		Alerts	s Table	
Env Filter PRODUCTION	Field Filter: Search Text:					Clear All Open Cle RegEx Owner Filter: All
✓ ⊕ Middleware	CMDB Filter: Owner = Infrastructure Area	a = Middleware Group = IBM-M	Q Service = * Env = *			
∨ ⊕IBM-MQ	Total 10/10 Critical 🗹	8/8 Warning	✓ 2/2 Supp	ressed 0		
MQ-BROKER (DEMOSITE)	First Occ Last Occ Co	ount Sup Owner	Alert Name	Primary Service	CI	
	10/09/15 06:15:32 10/09/15 06:15:32		MqBrokerQueueDepthHigh	MQ		High Alert Limit exceeded, current value: 5927.0 limit: 4000.0

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



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



Available Display via a Button

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

Button	Display	Description
Admin	"Alert Administration" on page 197	This display allows you to set global or override alert thresholds.

ADMIN Tab

dministration	<		Alert Administration		23-Se	p-2015 17:05 💠 Data OK 💠
Alert Administration	Alert Filter: Clear					Alert Settings Conn
Alert Administration	Alert	Warning Level	Alarm Level	Duration	Alert Enabled	Override Count
Alert Admin Audit	AcwInstanceCpuHigh	50	75	30	×	0
Alert Admin Addit	AcwInstanceDiskReadBytesHigh	100000	200000	30	r	0
Alert Action Audit	AcwInstanceDiskReadOpsHigh	100	200	30	×	0
Alert Action Addit	AcwInstanceDiskWriteBytesHigh	100000	200000	30	V	0
CMDB Administration	AcwInstanceDiskWriteOpsHigh	100	200	30	V	0
CWIDD Administration	AcwInstanceNetworkReadBytesHigh	100000	200000	30	V	0
A 12 1	AcwInstanceNetworkWriteBytesHigh	100000	200000	30	V	0
Architecture	AmxServiceHitRateHigh	200	400	30		0
	AmxServiceNodeFaultRateHigh	200	400	30		0
	AmxServiceNodeHitRateHigh	200	400	30		0
	AmxServiceNodeMovingAvgHitRateHigh	200	400	30		0
	AmxServiceNodeMovingAvgResponseTimeHig	ih 200	400	30		0
	AmxServiceNodeResponseTimeHigh	200	400	30		0
	AmxServiceResponseTimeHigh	200	400	30		0
	Bw6AppNodeCpuUsedHigh	50	80	30		0
	Bw6AppNodeMemUsedHigh	50	80	30		0
	Bw6AppProcessCreatedRateHigh	50	80	30		0
	Bw6AppProcessElapsedTimeHigh	100	200	30	<u> </u>	0
	Bw6AppProcessExecutionTimeHigh	50	80	30		0
	Bw6AppProcessFailedRateHigh	50	80	30		0
	Bw6ProcessActivityErrorRateHigh	100	200	30		0
	Bw6ProcessCreatedRateHigh	50	80	30		0
	Bw6ProcessElapsedTimeHigh	100	200	30		0
	Bw6ProcessExecutionTimeHigh	50	80	30		0
	Bw6ProcessFailedRateHigh	50	80	30		0
	Bw6ProcessSuspendRateHigh	50	80	30		0
			Settings for Selected Alert			1
	Name: <select alert="" from="" one="" td="" the<=""><td>4 1 1 4 1 M</td><td></td><td></td><td></td><td>Duration (Secs.):</td></select>	4 1 1 4 1 M				Duration (Secs.):
		table to edit>		Warning	Loven	Enabled:
	Description:			Alarm	Level:	
						Save Settings

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

- "Administration" on page 197: Displays in this View allow you to set alert thresholds, track alert management, and modify your Service Data Model.
- "CMDB Administration" on page 206: Use this display to setup, view, or modify your Service Data Model (CMDB), including: adding, renaming, deleting or merging your CMDB hierarchical elements (Owners, Areas, Groups or Services), associating CIs with Services and assigning or modifying CI attributes (such as Criticality).
- "Architecture" on page 211: Displays in this View show RTView Enterprise Monitor system information such as a topological view of your components and their connection state, configuration definitions and mapping, and performance metrics for your Cache Tables and Data Servers.

CUSTOM Tab

SL SERVICE TREE	SERVICE VIEWS COMPONENTS ALERTS ADMIN CUSTOM	RTView [®] Enterprise Monitor [™] admin (admin) Log Out
Custom Views	← Custom View	22-Sep-2015 08:45 💠 Data OK 💠 🕜
Custom Views ▼Custom Views Custom View	Custom View The CUSTOM tab can be modified or removed. It is provided as a location for adding user-defined views. To replace the views on the CUSTOM tab with your custom views: 1. Copy your custom view rule files to the provide directory. 2. Modify custom, views, mixtree contents with your custom views. To change the CUSTOM tab label: 1. Modify rule, custom, views, mixtree custom kines to the provide the text contents with your custom views. To remove the CUSTOM tab. 1. Modify rule, custom, views, mixtree CUSTOM tab: 1. Modify rule, custom, with change CUSTOM in the TabLabel column to your tab label in the TabTable table. Do NOT change the Custom value in the Group column. To remove the CUSTOM tab: 1. Modify rule, custom, xmi to remove the Custom row from the TabTable and TabTreeSelection tables. See the documentation for information on creating additional custom tabs.	22-569-2015 08349 🕼 UB UK 🗣 💟

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

- Modify the CUSTOM Tab
- "Diagram Views" on page 236

Fundamental Structure of Displays

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

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

- Owner
- Area
- Group
- Service

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

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

Heatmaps

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

Heatmaps scale color for a given metric according to the following rules and are applied in the following order:

a) If the metric is associated with an alert, then the color range is scaled from zero to the metric's high Alarm Level threshold, and the color will be red for values near the alerm threshold.

b) If the metric is not associated with an alert, but the metric is bounded (for example, the **CPU %** utilization value must be in the **0** to **100%** range), then the color is scaled using the user-specified maximum value for the metric.

c) Otherwise, the metric is autoscaled into a color range from white (minimum) to green (high) using the current highest metric value observed over the monitored entities.

By default, the metric is linearly scaled to an appropriate color. If the **Log** checkbox is checked, then the selected color reflects the logarithm of the current metric value.

Heatmaps include drop-down menus to filter data by Owner, Area, Group, Service, Region and Environment. The filtering options vary among heatmaps.

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

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

🗲 Heatmap 🗸		All Areas by Owner		25-Sep-	2015 09:49 📫 D	ata OK 🔶 🕜
Owner: Infrastructure	Area Names		Env: PRODUCTION	Metric: Alert Impact	✓ 0	5 10
		Infrastructure				
		Overs: Infrastructure Ansa Hadienova C Count: 3,935 Alert Sourit 2,43 Alert Sourit 2,43 Alert Sourit 2,43 Cont Lavel 1				

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

Filter By:

The following filtering options are typically included:

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

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

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

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

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

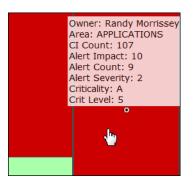
Metric:

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

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

Mouse-over

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



Tables

Tables contain the same data that is shown in the heatmap in the same View, and additional data not included the heatmap.

			All Properties	
Order (F)	File Name 🔻	Ξ	Property Name =	Property Va
2.	Cost Assession		sl.rtview.013420134501337013390134401302	01350013480135101335
2:	Sort Ascending		sl.rtview.cache.config	adaptris_cache_source.rtv \$adap
2:	Sort Descending		sl.rtview.jmx.jmxconn	demoAdapter URL:service:jmx
2	, contractoritating		rtvapm_package	adaptrismon
2	Columns	•	rtv_proctag	ADAPTRISMON
21		[rtv_title	ADAPTRISMON Package
2	Filter	•	sl.rtview.sql.sqldb	ALERTDEFS sa - jdbc:hsqldb:hs
2	-		sl.rtview.cp	C:/rtvdemos/mysql-connector-jav
2	Settings	•	historian.sl.rtview.historian.driver	com.mysql.jdbc.Driver
213	rtview	_	historian.sl.rtview.historian.url	jdbc:mysql://192.168.200.42:3306
215	rtview		historian.sl.rtview.historian.password	my-secret-pw

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 103
- "Column Filtering" on page 104
- "Column Locking" on page 105
- "Column Reordering" on page 105
- "Saving Settings" on page 106
- "Row Paging" on page 106
- "Row Color Code" on page 107
- "Row Keyboard Selection" on page 107

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.

🛓 Sort Ascending		
F Sort Descending		
III Columns	•	🗹 Timestamp
▼ Filter	•	🗹 Name
Settings	•	Region
		Call Rate
		Active Calls

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:

1			
1	Sort Ascending		
₹	Sort Descending		
ш	Columns	Þ	
т	Filter	Þ	Show items with value that:
Set	tings	Þ	Contains 🔻
			abo
			And 🔻
			Does not contain 🛛 🔻
			хуг
			Filter Clear

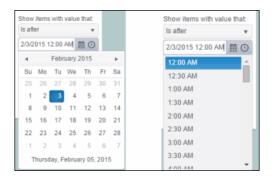
Options in the **Column Filter** dialog vary according to the data type of the selected column:

- 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.

Show items with	value that:	
>=	¥	
42.00	÷.	
And 👻		
<	*	1
100	÷	Show items with value the strue stru
Filter	Clear	Filter Clear

• **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.

ш	Columns	P
Ţ	Filter	•
	Lock	
9	Unlock	
90	ttinge	

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**:

Filter	+	
Lock		
1 Unlock		
Settings	+	Save All
		Clear 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.

211	TEVICW	antwow.aqr.aqiub	Internet of the second of the	
217 emreference		sl.rtview.sub	<pre>\$rtvConfigDataServer:CONFIG_SERVER</pre>	
229 emreference sl.rtview.properties.queryTimeOut 10		10		
216	emreference	sl.rtview.sql.sqldb	ALERTDEFSnone	Ŧ
•		II	4	
	Page 1 of 2	H	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	Iocalhost GLASSFISH_SERVER_8		\$ 1	10	2
	IocalhostMYDEMO_DAFASERVER		 1		
JVM	IocalhostMYDEMO_DISPLAYSERVER		1		
JVM	sidemos.com/213415_RTVDB		 1	10	2
JVM	localhostBWM-DB-1	100	1	1	5
WAS	SLHOST12Node01Ce8.SLHOST12Node01;server1	1	1		S
2VM	localhostRTVMGR_DATABASE	1.1.1	 1		5
JVM	localhostRTVMGR_DATASERVER		0	(
JVM	IocalhostWLM_DATABASE		0	1	2
EMS	tcp://SLHOST10.7021		 0		2
EMS	tcp://3LH06T10.7020		 0		0
WLS .	TestDomain ManagedServer2		 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.
- O 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

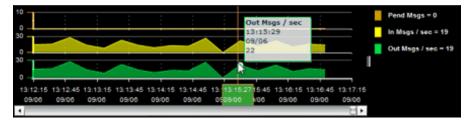
You can use the mouse to select a row and use the arrow keys to change the focus (highlighted) row, but to select the focus row, you must then press the space bar.

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

Trend Graphs

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

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



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

Mouse-over

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

Log Scale

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

Time Range

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

Select or Enter Date and Time:
Restore to Now
Ok Apply Cancel

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 I to move forward or backward one time period (the time period selected from the Time Range drop-down menu). Click **Restore to Now** to reset the time range end point to the current time.

Popup Menu

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

Refresh	
Back	
Next	
Execute Command	
Drill Down	
Export Table to Excel	
Export Table to HTML	
Export PDF	
Status	
Log Off	

Export PDF Report

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

To generate a report for a display:

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

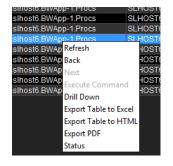
Export Type Report Display						
Orientation						
Portrait CLandscape						
Margins						
Left 1.0 Right 1.0						
Top 1.0 Bottom 1.0						
OK Cancel						

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

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

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

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



Title Bar

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

← Heatmap V <display name=""></display>	25-Sep-2015 10:30 💠 Data OK 💠 🕜

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

÷	Opens the previously open display.
•	Opens the display that is up one level.
Table	Navigates to a display that is most commonly accessed from the current display. The target display differs among displays.
Menu 💌	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.
23-Mar-2017 12:04	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.
💣 Data OK	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.

+	Opens an instance of the same display in a new window. Each window operates independently, allowing you to switch views, navigate to other displays in RTView EM, and compare server performance data. For illustration, see Multiple Windows .
•	Opens the online help page for the current display.
6,047	The number of items (for example, CIs or Areas) in the display.
Area Count: 9	

Multiple Windows

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

F	Heatmap	~								s by O						_	25-Sep-2015	10:43 📫 C	Data OK 🔶
Owner:	APPLICATIONS	~	←	~				All S	Servic	es Stat	us His	story	25-S	ep-2015	10:43 📫 Da	ta OK 🖣	· 🕜 🔽 🗸	0	5
			Owner:	APPLICATIONS	(1	Sun	nmary	~	MX			Single Se	ervice S	Gumma	ary	25	Sep-2015 10	47 📫 Dat	а ОК 🔶 🍘
			Group:	All Service Groups	Owner:	APP	LICATIO	DNS		~	Area	SECURITY			~		E	nv: PRODU	ICTION V
			St	atus History for Serv	Group	IRIS	-SOUTH					✓ Service	e: IRIS-S	SCAN-D	FW		~]	
				,	Servic	e Nar	me: IRI	S-SCA	N-DFW	1								CI Count	10
					Мах	Critica	ality: C		Мах	Severity:	<u>ر</u>	Vlax Impact: 0	D						
					CI Ta	ble fo	or Selec	ted En	vironn	nent	C	CI Type Filter:	All CI T	/pes	~				Go to CI
						СІТур					IName		= 0	Quality≘	Severity =	Alerts	Criticality	Impact =	Region =
					EMS-Q					034:7222				0	0	0	С	0	AMER
					EMS-Q							-QUEUE		0	(7)	0	С	0	AMER
					EMS-Q							RT-QUEUE		0	(7)	0	С	0	AMER
					EMS-S	ERVE	R			034:7222				0	0	0	С	0	AMER
					JVM						SCAN-	J∨M-DFW		0	0	0	C	0	AMER
					VMWA	RE-HO	DST	vSphe	reS;esx	i-1.south				0	0	0	C	0	AMER
					VMWA	RE-VN	4			IRIS1034				0	0	0	C	0	AMER
					WLS			Domai	in-SOU	TH;WLS-S	SERVE	R-DFW		0	0	0	C	0	AMER
					WLS-A	PP		Domai	in-SOU	TH;WLS-	SERVE	R-DFW;control		Õ	Õ	0	С	0	AMER
					WLS-A	PP		Domai	in-SOU	TH;WLS-	SERVE	R-DFW;scanner		Õ	Õ	0	С	0	AMER
								<											>
					Select	ted CI	*		1						A	1	4		-
					Firs	t Occ	i l	.ast Oc	C = (Counte	Sup≋	Owner =	Alert N	ame	E Prim	ary Servi	ce =	CI	E
				‹															
			10:38:15	5 10:38:45 10:39:15															
			25-Sep	25-Sep 25-Sep															
					<														<u> </u>

Enterprise Monitor Views/Displays

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

- "All Management Areas"
- "Multi Area Service Views"
- "Single Area Service Views"
- "Service Summary Views"
- "Key Metrics Views"
- "Component Views"
- "Metric Explorer"
- "RTView Servers"
- "Alert Views"
- "Administration"
- "CMDB Administration"
- "Architecture"
- "Property Views"
- "Diagram Views"

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

- "Solution Package for Apache Tomcat" on page 249
- "Solution Package for TIBCO ActiveMatrix Businessworks" on page 1071
- "Solution Package for TIBCO Enterprise Message Service™" on page 385
- "Solution Package for TIBCO ActiveSpaces" on page 515
- "Solution Package for TIBCO BusinessEvents" on page 577
- "Solution Package for TIBCO Adapters" on page 635
- "Solution Package for TIBCO FTL" on page 1467
- "Solution Package for TIBCO ActiveMatrix" on page 691
- "Solution Package for JVM" on page 707
- "Solution Package for RTView Manager" on page 909
- "Solution Package for RTView Host Agent" on page 771
- "Solution Package for VMware vCenter" on page 789
- "Solution Package for TIBCO Hawk" on page 1503

All Management Areas

These displays present the highest-level summary views of alert states for your entire system. Aggregated data is organized by Owners and shows all Areas, while highlighting the most critical alert states using color. Data can be filtered by Owner, Area, Environment and alert Metric. Data is filtered by the \$rtvOwnerMask and \$rtvAreaMask values for the logged in user. For details, see **Configure User and Role Management**. Use these displays to monitor critical alerts anywhere in your system, and investigate those alerts in lower-level displays. Because these displays immediately show you any critical alert in your system, users typically keep one of these displays open for quick monitoring. Click an Area in the display to drill-down and view the selected Area in the **Multi Area Service Views** displays.

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

- "Area Heatmap" on page 113: Heatmap of the most critical alerts for all Areas of your system, with the option to filter by Owner, Environment and alert Metric.
- "Area Table" on page 115: Table of data shown in the All Management Areas "Area Heatmap" with the option to filter by Owner and Environment.

Area Heatmap

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

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

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



Title Bar (possible features are):	🐼 Data OK Data connection state. Red indicates the Data
🔶 🛧 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Filter By: The following filtering options are typically included:

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

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

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

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

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

Metric:

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

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

Area Table

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

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

🗲 Table 💌		All Areas t	oy Owner		24-Sep-2015 11:3	8 💠 Data OK 💠 🕜
Owner: All Owners	•			Env: Q/	A 🔽 A	rea Count: 5
Owner	Area	Severity	Alert Count	Max Alert Impact	Criticality	CI Count
Infrastructure	Middleware	0	17	2	E	12
Infrastructure	Processes	Õ	59	2	E	36
Infrastructure	Servers	Õ	18	2	E	16
Jerelyn Parker	Backends	Õ	27	10		29
Jerelyn Parker	Systems	Õ	111	10		112

Title Bar (possible features are):	🐼 Data OK Data connection state. Red indicates the Data
 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 	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
displays.	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.	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.

Filter By:

The following filtering options are typically included:

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

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

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

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

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

Fields and Data

This display includes:

Area The current number of Areas shown in the table.

(Table)

Èach row in the able is a different Area.

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

Multi Area Service Views

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

Use these displays, for example, to isolate the Area and Environment in which a critical alert is occurring. If you see a critical alert, get information by comparing alert metrics (such as how many other items are potentially affected). These displays drill-down to the **Service Summary Views -** "Service By CI Type" display. The **Multi Area Service Views** displays present data in tabular and heatmap formats. Displays in this View are:

- "Group/Service Heatmap": Heatmap of alert states for Services by Area, with the option to filter by Area, Group, Environment and alert Metric, and the option to show Group and Service Names.
- "Group/Region Heatmap": Heatmap as described for the Group / Service Heatmap (above), with the option to filter by Region and no option to show Service Names.
- "Group / Service Table": Table of Group/Service Heatmap data.
- "Services CI Type Summary": Table that shows the health state of Services per CI Type.
- "Services History Heatmap": Heatmap of alert states, over time, for Services in a selected Area, with the option to filter by Group, Environment and alert Metric.

Group/Service Heatmap

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

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



 Title Bar (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. 	 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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

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

Filter By:

The following filtering options are typically included:

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

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

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

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

Metric:

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

Alert Impact	The product of the maximum Alert Severity of alerts in the heatmap rectangle multiplied by the maximum Criticality of alerts in the heatmap rectangle. Values range from 0 - 10 , as indicated in the color gradient • • • • • • • • • •
Alert Severity	The maximum level of alerts in the heatmap rectangle. Values range from 0 - 2 , as indicated in the color gradient a b bar, where 2 is the highest Alert Severity. • Red indicates that one or more metrics have reached their alarm threshold. Metrics that have exceeded their specified ALARM LEVEL threshold have an Alert Severity value of 2 .
	 Yellow indicates that one or more metrics have reached their alarm threshold. Metrics that have exceeded their specified WARNING LEVEL threshold have an Alert Severity value of 1. Green indicates that no metrics have reached their alert thresholds. Metrics that have not exceeded their specified thresholds have an Alert Severity value of 0.
Alert Count	The total number of critical and warning alerts in the heatmap rectangle. The color gradient \bullet bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average alert count.
Criticality	The maximum level of Criticality (rank of importance) in the heatmap rectangle. Values range from 1 to 5 , as indicated in the color gradient • • • • • • • • • •

Group/Region Heatmap

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

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



Title Bar (possible features are):	🐼 Data OK Data connection state. Red indicates the Data
 Open the previous and upper display. Open an instance of this display in a new window. 	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 online help page for this display. Menu , 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.	Open the Alert Views - RTView Alerts Table display.

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

Filter By:

The following filtering options are typically included:

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

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

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

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

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

Metric:

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

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

Group / Service Table

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

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

🗲 🛧 Table 💌	Services in Area By Group					24-	24-Sep-2015 11:35 💠 Data OK 🔶 🕜				
Owner: Infrastructure Area: Middleware					•					12	Env: QA
Group: All Service Groups	Group: All Service Groups Service/Region Count: 6										
Service	Region	Alert Severity	Alert Count	Alert Impact	Service Criticality	CI Count	Environment	Group			
TBE-CLUSTER	AMER	0	1	2	E	2	QA	TIBCO-BE			
EMS-QUEUE	AMER	0	6	2	E	2	QA	TIBCO-EMS			
EMS-SERVER	AMER	0	2	2	E	1	QA	TIBCO-EMS			
EMS-TOPIC	AMER	0	8	2	E	4	QA	TIBCO-EMS			
TOMCAT	AMER	0	0	0	E	1	QA	TOMCAT			
TOMCAT-APP	AMER	0	0	0	E	2	QA	TOMCAT			
2											

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

The "Up" Arrow (\uparrow) opens the most recently viewed display under "All Management Areas". For example, if the last viewed display under **All Management Areas** was **Area Table**, then clicking \uparrow opens the "Area Table" display.

Row Color Code:

Tables with colored rows indicate the following:

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

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

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

Filter By:

The following filtering options are typically included:

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

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

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

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

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

Fields and Data

This display includes:

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

Services CI Type Summary

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

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

🗲 🛧 By CI Type 🔽					Servi	ice Hea	Ith By CI Ty	pe				A	07-Oct-2015	10:02 娕 Dat	а ок 🔶 🕜
Owner: Infrastructure	✓ Area	a: All Areas		~]								Cls: 80	Env: QA	~
Group: All Service Groups		~									Valid C	CI Types Only	Service/	Region Count	12
Service	All	JVM	AMX	AMX	AMX	BW	BW	BW	EMS	EMS	EMS	Active	Tomcat	Tomcat	Oracle
ORACLE		0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOST	Ô	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VMWARE-HOST	Õ	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VMWARE-VM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JVM	Õ		0	0	0	0	0	0	0	0	0	0	0	0	0
SOLACE-BRIDGE	Õ	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TBE-CLUSTER	Õ	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EMS-QUEUE	Õ	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EMS-SERVER	Õ	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EMS-TOPIC		0	0	0	0	0	0	0	0		0	0	0	0	0
> Service: ORACLE CI Type:*															
First Occ Last Occ Cou		Owner	Alert Nam		Primary Service		CI							A	ert Text
10/06/15 11:05:16 10/07/15 06:18: 5 10/06/15 11:05:16 10/07/15 06:19:	2		DraInstanceNumA DraDatabaseTable				tBedOracle11g tBedOracle11g		rt Limit exceeder rt Limit exceeder						
10/06/15 11:05:16 10/07/15 06:19	9		DraDatabaseTable				tBedOracle11g		rt Limit exceeder						
10/06/15 11:05:16 10/07/15 06:18: 5	580 🔲		DrainstanceNumC				tBedOracle11g		rt Limit exceeder						
08/31/15 10:28:05 10/07/15 06:18: 55	573	0	DrainstanceMaxQ	ueryT Oracle	e	tes	tBedOracle11g	High Ale	rt Limit exceeder	d, current value	e: 19754.0275	limit: 15000.0			
<															>

Title Bar (possible features are):	🔯 Data OK Data connection state. Red indicates the Data
 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. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

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

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

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

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

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

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

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

Service Name	All CI Types	User Experience	JVM	BW Server	BW Engine	TibcoEMS Server	TibcoEMS Topic	Torncat
ACCOUNTING	0	0	0	۲	0	Ø	0	0
COMPLIANCE	0	0		Ô	0	0	0	Õ
INVENTORY MANAGER	Ô	0	0	ŏ	Õ	0	0	ŏ
ORDER PROCESSING	Ô	0	0	õ	Õ	0	0	õ
REPORTING	Ô		0	õ	Ò	0	0	õ
TUCON-EXCHANGE	0	0	0	0	0			0

Filter By:

The following filtering options are typically included:

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

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

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

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

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

Fields and Data

This display includes:

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

Alerts Table

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

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

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

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

Gray indicates that the alert engine that is hosting the alert is not connected, not enabled or not initialized. When you select a gray row the **Own**, **Suppress**, **Unsuppress**, **Close**, **Annotate**, **Options** and **Details** buttons are disabled.

Opens the **Alerts Table** display in a new window.

- **Own** Click to assign an Owner for the selected alert(s). This button is only visible to users with Administrator privileges. This button is disabled when you select a gray row.
- **Suppress** Click to suppress the selected alert(s). This button is only visible to users with Administrator privileges. This button is disabled when you select a gray row.
- **Close** Click to close the selected alert(s). This button is only visible to users with Administrator privileges. This button is disabled when you select a gray row.
- **Details** Select an alert, right-click and choose **Alert/Details** to open the **Alert Detai**l window and view alert details. Or, double-click an alert to open the **Alert Detai**l window.
- Annotate Select one or more alerts, right-click and choose Alert/Annotate to open the Set Owner and Comments dialog and enter comments or change alert owner.
- **Options** Select an alert, right-click and choose **Alert/Options** to open the **Alert Options** dialog. This dialog is provided for customizing your own alert options.
 - **First Occ** The date and time the alert first occurred.
 - Last Occ The date and time the alert last occurred.
 - **Count** The number of times the alert was generated.
 - **Sup** When checked, the alert has been suppressed by a user.
 - **Owner** The named owner assigned by the administrator.
 - Alert Name The name of the alert.
 - **Primary** The name of the Service with which the alert is associated. **Service**
 - **CI** The CI alert source.
 - Alert Text Description of the alert.
 - **AlertClass** An optional alert field which can be used when integrating with other alerting systems.
 - **CompID** An optional alert field which can be used when integrating with other alerting systems.
 - **TicketID** An optional alert field which can be used when integrating with other alerting systems.
 - **TicketGroup** An optional alert field which can be used when integrating with other alerting systems.

Services History Heatmap

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

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

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

+ ·	Histo	iry 🔽				All Services S	tatus History			07-Oct-20	15 10:03	🖈 Data OK 🔶 🕜
Own	er: Infras	structure	V Area: All A	ireas	~						Env:	QA 🗸
Grou	ip: All Se	ervice Groups	~								Metric:	Alert Impact 🗸 🗸
	Status I	listory for Services i	n Selected Owner	/ Area						Time Rar	ige: 5 Min	s 🗸
												OEMS-QUEUE
												OEMS-SERVER
												OEMS-TOPIC
												OHOST
												JVM
												ORACLE
											_	SOLACE-BRIDGE
												TOMCAT
												TOMCAT-APP
												VMWARE-HOST
												VMWARE-VM
	<										>	
09:59 07-0	ct 00	09:59:30 07-0 ct	10:00:00 07-0 ct	10:00:30 07-Oct	10:01:00 07-Oct	10:01:30 07-Oct	10:02:00 07-0 et	10:02:30 07-Oct	0:03:00 07-0 ct	10:03:30 07-Oct	10:04 07-0	00 ot
								0.0 1.0	2.0 3.0	4.0 5.0 6.0	7.0	8.0 9.0 10.0

Title Bar (possible features are):	🔹 Data OK Data connection state. Red indicates the Data						
🗲 🛧 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the						
🔶 Open an instance of this display in a new window.	data source is connected.						
 Open the online help page for this display. Menu , 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.	Open the Alert Views - RTView Alerts Table display.						

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

The following filtering options are typically included:

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

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

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

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

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

Color Code:

Row color indicates the following:

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

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

Select or	Enter D	ate an	d Time:
	Restore	to Now	,
Ok	App	oly	Cancel

To change the time range for the graph, click Open Calendar 🖾 , choose the date and time, then click **OK**. Or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**. Use the navigation arrows 🛋 🔉 to move forward or backward one time period. NOTE: The time period is determined by your selection from the Time Range drop-down menu.

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

Single Area Service Views

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

Use these displays, for example, to isolate the Area and Environment in which a critical alert is occurring. If you see a critical alert, get information by comparing alert metrics (such as how many other items are potentially affected). These displays drill-down to the **Service Summary Views -** "Service By CI Type" display. The **Single Area Service Views** displays present data in tabular and heatmap formats. Displays in this View are:

- "Single Area: Group/Service Heatmap": Heatmap of alert states for Services by Area, with the option to filter by Area, Group, Environment and alert Metric, and the option to show Group and Service Names.
- "Single Area: Region/Service Heatmap": Heatmap as described for the Group / Service Heatmap (above), with the option to filter by Region and no option to show Service Names.
- "Single Area: Group / Service Table": Table view of Group/Service Heatmap data.
- "Single Area: Services CI Type Summary": Table that shows the health state of Services per CI Type.
- "Single Area: Services History Heatmap": Heatmap of alert states, over time, for Services in a selected Area, with the option to filter by Group, Environment and alert Metric.

Single Area: Group/Service Heatmap

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

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

🗲 🛧 By Group 🔽	Services in Area By Group	🛕 06-Oct-2015 14:39 💠 Data OK 💠 💡			
Owner: Infrastructure Area: Middleware	\checkmark	CIs: 28 Env: QA			
Group: All Service Groups		Metric: Alert Impact V 0 5 40			
SOLACE	TIBCO-EMS	TOMCAT			
	Group: TIBCO-EMS Service: EMS-TOPIC Envicementa QA Alert Impact: 2 Alert Sourch 8 Alert Seventy: 2 Orticality: E Orticavel: 1				
		TIBCO-BE			

 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. 	 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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Note: The "Up" Arrow () opens the most recently viewed display under "Multi Area Service Views". For example, if the last viewed display under **Multi Area Service Views** was **Group/Region Heatmap**, then clicking opens the "Group/Region Heatmap" display.

Filter By:

The following filtering options are typically included:

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

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

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

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

Metric:

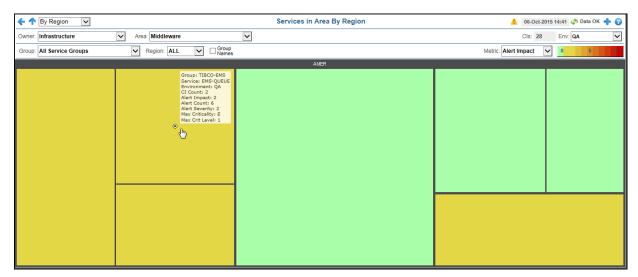
Choose the type of metric to show in the heatmap. Each metric has its own gradient bar that maps relative values to colors:

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

Single Area: Region/Service Heatmap

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

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



 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. 	 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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Note: The "Up" Arrow () opens the most recently viewed display under "Multi Area Service Views". For example, if the last viewed display under Multi Area Service Views was Group/Region Heatmap, then clicking opens the "Group/Region Heatmap" display.

The following filtering options are typically included:

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

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

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

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

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

Metric:

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

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

Single Area: Group / Service Table

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

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

🗲 🛧 Table 🔽 Services in Area By Group 🔺 06-Oct-2015 14:43 🔅 Data OK 💠 🤅											
Owner: Infrastructure	✓ Area: N	Aiddlewar	e		~]			CIs: 28 Env: QA		
Group: All Service Groups	Dup: All Service Groups										
Service	Region	Alert Severity	Alert Count	Alert Impact	Service Criticality	CI Count	Environment	Group			
SOLACE-BRIDGE	AMER	۲	0	0	E	16	QA	SOLACE			
TBE-CLUSTER	AMER	0	1	1	E	2	QA	TIBCO-BE			
EMS-QUEUE	AMER	0	6	2	E	2	QA	TIBCO-EMS			
EMS-SERVER	AMER	0	2	2	E	1	QA	TIBCO-EMS			
EMS-TOPIC	AMER	0	8	2	E		QA	TIBCO-EMS			
TOMCAT	AMER		0	0	E		QA	TOMCAT			
TOMCAT-APP	AMER	0	0	0	E	2	QA	TOMCAT			

Title Bar (possible features are):	🔯 Data OK Data connection state. Red indicates the Data
• Open the previous and upper display.	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 an instance of this display in a new window. Open the online help page for this display. Menu , 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.	Open the Alert Views - RTView Alerts Table display.

Note: The "Up" Arrow () opens the most recently viewed display under "Multi Area Service Views". For example, if the last viewed display under **Multi Area Service Views** was **Group/Region Heatmap**, then clicking opens the "Group/Region Heatmap" display.

Row Color Code:

Tables with colored rows indicate the following:

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

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

The following filtering options are typically included:

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

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

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

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

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

Fields and Data

This display includes:

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

Single Area: Services CI Type Summary

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

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

🗲 🛧 By CI Type 🔽					S	ervice H	lealth By CI T	ype				4	06-Oct-20	015 14:44 💠 Data OK 🔶 🕜
Owner: Infrastructure	✓ Area:	Middleware		~									Cls: 28	Env: QA
Group: All Service Groups	N	-									□Val	id CI Types O	nly Serv	vice/Region Count: 7
Service Name	All CI Types	AMX Node	AMX Service	AMX ServiceNod	BW Server	BW Engine	BW e Proc	EMS Server	EMS Topic	EMS Queue	Active Spaces	Tomcat	Tomcat App	ServiceGroup
SOLACE-BRIDGE		0	0	0	0	0	0	0	0	0	0	0	0	SOLACE
TBE-CLUSTER	Õ	0	0	0	0	0	0	0	0	0	0	0	0	TIBCO-BE
EMS-QUEUE	Õ	0	0	0	0	0	0	0	0	0	0	0	0	TIBCO-EMS
EMS-SERVER	ŏ	0	0	0	0	0	0	0	0	0	0	0	0	TIBCO-EMS
EMS-TOPIC	ŏ	0	0	0	0	0	0	0	0	0	0	0	0	TIBCO-EMS
TOMCAT	Õ	0	0	0	0	0	0	0	0	0	0	0	0	TOMCAT
TOMCAT-APP	Õ	0	0	0	0	0	0	0	0	0	0	0	0	TOMCAT
Service: EMS-QUEUE			CI Type: *										A	Qwn Suppress Close
First Occ Last Occ Cou	int Sup	Owner	Alert Nam		rimary Serv		CI							Alert Text
10/06/15 06:18:02 10/06/15 06:18:	1		nsQueueProvide				cp://192.168.200.13		ert Limit exceede					
10/06/15 06:18:02 10/06/15 06:18:			nsQueueProvide				cp://192.168.200.13		ert Limit exceede			.0		
10/06/15 06:16:48 10/06/15 06:16: 10/06/15 06:16:48 10/06/15 06:16:			nsQueuesProdu				cp://192.168.200.13 cp://192.168.200.13		ert Limit exceeded ert Limit exceeded					
10/06/15 06:16:48 10/06/15 06:16:	1		nsQueuesProdu				cp://192.168.200.13 cp://192.168.200.13		ert Limit exceeded					
10/06/15 06:16:48 10/06/15 06:16:	1		nsQueuesConsu				cp://192.168.200.13		art Limit exceeded					
<														>

Title Bar (possible features are):	🔹 Data OK Data connection state. Red indicates the Data
 Open the previous and upper display. Open an instance of this display in a new window. Open the online help page for this display. 	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
Menu , Table open commonly accessed displays.	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.	Open the Alert Views - RTView Alerts Table display.

Note: The "Up" Arrow () opens the most recently viewed display under "Multi Area Service Views". For example, if the last viewed display under **Multi Area Service Views** was **Group/Region Heatmap**, then clicking opens the "Group/Region Heatmap" display.

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

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

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

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

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

Service Name	All Cl Types	User Experience	JVM	BW Server	BW Engine	TibcoEMS Server	TibcoEMS Topic	Torncat
ACCOUNTING	0	0	0	۲	0	0	0	0
COMPLIANCE	0	0		Ô	0	0	0	Õ
INVENTORY MANAGER	0	0	0	Õ	0	0	0	Õ
ORDER PROCESSING	Ô	0	0	Õ	0	Ô	0	Õ
REPORTING	Õ	۲	0	Ő	Ô	0	0	Ő
TUCON-EXCHANGE	0	0	0	0	0	۲		0

Filter By:

The following filtering options are typically included:

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

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

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

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

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

Fields and Data

This display includes:

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

CI Type Shows the CI Type selected in the upper table.

Alerts Table

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

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

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

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

Gray indicates that the alert engine that is hosting the alert is not connected, not enabled or not initialized. When you select a gray row the **Own**, **Suppress**, **Unsuppress**, **Close**, **Annotate**, **Options** and **Details** buttons are disabled.

Opens the **Alerts Table** display in a new window.

- **Own** Click to assign an Owner for the selected alert(s). This button is only visible to users with Administrator privileges. This button is disabled when you select a gray row.
- **Suppress** Click to suppress the selected alert(s). This button is only visible to users with Administrator privileges. This button is disabled when you select a gray row.
- **Close** Click to close the selected alert(s). This button is only visible to users with Administrator privileges. This button is disabled when you select a gray row.
- **Details** Select an alert, right-click and choose **Alert/Details** to open the **Alert Detai**l window and view alert details. Or, double-click an alert to open the **Alert Detai**l window.
- Annotate Select one or more alerts, right-click and choose Alert/Annotate to open the Set Owner and Comments dialog and enter comments or change alert owner.
- **Options** Select an alert, right-click and choose **Alert/Options** to open the **Alert Options** dialog. This dialog is provided for customizing your own alert options.
 - **First Occ** The date and time the alert first occurred.
 - Last Occ The date and time the alert last occurred.
 - **Count** The number of times the alert was generated.
 - **Sup** When checked, the alert has been suppressed by a user.
 - **Owner** The named owner assigned by the administrator.
 - Alert Name The name of the alert.
 - **Primary** The name of the Service with which the alert is associated. **Service**
 - **CI** The CI alert source.
 - Alert Text Description of the alert.
 - **AlertClass** An optional alert field which can be used when integrating with other alerting systems.
 - **CompID** An optional alert field which can be used when integrating with other alerting systems.
 - **TicketID** An optional alert field which can be used when integrating with other alerting systems.
 - **TicketGroup** An optional alert field which can be used when integrating with other alerting systems.

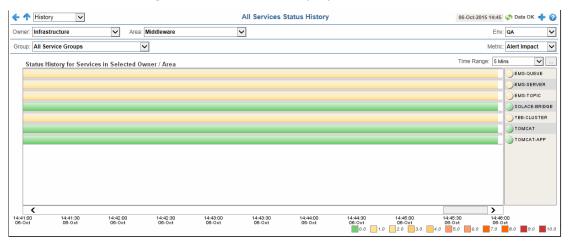
Single Area: Services History Heatmap

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

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

Use the available drop-down menus or right-click to filter data shown in the display. Mouseover each row to see the time of alert state changes for particular Service occurred. For example, you can see at what time an alert state changed from green to red. Use the checkboxes in the include or exclude labels in the heatmap. Drill-down and investigate by clicking a row in the heatmap to view details in the last display that was viewed under either the **Service Summary Views** or **Key Metric Views**.

For example, if the last selected display was the "Service KM Table" display under "Key Metrics Views" and you clicked on a row in the table, the details would display in the Service Summary display. If the last selected display was the "Service KM Table" display under "Key Metrics Views", then clicking a row in the table displays the details in the Service KM Table.



 Title Bar (possible features are): Open the previous and upper display. Open an instance of this display in a new window. 	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.
Open the online help page for this display. Menu , 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.	Open the Alert Views - RTView Alerts Table display.

Note: The "Up" Arrow () opens the most recently viewed display under "Multi Area Service Views". For example, if the last viewed display under **Multi Area Service Views** was **Group/Region Heatmap**, then clicking opens the "Group/Region Heatmap" display.

The following filtering options are typically included:

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

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

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

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

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

Color Code:

Row color indicates the following:

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

Time Range

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

S	elect or	Enter [Date an	d Tim	e:
		Restore	to Nov	N	
	Ok	Ар	ply	Са	ncel

To change the time range for the graph, click Open Calendar 💷 , choose the date and time, then click **OK**. Or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**. Use the navigation arrows **I** to move forward or backward one time period. NOTE: The time period is determined by your selection from the Time Range drop-down menu.

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

Service Summary Views

These displays present alert states at the component-level by Service in tabular and heatmap formats, while highlighting the most critical alert state. Data can be filtered by Owner, Area, Group, Service or Environment. Data is filtered by the \$rtvOwnerMask, \$rtvAreaMask, \$rtvGroupMask and \$rtvServiceMask values for the logged in user. For details, see **Configure User and Role Management**.

Use these displays to get alert details and detailed status information for a particular Service, such as a list of all the CI Types relevant to a Service and the quality of the performance metrics for each CI. Displays in this View are:

- "Service By CI Type": Table of alert states for a Service organized CI Type, with general alert information.
- "Service Summary": Table of CIs by Service, with detailed alert information.
- "Service Health Heatmap" on page 146: Heatmap of CIs by Service, with the option to filter by Owner, Area, Group, Environment and alert Metric, and show CI Names.

Service By CI Type

View alert states for a Service organized CI Type and manage alerts. See the CI Count for a Service and obtain alert statistics for CI Types such as Alert Severity and Alert Count. Use this display to summarize alerts occurring for a Service and determine which component types are malfunctioning. View a list of all active alerts associated with the CI Type.

The upper table lists all CI Types for the selected Service with alert details such as the highest Alert Severity. Each row is a CI Type. The color of each row represents the maximum Alert Impact for the row. Select a row that has an active alert (the Alert Severity is red or yellow) to view the active alerts in the lower table. Double-click a row to view a detailed list of CIs associated with the CI Type in the **Service Summary** display. In the lower table, each row is a different alert for a CI that is associated with the CI Type selected from the upper table.

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

🗲 🛧 🛛 By CI Type 💌	MX	~	Single Serv by Comp	vice Summary onent Type		24-Sep-2015	11:30 💠 Data OK 💠 🕜
Owner: Jerelyn Parker	▼ Are:	a: Systems	•				Env: QA
Group: Databases		Service: Al	I				
Service Name: *							CI Count: 11
Criticality:	Max Severity🌔	Max Impact: 10	All CIs				
СІТуре	CI Count	Alert Severity	Alert Count	Max Criticality	Alert Impact	Quality	Quality Count
ORACLE	1	0	5	В	8	0	all
VMWARE-HOST	5	Õ	25		10	Ø	all
VMWARE-VM	5	6	3		8	0	all
Selected CIType: *	All CI Typ	es					wn <u>S</u> uppress <u>C</u> lose
						<u> </u>	
First Occ Last Occ 09/24/15 11:30:48 09/24/15 11:30			rt Name PktDropLossHig Lates	Primary Service	CI VSeboro2:2009S_SI_H/	High Warping Limit evo	eeded, current value: 1.0
09/24/15 11:30:48 09/24/15 11:30			puUtilizationHig MyS				eeded, current value: 50.1
09/24/15 11:30:23 09/24/15 11:30			nBytesHigh MyS(eeded, current value: 137
09/24/15 11:30:23 09/24/15 11:30):23 1		ryUsedHigh JBos			High Warning Limit exc	
	40 4						
09/24/15 11:30:16 09/24/15 11:30 09/24/15 11:21:29 09/24/15 11:30			ryUsedHigh Local ryUsedHigh JBos		localhost;local		eeded, current value: 51. eeded, current value: 50. eeded, current value: 73.

 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. 	 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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Note: The "Up" Arrow () opens the most recently viewed display under "Multi Area Service Views". For example, if the last viewed display under **Multi Area Service Views** was **Services CI Type Summary**, then clicking opens the "Services CI Type Summary" display.

Filter By:

The following filtering options are typically included:

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

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

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

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

Fields and Data

This display includes:

Service Name	The name of the selected Service.
CI Count	The total number of configurable items in the display.
Criticality	The Criticality (rank of importance) specified in the Service Data Model (CMDB) by your administrator. Criticality values are listed in the Component Views / CI Service Table display, which range from \bf{A} to \bf{E} , where \bf{A} is the highest Criticality. This value is used to determine the value for Alert Impact.
Max Severity	 The highest Alert Severity value of any CI associated with the selected Service. Values range from 0 to 2, where 2 is the greatest Severity: One or more alerts exceeded their ALARM LEVEL threshold in the Service. One or more alerts exceeded their WARNING LEVEL threshold in the Service. No alert thresholds have been exceeded in the Service.
Max Impact	The highest Alert Impact value of any CI associated with the selected Service.
All CIs	Opens the Service Summary display.

(CI Type Table) This table lists all CI Types for the selected Service. Each row in the table is a CI Type. Click a row to view details in the lower table about alerts associated with the CI Type. Double-click a row to drill-down to Service Summary display describing alert details relevant to this CI Type.

	СІТуре	The type of CI.						
	CI Count	The total number of configurable items associated with the CI Type.						
	Alert Severity	 The highest Alert Severity value of any CI associated with the selected Service. Values range from 0 to 2, where 2 is the greatest Severity: One or more alerts exceeded their ALARM LEVEL threshold. One or more alerts exceeded their WARNING LEVEL threshold. No alert thresholds have been exceeded. 						
	Alert Count	The total number of active alerts for the CIs associated with the CI Type.						
	Quality	Shows whether performance metrics are being received from the CIs associated with the CI Type.						
		 One or more performance metrics are not being received from the CIs associated with the CI Type. All performance metrics are being received from he CIs associated with the CI Type. 						
	Quality Count	 Shows the number of CIs for that CI Type that have a known state. It displays all when that number is the total count of CI's. One or more performance metrics are not being received from the CIs associated with the CI Type. All performance metrics are being received from he CIs associated with the CI Type. 						
Selected CI Type	Shows the C	I Type selected in the upper table.						

All CI Shows all active alerts for all CIs associated with the CI Type selected. Types

Alerts Table

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

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

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

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

Gray indicates that the alert engine that is hosting the alert is not connected, not enabled or not initialized. When you select a gray row the **Own**, **Suppress**, **Unsuppress**, **Close**, **Annotate**, **Options** and **Details** buttons are disabled.

Opens the **Alerts Table** display in a new window.

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

Options	Select an alert, right-click and choose Alert/Options to open the Alert Options dialog. This dialog is provided for customizing your own alert options.							
	First Occ	The date and time the alert first occurred.						
	Last Occ	The date and time the alert last occurred.						
	Count	The number of times the alert was generated.						
	Sup	When checked, the alert has been suppressed by a user.						
	Owner	The named owner assigned by the administrator.						
	Alert Name	The name of the alert.						
	Primary Service	The name of the Service with which the alert is associated.						
	CI	The CI alert source.						
	Alert Text	Description of the alert.						
	AlertClass	An optional alert field which can be used when integrating with other alerting systems.						
	CompID	An optional alert field which can be used when integrating with other alerting systems.						
	TicketID	An optional alert field which can be used when integrating with other alerting systems.						
	TicketGroup	An optional alert field which can be used when integrating with other alerting systems.						

Service Summary

View alert states at the component-level per Service, manage alerts, obtain component details such as the number of active alerts for the component, which operating system the component uses and the Data Server associated with the component.

Use this display to monitor a Service in a specific Group or Environment anywhere in your organization, and determine whether a component is malfunctioning.

The table lists all components for a selected Service. Each row in the table is a different CI (configurable item or component). Each CI can have multiple alerts. Click a row to view details in the lower table about any alerts associated with the CI.

Use the available drop-down menus or right-click to filter data shown in the display. Click Sort to order column data. Double-click a row to drill-down to a summary page describing information relevant to this CI. This action can also be performed by selecting (a single click) on a row and selecting the **Go to CI** button.

🗲 🛧 Summary	▼ MX	All		~		Singl	e Service	e Sumn	nary			24-Sep-201	5 11:29 💠 Data OK	•
Owner: Jerelyn Pa	arker	-	Are	a: Systems			-						Env: QA	
Group: Database	5			• 5	Service: All					·				
Service Name: *													CI Count: 11	
Max Criticality:	Ma	ax Severi	ty🅐	Max Impac	t: 10									
CI Table for Sel	ected Enviro	nment		CI Type Fi	Iter: All C	Types							G	o to Cl
CIType			CINam	ie		Quality	Severity	Alerts	Criticality	Impact	Regi	on Environmen	t SiteName	
RACLE	testBedOrac	le11g				0	0	5	В	8		QA	Headquarters	
MWARE-HOST	vSphere2;sl	esxi-1.sld	lemos-h	iq.local		Ô	Õ	3	В	8		QA		
MWARE-HOST	vSphere2;sl	esxi-1.sld	lemos-h	iq.local		0	0	3	В	8		QA		
MWARE-HOST	vSphere2;sl	esxi-1.sld	lemos-h	iq.local		0	Õ	3		10		QA		
MWARE-HOST	vSphere2;sl	esxi-1.sld	lemos-h	iq.local		0	Õ	3	В	8		QA	Headquarters	
MWARE-HOST	vSphere2;sl	esxi-1.sld	lemos-h	ig.local		0	Õ	3	В	8		QA		
MWARE-VM	vSphere2;20	008S-WII	V12			0	Ô	1	В	8		QA	Headquarters	
MWARE-VM	vSphere2;20	008S-SL	HOST-V	VIN5		Ô	Ō	1		5		QA		
MWARE-VM	vSphere2;20	008S-WI	V14			0	0	1	В	4		QA		
MWARE-VM	vSphere2;20	008S-WI	V13			Õ	0	0	В	0		QA		
MWARE-VM	vSphere2:20	008S-WI	V15					0	В	0		QA		
•				111										
Selected CI: *	1	*										All 💧	<u>D</u> wn <u>S</u> uppress	Clos
First Occ	Last Occ	Count	Sup	Owner		Name		nary Serv		CI				
	/24/15 11:29:27	1			JvmMemory		Localhost					High Warning Limit ex		
	/24/15 11:29:25	24			JvmMemory		JBoss					High Alert Limit excee		
	/24/15 11:29:16	31			JvmMemory		JBoss					High Warning Limit ex		
/24/15 11:15:10 09		78			JvmMemory		Localhost			alhost;local		High Alert Limit excee		
/24/15 10:45:29 09		12			JvmMemory		JBoss					High Alert Limit excee		
9/24/15 10:30:15 09	/24/15 10:30:15	1			HostMemor	yusedHigh	Beta		Q/	IB;SLHOST-	WIN3	High Warning Limit ex	ceeded, current value	e: 75.0
•		111												

 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. 	 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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Note: The "Up" Arrow () opens the most recently viewed display under "Multi Area Service Views". For example, if the last viewed display under **Multi Area Service Views** was **Services CI Type Summary**, then clicking opens the "Services CI Type Summary" display.

Row Color Code:

Tables with colored rows indicate the following:

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

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

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

Use the available drop-down menus to filter data shown in the table. The display might include these filtering options:

Owner: Choose an Owner to see metrics in the heatmap for Areas associated with that Owner.

Area: Choose an Area to see metrics in the heatmap for Groups associated with that Area and Owner.

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

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

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

Fields and Data

This display includes:

- The name of the selected Service. Service Name
- The Criticality (rank of importance) specified in the Service Data Model (CMDB) by your administrator. Criticality values are listed in the Component Views / CI Service Table display, which range from \bf{A} to \bf{E} , where \bf{A} is the highest Criticality. This value is used to Criticality determine the value for Alert Impact.

CI Count The total number of configurable items in the display.

CI Table for Selected Environment This table lists all CIs for the selected Environment. Each row in the table is a CI. Each CI can have multiple alerts. Click a row to view details about any alerts associated with the CI in the lower table. Double-click a row to drill-down to a summary page describing information relevant to this CI. This action can also be performed by selecting (a single click) on a row and selecting the **Go to CI** button.

CI Type Filter	Select a CI Type to display in the table or select All CI Types.
Go to CI	Drill-down to a summary page describing information relevant to this CI.
СІТуре	The type of CI.
Quality	 Shows whether performance metrics are being received from the CI: Performance metrics are not being received from the CI. Performance metrics are being received from the CI.
Severity	 Shows the most critical alert state for the selected CI: One or more alerts exceeded their ALARM LEVEL threshold. One or more alerts exceeded their WARNING LEVEL threshold. No alert thresholds have been exceeded.
Alerts	The number of currently active alerts for the selected CI.
Region	The name of the Region for the CI.
SiteName	The name of the Site for the CI.
OSType	The operating system currently running on the CI.
City	The name of the City for the CI.
Country	The name of the Country for the CI.
Data Server	The name of the Data Server with which the CI is associated.

Selected Shows the CI Type selected in the upper table.

CI

All

Shows all active alerts for all CIs associated with the CI Type selected.

Alerts Table

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

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

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

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

Gray indicates that the alert engine that is hosting the alert is not connected, not enabled or not initialized. When you select a gray row the **Own**, **Suppress**, **Unsuppress**, **Close**, **Annotate**, **Options** and **Details** buttons are disabled.

Opens the **Alerts Table** display in a new window.

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

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

Service Health Heatmap

View heatmap of alert states for CIs associated with a Service. The heatmap organizes CIs by the Service selected. Each rectangle in the heatmap represents a CI (for example, **localhost-14**). Each Metric (selected from the drop-down menu) has a color gradient bar that maps relative values to colors.

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



 Title Bar (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. 	 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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Note: The "Up" Arrow () opens the most recently viewed display under "Multi Area Service Views". For example, if the last viewed display under **Multi Area Service Views** was **Services CI Type Summary**, then clicking opens the "Services CI Type Summary" display.

Filter By:

The following filtering options are typically included:

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

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

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

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

Metric:

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

Alert Impact	The product of the maximum Alert Severity of alerts in the heatmap rectangle multiplied by the maximum Criticality of alerts in the heatmap rectangle. Values range from 0 - 10 , as indicated in the color gradient • • • • • • • • • •
Alert Severity	The maximum level of alerts in the heatmap rectangle. Values range from 0 - 2 , as indicated in the color gradient and the probability bar, where 2 is the highest Alert Severity. Red indicates that one or more metrics have reached their alarm threshold. Metrics that have exceeded their specified ALARM LEVEL threshold have an Alert Severity value of 2 .
	 Yellow indicates that one or more metrics have reached their alarm threshold. Metrics that have exceeded their specified WARNING LEVEL threshold have an Alert Severity value of 1. Green indicates that no metrics have reached their alert thresholds. Metrics that have not exceeded their specified thresholds have an Alert Severity value of 0.
Alert Count	The total number of critical and warning alerts in the heatmap rectangle. The color gradient \bullet bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average alert count.
Criticality	The maximum level of Criticality (rank of importance) in the heatmap rectangle. Values range from 1 to 5 , as indicated in the color gradient • • • • • • • • • •

Key Metrics Views

The Key Metrics (KM) feature is an entirely new way of looking at and interpreting application health and performance data.

In contrast to the traditional Alert Impact view showing your ACTIVE alerts and their impact on the overall application or service, the Key Metrics view shows how close a metric is approaching its threshold over a period of time – both before and after the alert threshold is reached.

This allows you to both proactively anticipate performance problems BEFORE the alert threshold is crossed as well analyze the circumstances that led up to error conditions AFTER you got an alert. Armed with this knowledge, you can avert disasters before they happen and resolve problems faster after they happen.

RTView does this by correlating the most valuable key metrics over multiple components within a service and displaying them in context with both real-time and historical data. This is valuable because health problems in one component may be caused by performance problems in another and only by viewing each of these metrics in context with one another over a period of time are you able to visually link the relationship between troubled components.

It is important to note that your Alert Impact heatmaps may look very different from your Key Metrics heatmaps given that KM will indicate potential threats BEFORE they show up as alerts.

Data is filtered by the \$rtvOwnerMask, \$rtvAreaMask, \$rtvGroupMask and \$rtvServiceMask values for the logged in user. For details, see **Configure User and Role Management**.

For Key Metrics definitions by technology, see "Available KM Metrics and Alerts" on page 163.

Dependencies

The KM package is dependent on the Metric Explorer package. Both must be included in your project in order for KM to work. If you are upgrading from a version previous to 1.5.0 and have not added Metric Explorer to your project, see the *RTView Enterprise Monitor*® *User's Guide* **Upgrade Notes** section for information about including it.

Displays in this View are:

- "Service KM Heatmap" on page 148: Heatmap of Key Metrics current data for one or more Services in your CMDB hierarchy.
- "Service KM Table" on page 152: Table of Key Metrics current data for one or more Services.
- "Service KM History" on page 155: History heatmap of Key Metrics historical data for one or more Services.
- "Service KM History (Alt)" on page 159: History heatmap of Key Metrics historical data for one or more Services.

This section also includes:

 "Available KM Metrics and Alerts" on page 163: List and descriptions of available key metrics.

Service KM Heatmap

View Key Metrics current data for one or more Services in your CMDB hierarchy in a heatmap. The **Service KM Heatmap** provides one view of all your Services and whether they are approaching an alert condition. The most important overview of your Services is the Alert Impact View. The Alert Impact View lets you know what is a problem NOW. The **Service KM Heatmap** gives you a proactive view of which Services might be approaching a serious problem so that you can take action before they become critical. First look at the Alert Impact View to address current issues, then move to the **Service KM Heatmap** for proactive analysis.

The colors in the display are determined by the **Threshold %** and **Quality** values. As shown in the color gradient bar **10 50 10**, a rectangle is green when the value is close to **0** changing to yellow, orange and red as the value gets closer to **100**. Values at or over **100** are shown as red.

- Red indicates the value is at or over 100.
- Yellow indicates the value is between 0 and 100.
- Green indicates the value is close to **0**.
- Teal indicates no KMs are defined for the CI Type.

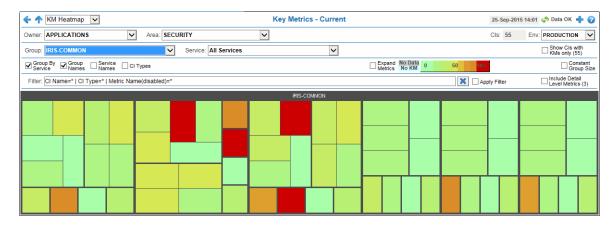
 \bigcirc Grey indicates KMs are defined for the CI Type but no data was returned when the metric was queried.

Select **Group By Service** to include the **Group** and **Service** labels in the display. Select **Expand Metrics** to include the **Metric Name**, **Metric Value** and **Threshold** labels in the display.

For an overview about the Key Metrics feature, see "Key Metrics Views".

For Key Metrics definitions by technology, see "Available KM Metrics and Alerts" on page 163.

Use the available drop-down menus or right-click to filter data shown in the display. Drill-down and investigate by double-clicking a rectangle in the display to view details in the corresponding display.



Title Bar (possible features are):	🔄 Data OK Data connection state. Red indicates the Data				
 Open the previous and upper display. Open an instance of this display in a new window. 	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 online help page for this display. Menu , 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.	Open the Alert Views - RTView Alerts Table display.				

Note: The "Up" Arrow () opens the most recently viewed display under "Multi Area Service Views". For example, if the last viewed display under **Multi Area Service Views** was **Services CI Type Summary**, then clicking opens the "Services CI Type Summary" display.

The following filtering options are typically included:

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

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

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

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

You can also filter KMs by **CI Name**, **CI Type** and **Metric Name**. To modify the **CI Name**, **CI Type** or **Metric Name** filter, right-click on an item in the display and select **CI Name**, **CI Type** or **Metric Name** from **Add To Filter** or **Remove From Filter**, then click **Apply Filter**. The **Filter**: field shows filter parameters and is highlighted in blue after it is applied. Click Clear to clear the filter.

Note: The Metric Name filter is only editable or applied when the Expand Metrics checkbox is selected.

Fields and Data

This display includes:

Show CIs with KMs only (x)	When selected, hides any CIs that do not have KMs defined. The number following the label (\mathbf{x}) is the number of CIs with KMs defined.
Group By Service	When selected, includes the Service Group and Service Name in the KM data. CIs that are included in multiple Services will appear multiple times, once for each Service they are associated with.
Group Names	When selected, includes the Group Name in the display. Only available if Group By Service is selected.
Service Names	When selected, includes both the Group Name and Service Name in the display. Only available if Group By Service is selected.
CI Types	When selected, includes the CI Type in the display. If Group By Service is selected, this is shown in addition to the Group Name and Service Name .
Expand Metrics	When selected, shows one element (for example, a table row, status history row or heatmap cell) per KM per CI. When not selected, shows one element per CI with the aggregated value of all KMs for that CI. KMs are aggregated by taking the maximum Threshold % and the minimum Quality value for the CI.
No Data No KM	The No Data No KM indicates the Quality value for the data. If no KMs are defined for the CI Type, the Quality is set to 0 and the color is shown as teal. If KMs are defined for the CI Type, but no data was returned when the metric was queried, the Quality is set to -1 and the color is shown as gray. If data was received for the metric, the Quality is set to 1 and the color is set based on the Threshold % value as described above. If the If the Expand Metrics checkbox is selected, this is the Quality of a single KM. If the Expand Metrics checkbox is not selected, this is the lowest Quality for all of the KMs on the CI.

The gradient bar is the legend for the display colors, which are determined by the Threshold % and Quality values. A row is green when the value is close to 0 changing to yellow, orange and red as the value gets closer to 100 . Values at or over 100 are shown as red.
Red indicates the value is at or over 100.
Yellow indicates the value is between 0 and 100.
Green indicates the value is close to 0 .
\bigcirc Teal indicates no KMs are defined for the CI Type.
$igodoldsymbol{\bigcirc}$ Grey indicates KMs are defined for the CI Type but no data was returned when the metric was queried.
When selected, Groups are equally sized in the display. When not selected, Groups are sized according to the number of elements in the Group (a Group containing the most elements is rendered with the largest rectangle).
Shows the current filter parameters and is highlighted in blue when the filter is applied.
By default, all data is shown:
CI Name=* CI Type=* Metric Name(disabled)=*
To modify the filter of KMs displayed, right-click on an item in the table and select CI Name, CI Type or Metric Name from Add To Filter or Remove From Filter , then click Apply Filter (. Click Clear (x) to clear the filter.
Clears the filter parameters.
 Applies the filter parameters.
When selected, includes Detail Level KMs in the display. When not selected, only includes high level KMs. The number following the label (\mathbf{x}) is the number of detail level metrics available for the currently displayed KMs.
details via mouseover:
The Group name. For displays showing current KM data, this column is only included if the Group By Service checkbox is selected. The table shows one row per Group that a CI is associated with.
The Service name. For displays showing current KM data, this column is only included if the Group By Service checkbox is selected. The table shows one row Service that a CI is associated with.
The CI Type.
The CI Name.
The name of the metric. This is only included if the Expand Metrics checkbox is selected. It is the user-friendly metric name, which corresponds to a numeric column in one of the caches associated with the CI Type. To see which cache column provides data for this metric, navigate to Architecture - "RTView KM Defs". In the table, look in the CITYPE and SELECTOR columns to find the row for your metric. The CACHENAME column lists the name of the cache column.
The value of the metric. This is only included if the Expand Metrics checkbox is selected.
The Alarm Level value for the alert associated with the metric. This column is only included if the Expand Metrics checkbox is selected. To see which alert is associated with this metric, navigate to Architecture - "RTView KM Defs". In the table, look in the CITYPE and SELECTOR columns to find the row for your metric. The AlertName column lists the name of the alert associated with the metric. Note: When looking up the alert threshold for a KM, RTView Enterprise Monitor first looks to see if there is an alert override on the alert where the AlertIndex exactly matches the CIName (ignoring the ~ and ; delimiters). If an exact match is found, the Oefault Alarm Level for the alert is used. Note that some alert overrides only contain a partial index and are not used for KM thresholds.

Threshold %	The percent of the Metric Value against the Threshold . If the Expand Metrics checkbox is selected, this is the Threshold % of a single KM. If the Expand Metrics checkbox is not selected, this is the highest Threshold % for all of the KMs on the CI.
	Depending on the KM, different scales are applied. By default, no scale is applied, but values are limited to 0-10000 . For memory metrics, an exponential scale is applied to the Threshold % so that lower values are diminished. For metrics where the alert is a low alert (an alert that executes when the value goes below the threshold), an inverse scale is applied. The colors in the KM displays are based on this value going from green when the value is close to 0 changing to yellow to orange to red as the value gets closer to 100 . Values at or over 100 are shown as red 10 50 To see which CalcMode is used for this metric, navigate to Architecture - "RTView KM Defs". In the table, look in the CITYPE and SELECTOR columns to find the row for your metric. The CalcMode column lists the type of scale that is applied to the metric. If blank, no scale is applied.
Quality	Indicates the quality of the data. If the Expand Metrics checkbox is selected, the value is for a single KM on the CI. If the Expand Metrics checkbox is not selected, the value is for all the KMs on the CI, and shows the lowest Quality of those KMs. Possible values are:
	0 = No KMs are defined for the CI Type (the color is shown as teal).
	-1 = KMs are defined for the CI Type, but no data was returned when the metric was queried (the color is shown as gray).
	1 = Data was received for the metric (the color is set based on the Threshold % value).
Time	The time stamp of the data.

Service KM Table

View Key Metrics current data for one or more Services in your CMDB hierarchy in a table.

The **Service KM Table** shows the same information as the "Service KM Heatmap". Use this display if, for example, you prefer to sort by **Service** or **Threshold %** to identify the Service for which you want to perform proactive health analysis.

The colors of the table rows are determined by the **Threshold %** and **Quality** values. As shown in the color gradient bar **10 50 100**, a row is green when the value is close to **0** changing to yellow, orange and red as the value gets closer to **100**. Values at or over **100** are shown as red.

- Red indicates the value is at or over 100.
- Yellow indicates the value is between 0 and 100.
- Green indicates the value is close to 0.
- Teal indicates no KMs are defined for the CI Type.

 \bigcirc Grey indicates KMs are defined for the CI Type but no data was returned when the metric was queried.

Select **Group By Service** to include the **Group** and **Service** columns in the table. Select **Expand Metrics** to include the **Metric Name**, **Metric Value** and **Threshold** columns in the table.

Note: The **CIs** label shows the number of CIs in the table. However, if the CI is associated with multiple Services it is only counted once.

For an overview about the Key Metrics feature, see "Key Metrics Views".

For Key Metrics definitions by technology, see "Available KM Metrics and Alerts" on page 163

Use the available drop-down menus or right-click to filter data shown in the display. Click Sort to order column data. Drill-down and investigate by double-clicking a row in the table to view details in the corresponding display.

🗲 🛧 KM Ta	ble	\checkmark		Key Metrics - Current			25-Sep-201	15 14:12 💠 Data OK 💠 🕜
Owner: APPLIC	ATION	s 🗸	Area: SECURITY	~			Cls: 55	Env: PRODUCTION
Group: IRIS-CO	MMON		✓ Service	All Services				Show CIs with KMs only (55)
Group By Service					Expand Metrics	No Data No KM 0 50	00	
Filter: CI Nam	e=* Cl	Type=* Metric Name	(disabled)=*			× 🗆	Apply Filter	Level Metrics (3)
Group	E	Service	E CI Type	E CI Name	1	Threshold %	Quality =	Time =
IRIS-COMMON		SCAN-CHECK-1	VMWARE-HOST	vSphereW;esxi-1.west		42.0	1	25-Sep-2015 14:12:31
IRIS-COMMON		SCAN-CHECK-1	VMWARE-VM	vSphereW;VMIRIS1051		68.8	1	25-Sep-2015 14:12:31 🔨
IRIS-COMMON		SCAN-CHECK-1	EMS-QUEUE	tcp://VMIRIS1001:7222;SCAN-QUEUE		22.2	1	25-Sep-2015 14:12:31
IRIS-COMMON		SCAN-CHECK-1	EMS-QUEUE	tcp://VMIRIS1002:7222;SCAN-QUEUE		44.4	1	25-Sep-2015 14:12:31
IRIS-COMMON		SCAN-CHECK-1	EMS-QUEUE	tcp://VMIRIS1003:7222;SCAN-QUEUE		0.0	1	25-Sep-2015 14:12:31
IRIS-COMMON		SCAN-CHECK-1	EMS-QUEUE	tcp://VMIRIS1004:7222;SCAN-QUEUE		0.0	1	25-Sep-2015 14:12:31
IRIS-COMMON		SCAN-CHECK-1	BW-ENGINE	VMIRIS1051;BW-SCAN-CHECK-SFO		23.6	1	25-Sep-2015 14:12:31
IRIS-COMMON		SCAN-CHECK-1	BW-ENGINE	VMIRIS1051;BW-SCAN-CHECK-LAX		47.2	1	25-Sep-2015 14:12:31
IRIS-COMMON		SCAN-CHECK-1	BW-ENGINE	VMIRIS1051;BW-SCAN-CHECK-SEA		18.7	1	25-Sep-2015 14:12:31
IRIS-COMMON		SCAN-CHECK-1	BW-ENGINE	VMIRIS1051;BW-SCAN-CHECK-PDX		18.7	1	25-Sep-2015 14:12:31
IRIS-COMMON		SCAN-CHECK-1	EMS-SERVER	tcp:///MIRIS1051:7222		0.0	1	25-Sep-2015 14:12:31
IRIS-COMMON		SCAN-CHECK-1	EMS-QUEUE	tcp://VMIRIS1051:7222;CHECK-QUEUE		0.0	1	25-Sep-2015 14:12:31
IRIS-COMMON		SCAN-CHECK-1	ORACLE	SCAN-DB		28.6	1	25-Sep-2015 14:12:31
IRIS-COMMON		SCAN-CHECK-2	VMWARE-HOST	vSphereE;esxi-1.east		68.1	1	25-Sep-2015 14:12:31 V
IRIS-COMMON		SCAN-CHECK-2	MWARE-VM	vSphereE;//MIRIS1061		125.0	1	25-Sep-2015 14:12:31

Title Bar (possible features are):	🕼 Data OK Data connection state. Red indicates the Data
🗲 🖪 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Note: The "Up" Arrow () opens the most recently viewed display under "Multi Area Service Views". For example, if the last viewed display under **Multi Area Service Views** was **Services CI Type Summary**, then clicking opens the "Services CI Type Summary" display.

Filter By:

The following filtering options are typically included:

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

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

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

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

You can also filter KMs by **CI Name**, **CI Type** and **Metric Name**. To modify the **CI Name**, **CI Type** or **Metric Name** filter, right-click on an item in the display and select **CI Name**, **CI Type** or **Metric Name** from **Add To Filter** or **Remove From Filter**, then click **Apply Filter** . The **Filter**: field shows filter parameters and is highlighted in blue after it is applied. Click Clear **x** to clear the filter.

Note: The Metric Name filter is only editable or applied when the Expand Metrics checkbox is selected.

Fields and Data This display includes:

Show CIs with KMs only (x)	When selected, hides any CIs that do not have KMs defined. The number following the label (\mathbf{x}) is the number of CIs with KMs defined.				
Group By Service	When selected, includes the Service Group and Service Name in the KM data. CIs that are included in multiple Services will appear multiple times, once for each Service they are associated with.				
Expand Metrics	When selected, shows one element (for example, a table row, status history row or heatmap cell) per KM per CI. When not selected, shows one element per CI with the aggregated value of all KMs for that CI. KMs are aggregated by taking the maximum Threshold % and the minimum Quality value for the CI.				
No Data No KM	The No Data No KM indicates the Quality value for the data. If no KMs are defined for the CI Type, the Quality is set to 0 and the color is shown as teal. If KMs are defined for the CI Type, but no data was returned when the metric was queried, the Quality is set to -1 and the color is shown as gray. If data was received for the metric, the Quality is set to 1 and the color is set based on the Threshold % value as described above. If the If the Expand Metrics checkbox is selected, this is the Quality of a single KM. If the Expand Metrics checkbox is not selected, this is the lowest Quality for all of the KMs on the CI.				
0 S 10	The gradient bar is the legend for the table row colors, which are determined by the Threshold % and Quality values. A row is green when the value is close to 0 changing to yellow, orange and red as the value gets closer to 100 . Values at or over 100 are shown as red.				
	Red indicates the value is at or over 100.				
	Yellow indicates the value is between 0 and 100.				
	Green indicates the value is close to 0.				
	\bigcirc Teal indicates no KMs are defined for the CI Type.				
	$igodoldsymbol{\bigcirc}$ Grey indicates KMs are defined for the CI Type but no data was returned when the metric was queried.				
Filter:	Shows the current filter parameters and is highlighted in blue when the filter is applied.				
	By default, all data is shown:				
	CI Name=* CI Type=* Metric Name(disabled)=*				
	To modify the filter of KMs displayed, right-click on an item in the table and select CI Name , CI Type or Metric Name from Add To Filter or Remove From Filter , then click Apply Filter . Click Clear X to clear the filter.				
	Clears the filter parameters.				
	 Applies the filter parameters. 				
Include Detail Level Metrics (##)	When selected, includes Detail Level KMs in the display. When not selected, only includes high level KMs. The number following the label (\mathbf{x}) is the number of detail level metrics available for the currently displayed KMs.				
Group	The Group name. For displays showing current KM data, this column is only included if the Group By Service checkbox is selected. The table shows one row per Group that a CI is associated with.				
Service	The Service name. For displays showing current KM data, this column is only included if the Group By Service checkbox is selected. The table shows one row Service that a CI is associated with.				
СІ Туре	The CI Type.				
CT Name	The CI Name				

The CI Name. **CI Name**

- Metric Name The name of the metric. This column is only included if the Expand Metrics checkbox is selected. It is the user-friendly metric name, which corresponds to a numeric column in one of the caches associated with the CI Type. To see which cache column provides data for this metric, navigate to Architecture "RTView KM Defs". In the table, look in the CITYPE and SELECTOR columns to find the row for your metric. The CACHENAME column lists the name of the cache containing the metric and the METRICNAME column contains the name of the cache column.
- **Metric Value** The value of the metric. This column is only included if the **Expand Metrics** checkbox is selected.
- Threshold The Alarm Level value for the alert associated with the metric. This column is only included if the Expand Metrics checkbox is selected. To see which alert is associated with this metric, navigate to Architecture "RTView KM Defs". In the table, look in the CITYPE and SELECTOR columns to find the row for your metric. The AlertName column lists the name of the alert associated with the metric. Note: When looking up the alert threshold for a KM, RTView Enterprise Monitor first looks to see if there is an alert override on the alert where the AlertIndex exactly matches the CIName (ignoring the ~ and ; delimiters). If an exact match is found, the override Alarm Level is used. If no exact match is found, the Default Alarm Level for the alert is used. Note that some alert overrides only contain a partial index and are not used for KM thresholds.
- **Threshold %** The percent of the **Metric Value** against the **Threshold**. If the **Expand Metrics** checkbox is selected, this is the **Threshold %** of a single KM. If the **Expand Metrics** checkbox is not selected, this is the highest **Threshold %** for all of the KMs on the CI.

Depending on the KM, different scales are applied. By default, no scale is applied, but values are limited to **0-10000**. For memory metrics, an exponential scale is applied to the **Threshold %** so that lower values are diminished. For metrics where the alert is a low alert (an alert that executes when the value goes below the threshold), an inverse scale is applied. The colors in the KM displays are based on this value going from green when the value is close to **0** changing to yellow to orange to red as the value gets closer to **100**. Values at or over **100** are shown as red **SELECTOR** columns to find the row for your metric. The **CalcMode** column lists the type of scale that is applied to the metric. If blank, no scale is applied.

- **Quality** Indicates the quality of the data. If the **Expand Metrics** checkbox is selected, the value is for a single KM on the CI. If the **Expand Metrics** checkbox is not selected, the value is for all the KMs on the CI, and shows the lowest **Quality** of those KMs. Possible values are:
 - **0** = No KMs are defined for the CI Type (the color is shown as teal).

-1 = KMs are defined for the CI Type, but no data was returned when the metric was queried (the color is shown as gray).

 $\mathbf{1}$ = Data was received for the metric (the color is set based on the **Threshold %** value).

Time The time stamp of the data.

Service KM History

View history heatmap of Key Metric data, over time, for a selected Group and Service.

This is the most important view for analyzing the correlation between a variety of Key Metrics over time that are related to a Service. You would navigate to this view if:

- you have identified a Service in the Alert Impact View that is having degradation right now. You can select the Service and navigate to the Service KM History display to determine if there are various factors causing the degradation.
- you have looked at the "Service KM Heatmap" or the "Service KM Table" and identified a Service that is about to become degraded. You can navigate to the Service KM History display to proactively analyze the Service before issues arise.

Each row in the history heatmap represents a different CI, unless the **Expand Metrics** checkbox is selected, in which case it represents a metric on a CI. The row color shows the **Threshold %** and **Quality** values.

The **Threshold %** value is rounded up to the closest **10** unless the **Quality** is less than **1**, in which case it shows the **Quality**. As shown in the color gradient bar **1 1 1 1 1**, the color is green when the value is close to **0** changing to yellow, orange and red as the value gets closer to **100**. Values at or over **100** are shown as red.

- Red indicates the value is at or over 100.
- Yellow indicates the value is between 0 and 100.
- Green indicates the value is close to 0.
- Teal indicates no KMs are defined for the CI Type.

 \bigcirc Grey indicates KMs are defined for the CI Type but no data was returned when the metric was queried.

CIs associated with multiple Services are shown once for the first **Group** and **Service** they were associated with, and labeled **+ x more**, where **x** is the number of additional **Groups** and **Services** the CI is associated with.

Select **Expand Metrics** to show each Key Metric in its own row and include the **Metric Name**, **Metric Value** and **Threshold** labels in the mouseover popup window.

For an overview about the Key Metrics feature, see "Key Metrics Views".

For Key Metrics definitions by technology, see "Available KM Metrics and Alerts" on page 163

Use the available drop-down menus or right-click to filter data shown in the display. Drill-down and investigate by double-clicking a row to view details in the corresponding display.

(1	KM History		Key Metrics - History			25-Sep-2015 14:14 💠 Data OK 🔶 😮
Owne	APPLICATIONS Area: SEC	URITY 🗸				Cls: 13 Env: PRODUCTION V
Group	IRIS-COMMON	Service: SCAN-CHECK-1	~			Show Cls with KMs only (13)
				Expand No Data 0 50 Metrics No KM	D	KO Time Range: 5 Mins 🗸
Filte	CI Name=* CI Type=* Metric Name(disabled)=*				×	Apply Filter
					^	DWE HOINE VMIRIS 1061: BW-SCAN-CHECK-LAX. BW-ENGINE VMIRIS 1051: BW-SCAN-CHECK-POX BW-ENGINE VMIRIS 1051: BW-SCAN-CHECK-SEA BW-ENGINE VMIRIS 1051: BW-SCAN-CHECK-SEA BW-ENGINE VMIRIS 1051: BW-SCAN-CHECK-SEA BW-SCUEUE top://VMIRIS 1002:7222: SCAN-OUEUE EMS-CUEUE top://VMIRIS 1003/7222; SCAN-OUEUE EMS-CUEUE top://VMIRIS 1003/7222; SCAN-OUEUE EMS-CUEUE top://VMIRIS 1001/7222; SCAN-OUEUE EMS-CUEUE top://VMIRIS 1051/7222; SCAN-OUEUE EMS-SEEVER top://VMIRIS 1051/7222; SCAN-OUEUE EMS-SEEVER top://VMIRIS 1051/7222; SCAN-OUEUE
					~	ORACLE SCAN-DB VMWARE-HOST vSphereW;esxi-1.west
14:09:0 09/25	0 14:10:15 09/25	14:11:30 09/25	14:12:45 09/25	14:14 09/2	:00 5 30	□ Size Legend □ To Labels □ 40 □ 50 □ 60 □ 70 ■ 80 ■ 90 ■ 100

 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. 	Current date and time. Incorrect time e Monitor stopped running. Correct time OK icon is a strong indication that data is
6,047 The number of items currently in the display. (Den the Ale	ert Views - RTView Alerts Table display.

Note: The "Up" Arrow () opens the most recently viewed display under "Multi Area Service Views". For example, if the last viewed display under **Multi Area Service Views** was **Services CI Type Summary**, then clicking opens the "Services CI Type Summary" display.

The following filtering options are typically included:

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

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

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

Area and Owner.

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

You can also filter KMs by CI Name, CI Type and Metric Name. To modify the **CI Name**, **CI Type** or **Metric Name** filter, right-click on an item and select **CI Name**, **CI Type** or **Metric Name** from **Add To Filter** or **Remove From Filter**, then click **Apply Filter**. The **Filter**: field shows filter parameters and is highlighted in blue after it is applied. Click Clear **X** to clear the filter.

Note: The Metric Name filter is only editable or applied when the Expand Metrics checkbox is selected.

Fields and Data

This display includes:

Show CIs with KMs only (x)	When selected, hides any CIs that do not have KMs defined. The number following the label (\mathbf{x}) is the number of CIs with KMs defined.
Expand Metrics	When selected, shows one element (for example, a table row, status history row or heatmap cell) per KM per CI. When not selected, shows one element per CI with the aggregated value of all KMs for that CI. KMs are aggregated by taking the maximum Threshold % and the minimum Quality value for the CI.
No Data No KM	The No Data No KM is the legend for the display colors if the Quality value for the data is less than 1 . If no KMs are defined for the CI Type , the Quality is set to 0 and the color is shown as teal. If KMs are defined for the CI Type, but no data was returned when the metric was queried, the Quality is set to -1 and the color is shown as gray. If data was received for the metric, the Quality is set to 1 and the color is set based on the Threshold % value as described above. If the If the Expand Metrics checkbox is selected, this is the Quality of a single KM. If the Expand Metrics checkbox is not selected, this is the lowest Quality for all of the KMs on the CI.
0 3	 The gradient bar is the legend for the display colors, which are determined by the Threshold % and Quality values. A row is green when the value is close to 0 changing to yellow, orange and red as the value gets closer to 100. Values at or over 100 are shown as red. Red indicates the value is at or over 100. Yellow indicates the value is between 0 and 100. Green indicates the value is close to 0. Teal indicates no KMs are defined for the CI Type. Grey indicates KMs are defined for the CI Type but no data was returned when the metric was queried.

Time Range Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar \square .



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 \square to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** dropdown menu.

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

Note: To limit the memory used by the KM history displays, the available time ranges are limited by the number of CIs in the selected **Group** and **Service**. This limit can be modified using the **\$rtvKmHistoryRowLimit** substitution. The **\$rtvKmHistoryRowLimit** substitution sets the maximum number of rows that can be queried by a history display and this number is used to determine the available time ranges. The default value is **35000**. To change the limit (and the maximum amount of memory used by KM history display), set the following property to a different value: **sl.rtview.sub=\$rtvKmHistoryRowLimit:35000**.

Filter: Shows the current filter parameters and is highlighted in blue when the filter is applied.

By default, all data is shown:

CI Name=* | CI Type=* | Metric Name(disabled)=*

To modify the filter of KMs displayed, right-click on an item in the table and select **CI Name, CI Type** or **Metric Name** from **Add To Filter** or **Remove From Filter**, then click **Apply Filter .** Click Clear ***** to clear the filter.

- Clears the filter parameters.
- Applies the filter parameters.

Include When selected, includes **Detail Level** KMs in the display. When not selected, only includes high level KMs. The number following the label (**x**) is the number of detail level metrics available for the currently displayed KMs.

Mouseover

See the following details via mouseover:

Group	The Group name. For CIs that are associated with multiple Groups, the name of the first Group the CI was associated with is shown and labeled $+ x$ more, where x is the number of additional Groups the CI is associated with.
Service	The Service name. For CIs that are associated with multiple Services, the name of the first Service the CI was associated with is shown and labeled + x more , where x is the number of additional Services the CI is associated with.
CI Type	The CI Type.
CI Name	The CI Name.

- Metric Name The name of the metric. This is only included if the Expand Metrics checkbox is selected. It is the user-friendly metric name, which corresponds to a numeric column in one of the caches associated with the CI Type. To see which cache column provides data for this metric, navigate to Architecture "RTView KM Defs". In the table, look in the CITYPE and SELECTOR columns to find the row for your metric. The CACHENAME column lists the name of the cache containing the metric and the METRICNAME column contains the name of the cache column.
- Metric Value The value of the metric. This is only included if the Expand Metrics checkbox is selected.
- Threshold The Alarm Level value for the alert associated with the metric. This column is only included if the Expand Metrics checkbox is selected. To see which alert is associated with this metric, navigate to Architecture "RTView KM Defs". In the table, look in the CITYPE and SELECTOR columns to find the row for your metric. The AlertName column lists the name of the alert associated with the metric. Note: When looking up the alert threshold for a KM, RTView Enterprise Monitor first looks to see if there is an alert override on the alert where the AlertIndex exactly matches the CIName (ignoring the ~ and ; delimiters). If an exact match is found, the override Alarm Level is used. If no exact match is found, the Default Alarm Level for the alert is used. Note that some alert overrides only contain a partial index and are not used for KM thresholds.
- **Threshold %** The percent of the **Metric Value** against the **Threshold**. If the **Expand Metrics** checkbox is selected, this is the **Threshold %** of a single KM. If the **Expand Metrics** checkbox is not selected, this is the highest **Threshold %** for all of the KMs on the CI.

Depending on the KM, different scales are applied. By default, no scale is applied, but values are limited to **0-10000**. For memory metrics, an exponential scale is applied to the **Threshold %** so that lower values are diminished. For metrics where the alert is a low alert (an alert that executes when the value goes below the threshold), an inverse scale is applied. The colors in the KM displays are based on this value going from green when the value is close to **0** changing to yellow to orange to red as the value gets closer to **100**. Values at or over **100** are shown as red **SELECTOR** columns to find the row for your metric. The **CalcMode** column lists the type of scale that is applied to the metric. If blank, no scale is applied.

Quality Indicates the quality of the data. If the **Expand Metrics** checkbox is selected, the value is for a single KM on the CI. If the **Expand Metrics** checkbox is not selected, the value is for all the KMs on the CI, and shows the lowest **Quality** of those KMs. Possible values are:

0 = No KMs are defined for the CI Type (the color is shown as teal).

-1 = KMs are defined for the CI Type, but no data was returned when the metric was queried (the color is shown as gray).

 $\mathbf{1}$ = Data was received for the metric (the color is set based on the **Threshold %** value).

Time The time stamp of the data.

Size Legend To Labels When selected, the width of the legend is set to the widest label. When not selected, the width of the legend is set to 20% of the available space and labels that are too wide are clipped.

Service KM History (Alt)

View history heatmap of Key Metric data, over time, for a selected Group and Service. This display shows the same data as the "Service KM History" display but contains fewer labels. Each row in the history heatmap represents a different CI, unless the **Expand Metrics** checkbox is selected, in which case it represents a metric on a CI. The row color shows the **Threshold %** and **Quality** values.

As shown in the color gradient bar **10 10**, the color is green when the value is close to **0** changing to yellow, orange and red as the value gets closer to **100**. Values at or over **100** are shown as red.

- Red indicates the value is at or over 100.
- Yellow indicates the value is between 0 and 100.
- **igle** Green indicates the value is close to **igle**.
- Teal indicates no KMs are defined for the CI Type.

 $\hfill \bigcirc$ Grey indicates KMs are defined for the CI Type but no data was returned when the metric was queried.

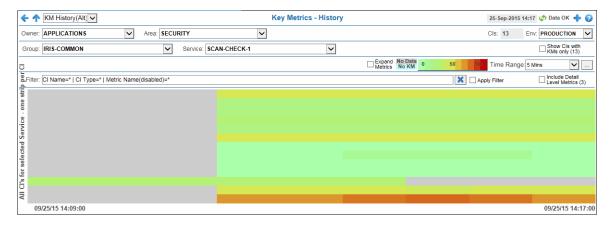
CIs associated with multiple Services are shown once for the first **Group** and **Service** they were associated with, and labeled **+ x more**, where **x** is the number of additional **Groups** and **Services** the CI is associated with.

Select **Expand Metrics** to show each Key Metric in its own row and include the **Metric Name**, **Metric Value** and **Threshold** labels in the mouseover popup window.

For an overview about the Key Metrics feature, see "Key Metrics Views".

For Key Metrics definitions by technology, see "Available KM Metrics and Alerts" on page 163.

Use the available drop-down menus or right-click to filter data shown in the display. Drill-down and investigate by double-clicking a row to view details in the corresponding display.



Title Bar (possible features are):	Data OK Data connection state. Red indicates the Data Server is not receiving data or the Display Server is not
🗲 👖 Open the previous and upper display.	receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Note: The "Up" Arrow () opens the most recently viewed display under "Multi Area Service Views". For example, if the last viewed display under **Multi Area Service Views** was **Services CI Type Summary**, then clicking opens the "Services CI Type Summary" display.

The following filtering options are typically included:

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

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

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

Area and Owner.

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

You can also filter KMs by CI Name, CI Type and Metric Name. To modify the **CI Name**, **CI Type** or **Metric Name** filter, right-click on an item and select **CI Name**, **CI Type** or **Metric Name** from **Add To Filter** or **Remove From Filter**, then click **Apply Filter**. The **Filter**: field shows filter parameters and is highlighted in blue after it is applied. Click Clear **X** to clear the filter.

Note: The Metric Name filter is only editable or applied when the Expand Metrics checkbox is selected.

Fields and Data

This display includes:

Show CIs with KMs only (x)	When selected, hides any CIs that do not have KMs defined. The number following the label (\mathbf{x}) is the number of CIs with KMs defined.
Expand Metrics	When selected, shows one element (for example, a table row, status history row or heatmap cell) per KM per CI. When not selected, shows one element per CI with the aggregated value of all KMs for that CI. KMs are aggregated by taking the maximum Threshold % and the minimum Quality value for the CI.
No Data No KM	The No Data No KM is the legend for the display colors if the Quality value for the data is less than 1 . If no KMs are defined for the CI Type , the Quality is set to 0 and the color is shown as teal. If KMs are defined for the CI Type, but no data was returned when the metric was queried, the Quality is set to -1 and the color is shown as gray. If data was received for the metric, the Quality is set to 1 and the color is set based on the Threshold % value as described above. If the If the Expand Metrics checkbox is selected, this is the Quality of a single KM. If the Expand Metrics checkbox is not selected, this is the lowest Quality for all of the KMs on the CI.
• • D	 The gradient bar is the legend for the display colors, which are determined by the Threshold % and Quality values. A row is green when the value is close to 0 changing to yellow, orange and red as the value gets closer to 100. Values at or over 100 are shown as red. Red indicates the value is at or over 100. Yellow indicates the value is between 0 and 100. Green indicates the value is close to 0. Teal indicates no KMs are defined for the CI Type. Grey indicates KMs are defined for the CI Type but no data was returned when the metric was queried.

Time Range Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar \square .



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 \square to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** dropdown menu.

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

Note: To limit the memory used by the KM history displays, the available time ranges are limited by the number of CIs in the selected **Group** and **Service**. This limit can be modified using the **\$rtvKmHistoryRowLimit** substitution. The **\$rtvKmHistoryRowLimit** substitution sets the maximum number of rows that can be queried by a history display and this number is used to determine the available time ranges. The default value is **35000**. To change the limit (and the maximum amount of memory used by KM history display), set the following property to a different value: **sl.rtview.sub=\$rtvKmHistoryRowLimit:35000**.

Filter: Shows the current filter parameters and is highlighted in blue when the filter is applied.

By default, all data is shown:

CI Name=* | CI Type=* | Metric Name(disabled)=*

To modify the filter of KMs displayed, right-click on an item in the table and select **CI Name**, **CI Type** or **Metric Name** from **Add To Filter** or **Remove From Filter**, then click **Apply Filter .** Click Clear **x** to clear the filter.

Clears the filter parameters.



Include When selected, includes **Detail Level** KMs in the display. When not selected, only includes high level KMs. The number following the label (**x**) is the number of detail level metrics available for the currently displayed KMs.

Mouseover

See the following details via mouseover:

- **Group** The **Group** name. For CIs that are associated with multiple Groups, the name of the first **Group** the CI was associated with is shown and labeled **+ x more**, where **x** is the number of additional **Groups** the CI is associated with.
- **Service** The **Service** name. For CIs that are associated with multiple Services, the name of the first **Service** the CI was associated with is shown and labeled **+ x more**, where **x** is the number of additional **Services** the CI is associated with.
- **CI Type** The CI Type.
- **CI Name** The CI Name.

- Metric Name The name of the metric. This is only included if the Expand Metrics checkbox is selected. It is the user-friendly metric name, which corresponds to a numeric column in one of the caches associated with the CI Type. To see which cache column provides data for this metric, navigate to Architecture "RTView KM Defs". In the table, look in the CITYPE and SELECTOR columns to find the row for your metric. The CACHENAME column lists the name of the cache containing the metric and the METRICNAME column contains the name of the cache column.
- Metric Value The value of the metric. This is only included if the Expand Metrics checkbox is selected.
- Threshold The Alarm Level value for the alert associated with the metric. This column is only included if the Expand Metrics checkbox is selected. To see which alert is associated with this metric, navigate to Architecture "RTView KM Defs". In the table, look in the CITYPE and SELECTOR columns to find the row for your metric. The AlertName column lists the name of the alert associated with the metric. Note: When looking up the alert threshold for a KM, RTView Enterprise Monitor first looks to see if there is an alert override on the alert where the AlertIndex exactly matches the CIName (ignoring the ~ and ; delimiters). If an exact match is found, the override Alarm Level is used. If no exact match is found, the Default Alarm Level for the alert is used. Note that some alert overrides only contain a partial index and are not used for KM thresholds.
- **Threshold %** The percent of the **Metric Value** against the **Threshold**. If the **Expand Metrics** checkbox is selected, this is the **Threshold %** of a single KM. If the **Expand Metrics** checkbox is not selected, this is the highest **Threshold %** for all of the KMs on the CI.

Depending on the KM, different scales are applied. By default, no scale is applied, but values are limited to **0-10000**. For memory metrics, an exponential scale is applied to the **Threshold %** so that lower values are diminished. For metrics where the alert is a low alert (an alert that executes when the value goes below the threshold), an inverse scale is applied. The colors in the KM displays are based on this value going from green when the value is close to **0** changing to yellow to orange to red as the value gets closer to **100**. Values at or over **100** are shown as red **SELECTOR** columns to find the row for your metric. The **CalcMode** column lists the type of scale that is applied to the metric. If blank, no scale is applied.

- **Quality** Indicates the quality of the data. If the **Expand Metrics** checkbox is selected, the value is for a single KM on the CI. If the **Expand Metrics** checkbox is not selected, the value is for all the KMs on the CI, and shows the lowest **Quality** of those KMs. Possible values are:
 - **0** = No KMs are defined for the CI Type (the color is shown as teal).

-1 = KMs are defined for the CI Type, but no data was returned when the metric was queried (the color is shown as gray).

 $\mathbf{1}$ = Data was received for the metric (the color is set based on the **Threshold %** value).

Time The time stamp of the data.

Available KM Metrics and Alerts

This section lists available Key Metrics and their associated alerts.

- "Custom Solution Package"
- "Host Agent"
- "RTVMGR"
- "RTVRULES"
- "TIBCO ActiveMatrix"

- "TIBCO ActiveSpaces"
- "TIBCO BusinessEvents"
- "TIBCO BusinessWorks (Version 5) Monitor"
- "TIBCO BusinessWorks (Version 6) Monitor"
- "TIBCO EMS"

Custom Solution Package

The following KMs are available with the Custom Solution Package which comes with RTView EM. The level of the Key Metric is **0** except where noted. Level **0** KMs are always shown in displays. Level **1** KMs are displayed if the **Include Detail Level Metrics** checkbox is selected.)

СІ Туре	Cache	Selector	Metric / Alert
CUSTOM	CustomBirdData	Bird Too High	Y / CustomBirdTooHigh

Host Agent

The following KMs are available with the Solution Package for RTView Host Agent. The level of the Key Metric is **0** except where noted. Level **0** KMs are always shown in displays. Level **1** KMs are displayed if the **Include Detail Level Metrics** checkbox is selected.)

СІ Туре	Cache	Selector	Metric / Alert
HOST	HostStats	% CPU Utilization	usedPerCentCpu / HostCpuPercentHigh
HOST	HostStats	% Memory Used	MemUsedPerCent / HostMemoryUsedHigh

RTVMGR

The following KMs are available with the RTVMGR Solution Package which comes with RTView EM. The level of the Key Metric is **0** except where noted. Level **0** KMs are always shown in displays. Level **1** KMs are displayed if the **Include Detail Level Metrics** checkbox is selected.

CI Type	Cache	Selector	Metric / Alert
Μνί	JvmOperatingSy stem	Cpu %	CpuPercent / JvmCpuPercentHigh
JVM	JvmMemory	Memory %	MemoryUsedPercent / JvmMemoryUsedHigh
MVC	JvmThreading	Thread Count	ThreadCount / JvmThreadCountHigh
		Count	The level of this Key Metric is 1 . (Level 0 KMs are always displayed. Level 1 KMs are displayed if the Include Detail Level Metrics checkbox is checked.)
ТОМСАТ	TomcatWebMod uleTotals	Active Sessions	activeSessions / TomcatActiveSessionsHigh
ТОМСАТ	TomcatWebMod Account of the sec		RateaccessCount / TomcatAccessRateHigh
TOMCAT- APP	TomcatWebMod uleStats	Active Sessions	activeSessions / TomcatAppActiveSessionsHigh
TOMCAT- APP	TomcatWebMod uleStats	Accesses / sec	RateaccessCount / TomcatAppAccessRateHigh

RTVRULES

The following KMs are available with the RTVRULES Solution Package which comes with RTView EM. The level of the Key Metric is **0** except where noted. Level **0** KMs are always shown in displays. Level **1** KMs are displayed if the **Include Detail Level Metrics** checkbox is selected.

СІ Туре	Cache	Selector	Metric / Alert
EM-	RtvCmdbServic	Alert	AlertImpact / RtvEmServiceAlertImpactHigh
SERVICE	eStats_local	Impact	

TIBCO ActiveMatrix

The following KMs are available with the Solution Package for TIBCO ActiveMatrix. The level of the Key Metric is **0** except where noted. Level **0** KMs are always shown in displays. Level **1** KMs are displayed if the **Include Detail Level Metrics** checkbox is selected.

СІ Туре	Cache	Selector	Metric / Alert
AMX- SERVICE	AmxServic eTotals	Service Hits/ Min	Hits Per Minute / AmxServiceHitRateHigh
AMX- SERVICE	AmxServic eTotals	Service Response Time	Avg. Response Time / AmxServiceResponseTimeHigh
AMX- SERVICE NODE	AmxServic es	Node Hits/ Min	Hits Per Minute / AmxServiceNodeHitRateHigh
AMX- SERVICE NODE	AmxServic es	Node Response Time	Avg. Response Time / AmxServiceNodeResponseTimeHigh

TIBCO ActiveSpaces

The following KMs are available with the Solution Package for TIBCO ActiveSpaces. The level of the Key Metric is **0** except where noted. Level **0** KMs are always shown in displays. Level **1** KMs are displayed if the **Include Detail Level Metrics** checkbox is selected.

CI Type	Cache	Selector	Metric / Alert
TAS- MEMBER BYSPACE	TasSeeders	Space Util by Seeder	spaceUtilPerSeeder / TasMemberSeederCapacity
TAS- SPACE	TasSpaceSta tistics	Gets/sec	RateGets / TasSpaceGetRateHigh
TAS- SPACE	TasSpaceSta tistics	Puts/sec	RatePuts / TasSpacePutRateHigh

TIBCO BusinessEvents

The following KMs are available with the Solution Package for TIBCO BusinessEvents. The level of the Key Metric is **0** except where noted. Level **0** KMs are always shown in displays. Level **1** KMs are displayed if the **Include Detail Level Metrics** checkbox is selected.

CI Type	Cache	Selector	Metric / Alert
TBE- CLUSTER	TbeCluster Summary	Received Events Rate	Received Events Rate / TbeClusterEventsRecvdRateHigh
TBE- CLUSTER	TbeCluster Summary	Rules Fired Rate	totalRateTotalNumberRulesFired / TbeClusterRuleFiringRateHigh
TBE- CLUSTER	TbeCluster Summary	Concept Cache Ops Rate	totalConceptOperationRate / TbeClusterConceptOpRateHigh
TBE- CLUSTER	TbeCluster Summary	Backing Store Ops Rate	totalBkngStoreOpsPerSec / TbeClusterBkngStoreOpRateHigh

TIBCO BusinessWorks (Version 5) Monitor

The following KMs are available with the Solution Package for TIBCO BusinessWorks version 5. The level of the Key Metric is **0** except where noted. Level **0** KMs are always shown in displays. Level **1** KMs are displayed if the **Include Detail Level Metrics** checkbox is selected.

CI Type	Cache Selector		Metric / Alert	
BW- ENGINE	BwEngines	CPU Used %	CPU % / BwEngineCpuUsedHigh	
BW- ENGINE	BwEngines	Memory Used %	PercentUsed / BwEngineMemUsedHigh	
BW- PROCESS	BwProcesses	AverageElapsed	Process Avg Elapsed Time / BwProcessAvgElapsedTimeHigh	
BW- PROCESS	BwProcesses	RateCreated / sec	Processes Created/sec / BwProcessCreatedRateHigh	
BW- PROCESS	BwProcesses	TotalCpuPercent	Process Total CPU Percent / BwProcessTotalCpuPercentHigh	
BW- PROCESS	BwProcesses	Process Exec Time / sec	RateTotalExecution / BwProcessExecutionTimeHigh	
BW- SERVER	BwServers	CPU Used %	CPU Usage % / BwServerCpuUsedHigh	

TIBCO BusinessWorks (Version 6) Monitor

The following KMs are available with the Solution Package for TIBCO BusinessWorks version 6. The level of the Key Metric is **0** except where noted. Level **0** KMs are always shown in displays. Level **1** KMs are displayed if the **Include Detail Level Metrics** checkbox is selected.

CI Type	Cache	Selector	Metric / Alert
BW6- APPNODE	Bw6AppNode s	CPU Used %	Used CPU Percentage / Bw6AppNodeCpuUsedHigh
BW6- APPNODE	Bw6AppNode s	Mem Used %	Used Memory Percentage / Bw6AppNodeMemUsedHigh
BW6-APP	Bw6ProcessTo talsByApp	App Created / sec	RateCreated / Bw6AppProcessCreatedRateHigh
BW6-APP	Bw6ProcessTo talsByApp	App Exec Time / sec	RateTotal Execution / Bw6AppProcessExecutionTimeHigh
BW6- PROCESS	Bw6Processes	Process Created / sec	RateCreated / Bw6ProcessCreatedRateHigh
BW6- PROCESS	Bw6Processes	Process Exec Time / sec	RateTotal Execution / Bw6ProcessExecutionTimeHigh

TIBCO EMS

The following KMs are available with the Solution Package for TIBCO EMS. The level of the Key Metric is **0** except where noted. Level **0** KMs are always shown in displays. Level **1** KMs are displayed if the **Include Detail Level Metrics** checkbox is selected.

СІ Туре	Cache	Selector	Metric / Alert
EMS- QUEUE	EmsQueues	Pending Msgs	pendingMessageCount / EmsQueuesPendingMsgsHigh
EMS- QUEUE	EmsQueues	In Msgs / sec	inboundMessageRate / EmsQueuesInMsgRateHigh
EMS- QUEUE	EmsQueues	Out Msgs / sec	outboundMessageRate / EmsQueuesOutMsgRateHigh
EMS- QUEUE	EmsQueues	Consume rs	consumerCount / EmsQueuesConsumerCountHigh The level of this Key Metric is 1. (Level 0 KMs are always displayed. Level 1 KMs are displayed if the Include Detail Level Metrics checkbox is checked.)
EMS- SERVER	EmsServerI nfo	Pending Msgs	pendingMessageCount / EmsServerPendingMsgsHigh
EMS- SERVER	EmsServerI nfo	In Msgs / sec	inboundMessageRate / EmsServerInMsgRateHigh
EMS- SERVER	EmsServerI nfo	Out Msgs / sec	outboundMessageRate / EmsServerOutMsgRateHigh

EMS-	EmsServerI	Msg Mem	messageMemoryPct / EmsServerMemUsedHigh
SERVER	nfo	%	The level of this Key Metric is 1 . (Level 0 KMs are always displayed. Level 1 KMs are displayed if the Include Detail Level Metrics checkbox is checked.)
EMS-		Connecti	connectionCount / EmsServerConnectionCountHigh
SERVER	nfo	ons	The level of this Key Metric is 1 . (Level 0 KMs are always displayed. Level 1 KMs are displayed if the Include Detail Level Metrics checkbox is checked.)
EMS-	EmsServerI	Async DB	asyncDBSize / EmsServerAsyncDBSyzeHigh
SERVER	nfo	Size	The level of this Key Metric is 1 . (Level 0 KMs are always displayed. Level 1 KMs are displayed if the Include Detail Level Metrics checkbox is checked.)
EMS-	EMS- SERVEREmsServerI nfoSync DB Size		syncDBSize / EmsServerSyncDBSizeHigh
SERVER		Size	The level of this Key Metric is 1 . (Level 0 KMs are always displayed. Level 1 KMs are displayed if the Include Detail Level Metrics checkbox is checked.)
EMS- TOPIC	EmsTopics	Pending Msgs	pendingMessageCount / EmsTopicsPendingMsgsHigh
EMS- TOPIC	EmsTopics	In Msgs / sec	inboundMessageRate / EmsTopicsInMsgRateHigh
EMS- TOPIC	EmsTopics	Out Msgs / sec	outboundMessageRate / EmsTopicsOutMsgRateHigh
EMS-	EmsTopics	Consume	consumerCount / EmsTopicsConsumerCountHigh
ΤΟΡΙϹ		rs	The level of this Key Metric is 1 . (Level 0 KMs are always displayed. Level 1 KMs are displayed if the Include Detail Level Metrics checkbox is checked.)
EMS-	EmsTopics	Subscribe	subscriberCount / EmsTopicsSubscriberCountHigh
ΤΟΡΙϹ		rs	The level of this Key Metric is 1 . (Level 0 KMs are always displayed. Level 1 KMs are displayed if the Include Detail Level Metrics checkbox is checked.)

VMWare vSphere

The following KMs are available with the Solution Package for VMWare vSphere. The level of the Key Metric is **0** except where noted. Level **0** KMs are always shown in displays. Level **1** KMs are displayed if the **Include Detail Level Metrics** checkbox is selected.

СІ Туре	Cache	Selector	Metric / Alert
VMWARE	VmwHostSyste	CPU	cpu.usage.average / VmwHostCpuUtilizationHigh
-HOST	ms	Usage	
VMWARE	VmwHostSyste	Memory	mem.usage.average / VmwHostMemoryUsageHigh
-HOST	ms	Usage	
VMWARE	VmwVirtualMac	CPU	cpu.usage.average / VmwVmCpuUtilizationHigh
-VM	hines	Usage	
VMWARE	VmwVirtualMac	Memory	mem.usage.average / VmwVmMemoryUsageHigh
-VM	hines	Usage	

Component Views

These displays present the lowest level view of CMDB contents--the component level. In these displays, alert states for components are shown by Service and Area in tabular and heatmap formats, while highlighting the most critical alert state for each component. Data can be filtered by Areas, Services, Groups, Regions and Environment. Data is filtered by the \$rtvOwnerMask, \$rtvAreaMask, \$rtvGroupMask and \$rtvServiceMask values for the logged in user. For details, see **Configure User and Role Management**.

Use these displays to determine whether a component is malfunctioning. Displays in this View are:

- "CI / Service Tree View": Table of CMDB contents for all component-level details by Service for all Owners, Areas, Groups, Regions and Environments (without the option to filter).
- "CI / Service Table": Table of CMDB contents for all component-level details by Service for all Owners, Areas, Groups, Regions and Environments (without the option to filter).
- "CI / Type Heatmap": Heatmap of CMDB contents organized by CIType, with the option to filter by Owner, Area, Group, Environment and alert Metric, and show CI Names.
- "CI / Type Table": Table of CMDB contents for all component-level details for all Areas, Services, Groups, Regions and Environments, with the option to filter by Owner and one or all Areas, Groups and Environments.

CI / Service Tree View

View the contents of the CMDB hierarchically ordered in a navigation tree. Each row in the table is a different CI (for example, **localhost;RTVMGR_DATASERVER**).

Make a selection from the **Owner** drop-down menu, then use the navigation tree to filter data in the **Service CI Table**. The navigation tree, which provides a visual of the CMDB hierarchy, provides further filtering to the **Area**, **Group**, and **Environment** drop-down menus. Click Sort to order column data.

Owner Infrastructure	Area All Areas	•					
Group All Service Groups	Env QA	•					
	Service CI Tab	le - Current Status			Nun	nber of Component	5: 5,487
C infrastructure	CIType	CIName	Severity	Alerts	Criticality	Environment	Regi
🖃 🅐 Middleware	MQ-BROKER	vmrh5-1	(A)	1	E	DEMOSITE	AMER
	MQ-BROKER	vmrh5-2	ŏ	1	E	DEMOSITE	AMER
E COMCAT	MQ-BROKER	vmrh5-3	Õ	0	E	DEMOSITE	AMER
	MQ-QUEUE	vmrh5-1;TEST Q 01	Õ	2	E	DEMOSITE	AMER
	MQ-QUEUE	vmrh5-1;TEST_Q_02	(Č)	0	E	DEMOSITE	AMER
	MQ-QUEUE	vmrh5-1;TEST Q 03	- C	0	E	DEMOSITE	AMER
C TIBCO-AMX	MQ-QUEUE	vmrh5-1;TEST_Q_04	0	0	E	DEMOSITE	AMER
🗉 🅐 TIBCO-BE	MQ-QUEUE	vmrh5-1;TEST_Q_05	0	0	E	DEMOSITE	AMER
I CO-EMS	MQ-QUEUE	vmrh5-1;TEST_Q_06	0	0	E	DEMOSITE	AMER
	MQ-QUEUE	vmrh5-1;TEST_Q_07	0	0	E	DEMOSITE	AMER
- •	MQ-QUEUE	vmrh5-1;TEST_Q_08	0	0	E	DEMOSITE	AMER
MVL 🌍 🗉	MQ-QUEUE	vmrh5-1;TEST_Q_09	0	0	E	DEMOSITE	AMER
🗉 🅐 Servers	MQ-QUEUE	vmrh5-1;TEST_Q_10	(7)	0	E	DEMOSITE	AMER
🗉 🅐 Hosts	MQ-QUEUE	vmrh5-2;TEST_Q_01	0	2	E	DEMOSITE	AMER
🗊 🍘 Databases	MQ-QUEUE	vmrh5-2;TEST_Q_02	0	2	E	DEMOSITE	AMER
	MQ-QUEUE	vmrh5-2;TEST_Q_03	0	0	E	DEMOSITE	AMER
	MQ-QUEUE	vmrh5-2;TEST_Q_04	()	0	E	DEMOSITE	AMER
	MQ-QUEUE	vmrh5-2;TEST_Q_05		0	E	DEMOSITE	AMER
	MQ-QUEUE	vmrh5-2;TEST_Q_06	(C)	2	E	DEMOSITE	AMER
	MQ-QUEUE	vmrh5-2;TEST_Q_07		0	E	DEMOSITE	AMER
	MQ-QUEUE	vmrh5-2;TEST_Q_08	0	0	E	DEMOSITE	AMER
	MQ-QUEUE	vmrh5-2;TEST_Q_09	(Č	0	E	DEMOSITE	AMER
	MQ-QUEUE	vmrh5-2;TEST_Q_10		0	E	DEMOSITE	AMER
	MQ-QUEUE	vmrh5-3;TEST_Q_01	(C)	0	E	DEMOSITE	AMER
	MQ-QUEUE	vmrh5-3;TEST_Q_02	(Č)	0	E	DEMOSITE	AMER
	MQ-QUEUE	vmrh5-3;TEST_Q_03	(C)	0	E	DEMOSITE	AMER
	MQ-QUEUE	vmrh5-3;TEST Q 04	(7)	0	E	DEMOSITE	AMER
	•	111					•

Title Bar (possible features are):	🕼 Data OK Data connection state. Red indicates the Data
Open the previous and upper display.	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 an instance of this display in a new window. Open the online help page for this display. 	23-Mar-2017 12:04 Current date and time. Incorrect time
Menu , Table open commonly accessed displays.	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.	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.

Filter By:

The following filtering options are typically included:

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

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

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

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

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

Fields and Data

This display includes:

Number of Components	The total number of CIs currently in the table.
СІТуре	The type of CI.
CIName	The name or address of the CI.
Severity	 The maximum level of alerts for the CI. Values range from 0 to 2, where 2 is the greatest Alert Severity: One or more alerts exceeded their ALARM LEVEL threshold. One or more alerts exceeded their WARNING LEVEL threshold. No alert thresholds have been exceeded.
Criticality	The Criticality (rank of importance) specified in the Service Data Model (CMDB) by your administrator. Criticality values are listed in the Component Views / CI Service Table display, which range from A to E, where A is the highest Criticality. This value is used to determine the value for Alert Impact.
Environment	The Environment for the CI.
Region	The name of the Region for the CI.
City	The name of the City for the CI.
Country	The name of the Country for the CI.
SiteName	The name of the Site for the CI.
OSType	The operating system currently running on the CI.
City	The name of the City for the CI.
Country	The name of the Country for the CI.

CI / Service Table

View the contents of the CMDB, without filtering, in a tabular format. Each row in the able is a different CI (for example, **localhost;RTVMGR_DATASERVER**).

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

		s	ervice Cl Table - Current Valu	les	Number of R	ows: 5,784
Owner	Area	ServiceGroup	ServiceName	CIType	CIName	Se
Jerelyn Parker	Backends	IBM	MQ	MQ-BROKER	vmrh5-1	
Jerelyn Parker	Backends	IBM	MQ	MQ-BROKER	vmrh5-2	
Jerelyn Parker	Backends	IBM	MQ	MQ-BROKER	vmrh5-3	
Jerelyn Parker	Backends	IBM	MQ	MQ-QUEUE	vmrh5-1;TEST_Q_01	
Jerelyn Parker	Backends	IBM	MQ	MQ-QUEUE	vmrh5-1;TEST_Q_02	
Jerelyn Parker	Backends	IBM	MQ	MQ-QUEUE	vmrh5-1;TEST_Q_03	
Jerelyn Parker	Backends	IBM	MQ	MQ-QUEUE	vmrh5-1;TEST_Q_04	
Jerelyn Parker	Backends	IBM	MQ	MQ-QUEUE	vmrh5-1;TEST_Q_05	
Jerelyn Parker	Backends	IBM	MQ	MQ-QUEUE	vmrh5-1;TEST_Q_06	
lerelyn Parker	Backends	IBM	MQ	MQ-QUEUE	vmrh5-1;TEST_Q_07	
lerelyn Parker	Backends	IBM	MQ	MQ-QUEUE	vmrh5-1;TEST_Q_08	
lerelyn Parker	Backends	IBM	MQ	MQ-QUEUE	vmrh5-1;TEST_Q_09	
Jerelyn Parker	Backends	IBM	MQ	MQ-QUEUE	vmrh5-1;TEST_Q_10	
Jerelyn Parker	Backends	IBM	MQ	MQ-QUEUE	vmrh5-2;TEST_Q_01	
lerelyn Parker	Backends	IBM	MQ	MQ-QUEUE	vmrh5-2;TEST_Q_02	
Jerelyn Parker	Backends	IBM	MQ	MQ-QUEUE	vmrh5-2;TEST_Q_03	
lerelyn Parker	Backends	IBM	MQ	MQ-QUEUE	vmrh5-2;TEST_Q_04	
Jerelyn Parker	Backends	IBM	MQ	MQ-QUEUE	vmrh5-2;TEST_Q_05	
lerelyn Parker	Backends	IBM	MQ	MQ-QUEUE	vmrh5-2;TEST_Q_06	
Jerelyn Parker	Backends	IBM	MQ	MQ-QUEUE	vmrh5-2;TEST_Q_07	
lerelyn Parker	Backends	IBM	MQ	MQ-QUEUE	vmrh5-2;TEST_Q_08	
lerelyn Parker	Backends	IBM	MQ	MQ-QUEUE	vmrh5-2;TEST_Q_09	
lerelyn Parker	Backends	IBM	MQ	MQ-QUEUE	vmrh5-2;TEST_Q_10	
lerelyn Parker	Backends	IBM	MQ	MQ-QUEUE	vmrh5-3;TEST_Q_01	
lerelyn Parker	Backends	IBM	MQ	MQ-QUEUE	vmrh5-3;TEST_Q_02	
lerelyn Parker	Backends	IBM	MQ	MQ-QUEUE	vmrh5-3;TEST_Q_03	
lerelyn Parker	Backends	IBM	MQ	MQ-QUEUE	vmrh5-3;TEST_Q_04	
lerelyn Parker	Backends	IBM	MQ	MQ-QUEUE	vmrh5-3;TEST_Q_05	
Jerelyn Parker	Backends	IBM	MQ	MQ-QUEUE	vmrh5-3;TEST_Q_06	

Title Bar (possible features are):	on Data OK Data connection state. Red indicates the Data
 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. 	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.
6,047 The number of items currently in the display.	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.

Filter By:

The following filtering options are typically included:

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

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

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

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

Fields and Data This display includes:	
Number of Rows	The current total number of rows in the table.
Service CI Table	
Owner	The Owner the CI is associated with.
Area	The Area the CI is associated with.
ServiceGroup	The Group the CI is associated with.
ServiceName	The Service the CI is associated with.
СІТуре	The type of CI.
CIName	The name or address of the CI.
Severity	 The maximum level of alerts for the CI. Values range from 0 to 2, where 2 is the greatest Alert Severity: One or more alerts exceeded their ALARM LEVEL threshold. One or more alerts exceeded their WARNING LEVEL threshold. No alert thresholds have been exceeded.
Criticality	The Criticality (rank of importance) specified in the Service Data Model (CMDB) by your administrator. Criticality values are listed in the Component Views -CI Service Table display, which range from A to E , where A is the highest Criticality. This value is used to determine the value for Alert Impact.
Environment	The Environment for the CI.
City	The name of the City for the CI.
Country	The name of the Country for the CI.
Region	The name of the Region for the CI.
SiteName	The name of the Site for the CI.

CI / Type Heatmap

View heatmap of alert states for CIs in all or one Area, Group or Environment. The heatmap organizes CIs by CI Type, and uses color to show the most critical alert state for each. Each rectangle in the heatmap represents a CI (for example, **localhost;RTVMGR_DATASERVER**).

Use the available drop-down menus or right-click to filter data shown in the display. Use the check-boxes ^I to include or exclude labels in the heatmap. Move your mouse over a rectangle to see additional information. Double-click (or right-click and select **Drill Down**) a rectangle in the heatmap to view details relevant to the CI Type. By default, this display shows all Areas, Groups, and Environments and alert Impact.

+	Heatmap 💌			AI	I Componen	ts By Type				2	24-Sep-2015	11:21 💠 Dat	a OK 💠 🕜
Owner:	Infrastructure	•	Area: All Areas		-					C	ls: 64	Env: QA	-
Group:	All Service Groups		- CI	Names					Metric:	Alert Im	pact 🔻	0	5 10
		ſ	VM					VMVAF	RE-VM			TOMCAT-APP	TBE-CLUSTER
												EMS-QUEUE	VM/VARE-HO
												HOST	ORACLE
												nost	ORACLE
								EMS-T	OPIC				
												TOMCAT	EMS-SERVER
Bar	(possible fea	tures are)):		6	🔊 Data OK	D	ata co	onnec	tion s	state. R	led indic	ates th

Title Bar (possible features are):	🔹 Data OK 🛛 Data connection state. Red indicates the Data
 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. 	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.
6,047 The number of items currently in the display.	▲ Open the Alert Views - RTView Alerts Table display.

Filter By:

The following filtering options are typically included:

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

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

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

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

Metric:

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

The product of the maximum Alert Severity of alerts in the heatmap rectangle multiplied by the maximum Criticality of alerts in the heatmap rectangle. Values range from 0 - 10 , as indicated in the color gradient and the bar, where 10 is the highest Alert Impact.
 The maximum level of alerts in the heatmap rectangle. Values range from 0 - 2, as indicated in the color gradient bar, where 2 is the highest Alert Severity. Red indicates that one or more metrics have reached their alarm threshold. Metrics that have exceeded their specified ALARM LEVEL threshold have an Alert Severity value of 2. Yellow indicates that one or more metrics have reached their alarm threshold. Metrics that have exceeded their specified WARNING LEVEL threshold have an Alert Severity value of 1. Green indicates that no metrics have reached their alert thresholds. Metrics that have not exceeded their specified thresholds have an Alert Severity value of 0.
The total number of critical and warning alerts in the heatmap rectangle. The color gradient \bullet \bullet \bullet \bullet 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.
The maximum level of Criticality (rank of importance) in the heatmap rectangle. Values range from 1 to 5 , as indicated in the color gradient • • • • • • • • • •

CI / Type Table

View tabular list of all CIs by CIType, as well as their alert metrics (Impact, Severity and Count, for one or all Areas, Groups or Environments). Each row in the table is a different CI (for example, **localhost;RTVMGR_DATASERVER**). The row color represents the most critical alert state for the CI.

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

< Table	 All Components 	Ву Туре	24-Sep-2015 11	:16 📫 Data OK ┥	• 🕜
Owner: Infrastru	Icture Area: All Areas	•	Cls: 64 E	Env: QA	•
Group: All Serv	ice Groups				
CIType	CIName	Severity	AlertCount	AlertImpact	
EMS-QUEUE	tcp://192.168.200.132:7222;queue.sample	0	3	2	
EMS-QUEUE	tcp://192.168.200.132:7222;sample	0	3	2	
EMS-SERVER	tcp://192.168.200.132:7222	6	2	2	
EMS-TOPIC	tcp://192.168.200.132:7222;sample	(2	2	
EMS-TOPIC	tcp://192.168.200.132:7222;topic.sample	6	2	2	=
EMS-TOPIC	tcp://192.168.200.132:7222;topic.sample.exported	0	2	2	
EMS-TOPIC	tcp://192.168.200.132:7222;topic.sample.imported	6	2	2	
IOST	QATB;SLHOST-WIN3	(2	2	
HOST	QATB;SLHOST-WIN4		1	1	
JVM	localhost;ALERTHISTORIAN	6	1	1	
JVM	localhost;ALERT_SERVER	Optimized and the second se	3	2	
JVM	localhost;AMXMON-HISTORIAN		1	2	
IVM	localhost;AMXMON-SLHOST-WIN3		2	1	
JVM	localhost;AMXMON-SLHOST-WIN4	6	2	1	
JVM	localhost;BWMON-HISTORIAN		1	2	
JVM	localhost;BWMONITOR-WIN-8		1	2	
IVM	localhost;CONFIG_SERVER		2	1	
IVM	localhost;DISPLAYSERVER	<u>()</u>	2	1	
IVM	localhost;DISPLAYSERVER_DARKSTYLES	0	2	1	
IVM	localhost;EMSMON-HISTORIAN	0	1	2	
IVM	localhost;EMSMON-SLHOST-WIN3	0	2	2	
VM	localhost;EMSMON-SLHOST-WIN4		2	1	
VM	localhost;EMSMONITOR-WIN-8	6	2	2	
JVM	localhost;MISCMON-HISTORIAN		1	2	

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

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

Filter By:

The following filtering options are typically included:

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

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

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

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

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

Fields and Data

This display includes:

CI Count The total number of CIs listed in the table. This value is determined by the selections made from display drop-down menus. The totals number for each Environment are also shown.

CI Table

This table lists all CIs for the selected Group. Each row in the table is a CI. Each CI can have multiple alerts. Click a CI to view alerts for the CI in the lower table.

CIType	The type of CI.
CIName	The name or address of the CI.
Severity	 The maximum level of alerts for the CI. Values range from 0 to 2, where 2 is the greatest Alert Severity: One or more alerts exceeded their ALARM LEVEL threshold. One or more alerts exceeded their WARNING LEVEL threshold. No alert thresholds have been exceeded.
Alert Count	The total number of critical and warning alerts for the CI.
Alert Impact	The product of the maximum Alert Severity multiplied by the maximum Criticality of alerts. Values range from 0 - 10 , where 10 is the highest Alert Impact.

Metric Explorer

The Metric Explorer (MX) is a tool for creating and viewing custom dashboards, referred to as *MX Views*. An MX View contains a trend graph with up to five traces which you can configure to show numeric metrics from any EM Solution Package. While EM provides out-of-the-box Views of metric data, there might not be a single display that shows all the metrics that are critical to a single application. MX allows end-users to create Views containing the metrics that are important to them. The MX Views your end-users create are accessed from the MX **View** drop-down menu (rather than the navigation tree as RTView Enterprise Monitor Views are). Data is filtered by the \$rtvOwnerMask, \$rtvAreaMask, \$rtvGroupMask and \$rtvServiceMask values for the logged in user. For details, see **Configure User and Role Management**.

Displays in this View are:

"Metric Explorer" on page 178:

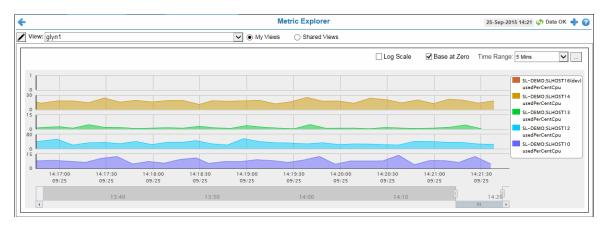
Note: The Metric Explorer was added in RTView Enterprise Monitor version 1.5.0. For instructions about adding the Metric Explorer to applications created with versions older than 1.5.0, see the RTView Enterprise Monitor Upgrade Notes.

Metric Explorer

View your previously created MX Views. Select an MX View from the **View** drop-down menu. The contents of the **View** drop-down menu depend on whether you choose **My Views** or **Shared Views**. Choose **My Views** to see public and private MX Views owned by you. Choose **Shared Views** to see public MX Views owned by you and other users. A public MX View is an MX View where the creator chose the **Share View with Others** option. The creator of the MX View is the owner.

Each MX View has options to apply Log Scale, Base at Zero and Time Range to your graphs.

To create or edit an MX View click Edit 🗾 to open the edit pane. For details, see "Creating MX Views" on page 179.





Fields and Data

Options include:

Open the edit pane.

View Select an MX View from the **View** drop-down menu.

My Views Choose **My Views** to see public and private MX Views owned by you in the **View** drop-down menu.

Shared
ViewChoose Shared Views to see public MX Views owned by you and other users. A
public MX View is an MX View where the creator chose the Share View with
Others option. The creator of the MX View is the owner.

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

```
Base at Use zero as the Y axis minimum for all graph traces. Zero
```

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 \square \square to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** dropdown menu.

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

Creating MX Views

Click Edit 🗾 to open the edit pane. If an MX View is already selected, click New 🛨 to start a new MX View.

		Met	ric Explorer			25-Sep-20	15 14:23 < Data OK
Options Save Save As Done Save View with Others	e	View: glyn1			~		
ics Options				Log Sca	ale 🗹 Base a	at Zero Time Range	5 Mins 🔽
PRODUCTION	↓						SL-DEMO:SLHOST16(dev)
1, select Service:	-	0					usedPerCentCpu
PPLICATIONS	0	30					SL-DEMO;SLHOST14 usedPerCentCpu
2, select Metric to add:	-	15					SL-DEMO;SLHOST1 3 usedPerCentCpu SL-DEMO;SLHOST1 2
Step 3, add Metric		60					usedPerCentCpu SL-DEMO:SLHOST10
ted Metrics (5 max):		0					usedPerCentCpu
DEMO;SLHOST16(dev) usedPerCentCpu DEMO;SLHOST14 usedPerCentCpu =	ŧ∥				~		
JEMO;SLHOST13 usedPerCentCpu	-	14:19:00	14:20:00	14:21:00	14:22:00	14:23:00	
DEMO;SLHOST12 usedPerCentCpu DEMO;SLHOST10 usedPerCentCpu	<u>~</u>	09/25	09/25	09/25	09/25	09/25	
	Î		13:45	14:00		14:15	
		4				III 🕨	

Select the Service containing the metric you want to see from the **Metrics Options/Service Tree**. The **Service Tree** is filtered by the environment in the **Env** menu. If necessary select the environment containing your Service. When you select a Service, all available metrics for that Service are listed in the **Metric Tree**. Because the metric will be displayed in a trend graph, only numeric metrics with history are listed in the **Metric Tree**. Select the metric you want to see from the **Metrics Options/Metric Tree** and click **Add Metric**. The metric is added to the **Selected Metrics** list and the MX View preview (in the right panel). Add up to five metrics to your MX View.

To change the order in which the metrics are displayed in the graph use the Up ↑ and Down ↓ arrows. To remove a metric, select it in the **Selected Metrics** and click Trash 👼. To add a label to your metric, select it in the **Selected Metrics** list and enter your label text in the **Label** field. Click Apply 🖌 to apply the label, or Cancel 🔀 to cancel the label.

Click **Save** and enter a descriptive MX View name. Click **Share View with Others** to make your MX View public, otherwise, the MX View is only available to you. Click Confirm \checkmark to write the MX View to the database. Click Cancel 📧 to return to edit mode. Click **Done** to return to the **Metric Explorer** page. The MX View you created is added to the **View** drop-down menu.

To create a new MX View with the Service already selected, select a Service from a **Service Summary Views** display and click MX MX (or the table context menu). This opens the MX edit pane with the Service already selected in the MX edit pane **Service Tree**. If you selected a CI Type or CI, these are also already selected in the MX edit pane **Metric Tree**. This spares you from having to search for the Service, CI Type or CI in the **Service** and **Metrics Trees**. The displays from which you can use this feature are:

- Service Summary Views "Service By CI Type"
- Service Summary Views "Service Summary"

Editing MX Views

In the Metric Explorer, select the MX View you want to edit and click Edit \checkmark . The edit pane opens with the selected MX View in edit mode. To delete the MX View click Trash \boxed{m} . To save your MX View under a new name, click **Save As**. Add, remove, reorder or label metrics as described in the "Creating MX Views" section (above). Select a metric in the **Selected Metrics** list and click on **Search** to update the selection in the **Service Tree** and **Metric Tree** to the values used when that metric was added to the MX View. This is useful when you want to see which Service contains a metric so you can add more metrics from the same Service.

When you are finished editing your metric, you can click **Cancel** to cancel your changes or **Save** to save your changes. To edit another MX View, select it from the **View** drop-down menu. Click **Done** to return to the Metric Explorer page.

Note: When you edit an MX View you do not own a copy of the MX View is automatically created and you are prompted to enter a name for the MX View when you save it.

View Options

-	
+	Create a new MX View.
Ē	Delete the selected MX View.
Save	Save the selected MX View. If this is an existing MX View, the save is done immediately. If this is a new MX View, the Name field becomes available and you must enter a name and click Confirm Save to save your MX View.

Save As	Save the selected MX View under a new name. The Name field becomes available and you must enter a name and click Confirm Save to save your MX View.
Done	Close the edit pane. This option is available when you do not have unsaved changes.
Cancel	Cancel your edits.
Name	Enter a name for your MX View. This field is available when saving a new MX View or after you click Save As .
√	Confirm that you want to save your MX View after you enter a name. This option is available when saving a new MX View or after you click Save As .
×	Cancel the save. This is available when saving a new MX View or after you click Save As .
Share View	Select to make your MX View public. Public MX Views are available to all users in the View drop-down menu when the Shared Views option is selected. Deselect to make this MX View only available to you.

Metric Opti	ons
Env	Select an Environment to filter the items in the Service Tree.
Service Tree	The CMDB service model (Owner, Area, Group, Service). Select a Service to populate the Metric Tree with metrics for that Service. The Services in the Service Tree are filtered by the following login substitutions: \$rtvOwnerMask , \$rtvAreaMask , \$rtvGroupMask and \$rtvServiceMask . For details, see the Configure Role Management section.
Metric Tree	The available metrics for the selected service. The tree hierarchy is CI Type, CI name, Metric (cache: metric). The tree only contains numeric metrics with history.
Add Metric	Add the selected metric to the MX View. When a metric is added to the MX View, it appears in the graph.
Selected Metrics	The list of metrics for this MX View.
†	Move the metric up in the list of selected metrics.
ŧ	Move the metric down in the list of selected metrics.
Q.	Set the selection in the Service and Metric trees to the values used when you added the selected metric to the MX View. Note: If your CMDB has changed such that the Service you used to add this metric no longer exists, the search button will fail
Ô	Delete the selected metric from the MX View.
Label	Enter a label to use for the selected metric. This label is not applied until you click on the confirm label button. This label is used in the graph legend.
\checkmark	Confirm the label you entered for the selected metric.
×	Discard the label you entered for the selected metric (revert back to the previously applied value).

Limitations

- The Search **Q** button fails without an error if the Service that was selected when you initially added the metric is no longer in your CMDB. To fix this, delete the metric and add it again from a Service that is currently in your CMDB. **Note:** The missing Service only makes the Search button fail. It does not cause any problems with viewing the metric.
- When you try to add a metric to an MX View that already contains that metric, it will not be added again. In the Viewer, an error message will come up saying that the metric is already in the MX View. In the Thin Client, no error is shown.
- MX Views are limited to five metrics. After a view contains five metrics, the Add Metric button is disabled.
- There is no indicator that shows if the MX database or Central Configuration Server are off-line in the MX configuration display. Any changes you save when either the MX database or Central Configuration Server are off line will be lost.
- When you save an MX View, RTView writes to both the View Table and the Metrics Table to the database even if only one or the other changed.
- When you save an MX View, the MX Configuration UI temporarily reverts back to the previous version of the MX View for one update, then updates with the latest changes.
- By default, MX attaches to the history_combo table for the metric history. If the cache is not configured with a history_combo table, the Metric Explorer will instead make a one-time attachment to the history table. In this case, toggling the Log Scale check-box will cause all points plotted after the initial history query to be lost. On the next update of current data a straight line will be drawn from the last history point to the new current data point.

RTView Servers

These displays present performance data for all RTView Servers.

Displays in this View are:

- "Data Servers" on page 182: Shows metrics for RTView Data Servers.
- "Display Servers" on page 185: Shows metrics for RTView Display Servers.
- "Historian Servers" on page 186: Shows metrics for RTView Historian Servers.
- "Version Info" on page 188: 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.

Source: Total Connection: Connection: Connection: Connection: Connection: Function Stats Number of Clients: 8 © Serving Data © Serving Data © Serving Data Total Duration imme_stanp imme_stanp <th>✓ J∨M</th> <th>RTView Data S</th> <th>erver</th> <th>25-Sep-2015 14:35 💠 Data OK 💠 🕜</th>	✓ J∨M	RTView Data S	erver	25-Sep-2015 14:35 💠 Data OK 💠 🕜
Number of Clients: 8 Image: Serving Data Clients Address ± Host ± Process Name ± PID ± Last Data Sent ± Delta ± Total ± Duration ± time_stamp ± Clients Client ID ± Address ± Host ± Process Name ± PID ± Last Data Sent ± Delta ± Total ± Duration ± time_stamp ± Client 32400/25 - 00000000000000000000000000000000000	Source: localhost 🗸 Conne	ection: local		
Clients Clients Total ± Total ± Total ± Total ± Duration ± time_stamp ± Client ID ± Address ± Process Name ± PID ± Last Data Sent ± Dota ± Total ± Duration ± time_stamp ± Client Count / Data Throughput Trends Client Count / Data Throughput Trends Client Count / Data Throughput Trends Time Range ± Client Count / Data Throughput Trends 0 Diration ± Diration ± Time Range ± 0 Diration ± Total ± Diration	Connection: local	Connected 🗌 Expired		Function Stats
Client ID s Address s Host s Process Name s PIO s Last Data Sent s Total s Duration s time.stamp s 10000 1/12/12	Number of Clients: 8	🕐 Serving Data		
10014/126148.212.12 216.148.212.12 216.148.212.12 216.148.212.12 216.148.212.12 216.148.212.12 216.148.212.12 143.50 114.35.00 1787.155 0.13.0.28/25 25.589-201.162.014.01.01 143.53.00 143.50.00 143.53.00 143.50.00 143.53.00 143.50.00 143.53.00 143.50.00 143.53.00 143.50.00 143.50.00 143.50.00 143.50.00 143.50.00 143.50.00 143.50.00<	Clients			
10 0 500 14:31:30 14:32:00 14:32:30 14:33:30 14:34:00 14:34:30 14:35:00 14:35:30 14:35:00 14:31:00 14:31:30 14:32:00 14:32:30 14:32:00 14:33:30 14:34:00 14:34:30 14:35:00 14:35:30 14:35:00 14:32:00 14:300 14:300 14:300 14:300 14:300 14:300 14:300 14:300 14:300 14:300 14:30	10014 216.148.212.12 216.148.212.12 d	splayserver 3240@SLHOST-WIN3	82,586 0 787,155	0 13:03:28 25-Sep-2015 14:35:46 ^
0 0 14:31:00 14:32:00	Client Count / Data Throughput Trends		Log Scale Scale Idease at Zero	Time Range: 5 Mins 🗸
Deta Sent (V)	10			Number of Clinese
500 0 14:31:30 14:32:00 14:32:30 14:33:30 14:34:30 14:34:30 14:35:00 14:35:30 14:35:00 09:25 09:25 09:25 09:25 09:25 09:25 09:25 09:25 09:25 09:25 09:25 09:25				
500 0 14:31:30 14:32:00 14:32:30 14:33:30 14:34:30 14:34:30 14:35:00 14:35:30 14:35:00 09:25 09:25 09:25 09:25 09:25 09:25 09:25 09:25 09:25 09:25 09:25 09:25				
14:31:00 14:31:30 14:32:00 14:32:30 14:33:00 14:34:00 14:34:30 14:35:00 14:35:30 14:36:00 09/25				
14:31:00 14:32:00 14:32:00 14:32:00 14:33:00 14:34:00 14:34:00 14:35:00 14:35:00 14:36:00 09/25				
14:31:00 14:32:00 14:32:00 14:32:00 14:33:00 14:34:00 14:34:00 14:35:00 14:35:00 14:36:00 09/25				
	14:31:00 14:31:30 14:32:00 14			
		9/25 09/25 09/25	09/25 09/25 09/25 09/	
	3			

Title Bar (possible features are):	🔹 Data OK Data connection state. Red indicates the Data
🗲 个 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
Open an instance of this display in a new window.	data source is connected.
Open the online help page for this display. Menu Table open commonly accessed	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
displays.	current and valid.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Source	Select the type of connection to the RTView Server.
Connection	Select an RTView Server from the drop-down menu. Names can be modified in the RTView Server configuration properties file.
Connection	The connection selected from the Connection drop-down menu.
Number of Clients	The number of clients currently server on this Data Server.
Connected	The Data Server connection state: Disconnected. Connected.
Serving Data	 The Data Server is not currently serving data. The Data Server is currently serving data.
Expired	This server has been marked as expired after no activity.
Function Stats	Opens the RTView Function Stats display which shows detailed performance statistics for RTView functions in the selected Data Server. This button is only enabled if the RTView Monitor has a JMX connection defined for the selected Data Server.

Clients This table describes all clients on the selected server.

Address	The client IP address.
Client ID	The unique client identifier.
Duration	The amount of time for this client session. Format: dd HH:MM:SS <days> <hours>:<minutes>:<seconds> For example: 10d 08:41:38</seconds></minutes></hours></days>
Host	The client host name.
Last Data Sent	The amount of data, in bytes, last sent to the client.
Delta	The amount of data, in bytes, sent since the last update.
Total	The total amount of data, in bytes, sent to the client.

TIME_STAMP 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.

- **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 \square \square 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.

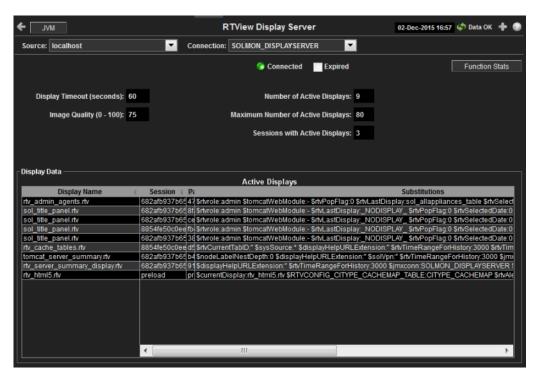
Number of Traces the number of clients being served by the Data Server. **Clients**

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):	🧔 Data OK Data connection state. Red indicates the Data
 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 	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
displays.	current and valid.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Fields and Data

This display includes:

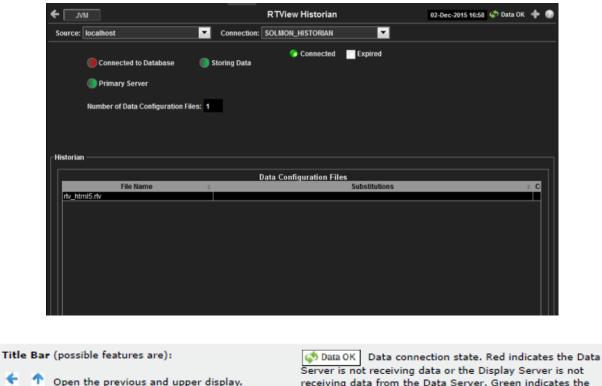
Source	Select the type of connection to the RTView Server.
Connection	Select an RTView Server from the drop-down menu. Names can be modified in the RTView Server configuration properties file.
Connected	The Display Server connection state: Disconnected. Connected.
Expired	This server has been marked as expired after no activity.
Function Stats	Opens the RTView Function Stats 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.

Display Timeout (seconds)	Display Servlet h	me, in seconds, that a display can be kept in memory after the has stopped requesting it. The default is 60 seconds (to allow faster switching between displays).			
Image Quality (0- 100)	A value between 0 and 100 , which controls the quality of the generated images. If the value is 100 , the Display Server outputs the highest quality image with the lowest compression. If the value is 0 , the Display Server outputs the lowest quality image using the highest compression. The default is 75 .				
Number of Active Displays	The total number of displays currently being viewed by a user.				
Maximum Number of Active Displays	The maximum number of displays kept in memory. The default is 20 (to optimize memory used by the Display Server).				
Sessions with Active Displays	Number of clients accessing the Display Server.				
Display Data	ay Data / Active Displays				
	Display Name The name of the currently open display.				
	Session	A unique string identifier assigned to each session.			
	Panel ID	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.			
	Substitutions	Lists the substitutions used for the display.			
	Last Ref	The amount of time that has elapsed since the display was last requested by a client.			
	ID	The client ID.			
	Preloaded	When checked, indicates that the display (.rtv) file is configured in the DISPLAYSERVER.ini file to be preloaded. The history_config 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.



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.
 G,047 The number of items currently in the 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 / Da	ata 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. All RTView applications use multiple jars and this display lists the version information for each jar in the application. The **ApplicationConfiguration** column shows the version of the jar that contains the main class for the application which is also the version that is printed to the console at startup. The **JarConfiguration** shows the version of the jar specified in the **JarName** field. When **ApplicationConfiguration** and **JarConfiguration** do not match, it indicates that the application is using jars from multiple releases of RTView or that the application is using a patched jar. Rows in the table where the **JarConfiguration** does not match the **ApplicationConfiguration** are highlighted in teal.

F			R	TView Application Versions	25-Sep-2015 1	4:41 💠 Data OK 💠 🌘
Sour	ce: All Sources	✓ Filter Fi	eld:	Clear		
Connecti	on: All Connections	V Filter Va	lue:	RegEx Not Equa		
		Rows where the	Detailed Vers e JarConfiguration	ion for All Connected RTView Applications does not match ApplicationConfiguration are	highlighted in teal	
Source	Connection	ApplicationName =	JarName ≡	ApplicationConfiguration =	JarConfiguration	JarVersionNumb
VIN3	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
VIN3	SLMON-DISP-5	RTView Display Server	msjalertds.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
VIN3	SLMON-DISP-5	RTView Display Server	msjcacheds.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
VIN3	SLMON-DISP-5	RTView Display Server	msjcmdbds.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
VIN3	SLMON-DISP-5	RTView Display Server	amsjext.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
VIN3	SLMON-DISP-5	RTView Display Server	qmsjflash.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
VIN3	SLMON-DISP-5	RTView Display Server	gmsjjmxds.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
VIN3	SLMON-DISP-5	RTView Display Server	amsjlog4jds.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
VIN3	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
VIN3	SLMON-DISP-5	RTView Display Server	gmsjolapds.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
VIN3	SLMON-DISP-5	RTView Display Server	amsjpipeds.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
VIN3	SLMON-DISP-5	RTView Display Server	gmsjrrdds.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
VIN3	SLMON-DISP-5	RTView Display Server	gmsjrtvhistorian.jar	APM.3.0.020150910_000.19559-alpha_119	APM.3.0.0.0_20150910_000.19559-alpha_119	3.0.0.0
	SLMON-DISP-5	RTView Disnlay Server	amsirtvouerv iar	APM 3.0.0.0_20150910_000_19559-alpha_119	APM 3.0.0.0 20150910 000 19559-aloha 119	3000

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.

Title Bar (possible features are):	🐼 Data OK Data connection state. Red indicates the Data			
 Open the previous and upper display. Open an instance of this display in a new window. 	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			
 Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.	Open the Alert Views - RTView Alerts Table display.			

Fields and Data This display includes:

Source	Select a filter value for the Source column.
Connection	Select a filter value for the Connection column.
Filter Field	Select a table column from the drop-down menu to perform a search in: ApplicationName, JarName, ApplicationConfiguration, JarConfiguration, JarVersionNumber,JarVersionDate, JarReleaseDate, and JarMicroVersion.
	Filters limit display content and drop-down menu selections to only those items that pass through the selected filter's criteria. If no items match the filter, you might have zero search results (an empty table). Double-clicking on a specific field in the table will populate this field with the selected field's content. For example, double-clicking on the DataServerName field in one of the rows displays the entire field's content into this field.
Clear	Clears entries in the Filter Field display list, Filter Value field, and Not Equal check box.
Filter Value	Enter the (case-sensitive) string to search for in the selected Filter Field .
RegEx	Select to use the Filter Value as a regular expression when filtering. When selected, the Not Equal check box displays.
Not Equal	Works in conjunction with the RegEx field. Selecting this check box searches for values in the specified Filter Field that are NOT equal to the value defined in the Filter Value field. For example, if the Filter Field specified is JarMicroVersion , the Filter Value is specified as 317 , and this check box is selected, then only those rows containing JarMicroVersion fields NOT EQUAL to 317 will display.
	This field is only enabled when the RegEx check box is checked.
Source	The name of the source of the RTView Monitor.
Connection	Lists the name of the JMX connection to the RTView application.
Application Name	Lists the name of the application.
JarName	Lists the name of the jar used in the connected application.
Application Configuration	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.
JarConfiguration	Lists the configuration string for the jar.
JarVersionNumbe r	Lists the version number for the jar.
JarVersionDate	Lists the version date for the jar.

JarReleaseType	Lists the release type for the jar.
JarMicroVersion	Lists the micro version for the jar.
Expired	When checked, this connection is expired due to inactivity.
time_stamp	The time at which the information in the current row was last received.
DataServerName	The name of the RTView Monitor Data Server connection.

Alert Views

These displays present detailed information about all alerts that have occurred in your RTView Enterprise Monitor system (all Owners and all Areas). The type of alerts that appear in these displays depends on the Solution Packages installed on your RTView Enterprise Monitor system. Displays in this View are:

- "RTView Alerts Table" on page 190: Shows current alert data. Use this time-ordered tabular view to track, manage and assign alerts.
- "Alert History Table" on page 194: Shows historical alert data. Use this time-ordered tabular view to track alert status changes.

RTView Alerts Table

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

The color coded navigation tree shows the contents of the CMDB hierarchically ordered. Choose a node to filter alerts shown in the table. The **Alerts Table** only shows alerts associated with the node you select. A green indicator means the node has no associated alerts. A red indicator means the node has one or more associated alerts.

Service name labels are appended with the Environment and number of alerts. For example, the following illustrates that the **TBE** Service currently has no (**0**) associated alerts in the **PRODUCTION** Environment.

TIBCO-AS
 TAS-MEMBER (PRODUCTION)

Each row in the table is a different active alert. Select one or more rows, right-click and choose **Alert** to see all actions that you can perform on the selected alert(s). Choose **Alert / Set Filter Field** to apply the selected cell data to the **Field Filter** and **Search Text** fields. Or enter filter criteria directly in the **Field Filter** and **Search Text** fields. Click **Clear** to clear the **Field Filter** and **Search Text** fields.

Click a column heading to sort the table on that column data.

Optionally, you can use the **\$rtvUserShowDualTables** substitution to add a table that lists alerts owned by the logged in user.

ield Fi	lter:	nt Aler Grou	-			Cles	ar All @Open	Closed	Alert Settings Conn	
									•	
arch	ext:					√Re	gE:Owner Filter: All	•		
MDB Fi	Iter: 0	wner = * Area = * G	Froup = * S	Service	= * Env = *				Clear CMDB Filte	er
	400		-			- ava a				
Total	166 /		✓ 164		Warning		ressed 🔽 0			_
Fin	st Occ	Last Occ	Count	Sup	Owner	Alert Name 🚽	Primary Service	CI		1
)4/11/1	6 15:50:48	04/11/16 15:50:48	1			JvmCpuPercentHigh	JVM	localhost;SOLMON-alph	High Warning Limit exceede	
04/11/1	6 15:50:28	8 04/11/16 15:50:28	1			JvmCpuPercentHigh	Localhost	localhost;ALERT_SERV	High Warning Limit exceede	1
04/11/1	6 13:08:00	04/11/16 15:44:22	931			JvmCpuPercentHigh	Localhost		High Alert Limit exceeded, c	17
04/11/1	6 15:50:27	04/11/16 15:50:27	1			BwProcessExecutionTimeH	BW-PROCESS	SLHOST6(domain6);dor	High Alert Limit exceeded, c	
04/11/1	6 15:50:27	7 04/11/16 15:50:27	1			BwProcessExecutionTimeH	BW-PROCESS	SLHOST6(domain6);dor	High Alert Limit exceeded, c	6
04/11/1	6 15:50:27	7 04/11/16 15:50:27	1			BwProcessExecutionTimeH	BW-PROCESS	SLHOST6(domain6);CO	High Alert Limit exceeded, c	6
04/11/1	6 15:50:27	7 04/11/16 15:50:27	1			BwProcessExecutionTimeH	BW-PROCESS	SLHOST6(domain6);CO	High Alert Limit exceeded, c	ŧ.
04/11/1	6 15:50:03	8 04/11/16 15:50:03	1			BwProcessExecutionTimeH	BW-PROCESS	SLHOST6(domain6);dor	High Alert Limit exceeded, c	£
4/11/1	6 15:50:03	3 04/11/16 15:50:03	1			BwProcessExecutionTimeH	BW-PROCESS	SLHOST6(domain6);CO	High Alert Limit exceeded, c	ŧ.
04/11/1	6 14:59:59	04/11/16 14:59:59	1			BwProcessExecutionTimeH	BW-PROCESS	SLHOST6(domain6);CO	High Alert Limit exceeded, c	6
04/11/1	6 15:50:27	04/11/16 15:50:27	1			BwProcessElapsedTimeHig	BW-PROCESS	SLHOST6(domain6);dor	High Alert Limit exceeded, c	6
04/11/1	6 15:50:27	04/11/16 15:50:27	1			BwProcessElapsedTimeHig	BW-PROCESS	SLHOST6(domain6);dor	High Alert Limit exceeded, c	£
04/11/1	6 15:50:27	04/11/16 15:50:27	1			BwProcessElapsedTimeHig	BW-PROCESS	SLHOST6(domain6);CO	High Alert Limit exceeded, c	ŧ.
04/11/1	6 15:50:27	04/11/16 15:50:27	1			BwProcessElapsedTimeHig	BW-PROCESS	SLHOST6(domain6);CO	High Alert Limit exceeded, c	ć.
)4/11/1	6 15:50:03	8 04/11/16 15:50:03	1			BwProcessElapsedTimeHig	BW-PROCESS	SLHOST6(domain6);dor	High Alert Limit exceeded, c	ł.
04/11/1	6 15:50:03	8 04/11/16 15:50:03	1			BwProcessElapsedTimeHig	BW-PROCESS	SLHOST6(domain6);CO	High Alert Limit exceeded, c	ŧ.
04/11/1	6 14:59:59	04/11/16 14:59:59	1			BwProcessElapsedTimeHig	BW-PROCESS	SLHOST6(domain6);CO	High Alert Limit exceeded, c	ŧ.
)4/11/1	6 11:51:45	04/11/16 11:51:45	1			BwEngineMemUsedHigh	BW-ENGINE	SLHOST6(domain6);dor	High Alert Limit exceeded, c	6
)4/11/1	8 11:51:45	04/11/16 11:51:45	1			BwEngineMemUsedHigh	BW-ENGINE	SLHOST6(domain6);dor	High Alert Limit exceeded, c	
4/11/1	6 11:51:45	04/11/16 11:51:45	1			BwEngineMemUsedHigh	BW-ENGINE	SLHOST6(domain6);dor	High Alert Limit exceeded, c	ł.
4/11/1	6 11:51:46	04/11/16 11:51:45	1			BwEngineMemUsedHigh	BW-ENGINE	SLHOST6(domain6);dor	High Alert Limit exceeded, c	1
4/11/1	8 11:51:45	04/11/16 11:51:45	1			BwEngineMemUsedHigh	BW-ENGINE	SLHOST6(domain6);dor	High Alert Limit exceeded, c	6
4/11/1	6 15:50:31	04/11/16 15:50:31	1			BwActivityExecutionTimeHi	BW-PROCESS	SLHOST6(domain6);dor	High Alert Limit exceeded, c	1
4/11/1	6 15:50:31	04/11/16 15:50:31	1			BwActivityExecutionTimeHi	BW-PROCESS	SLHOST6(domain6);dor	High Alert Limit exceeded, c	6
4/11/1	6 15:50:31	04/11/16 15:50:31	1			BwActivityExecutionTimeHi	BW-PROCESS	SLHOST6(domain6);dor	High Alert Limit exceeded, c	£.
4/11/1	6 15:50:31	04/11/16 15:50:31	1			BwActivityExecutionTimeHi	BW-PROCESS	SLHOST6(domain6);dor	High Alert Limit exceeded, c	ŀ
				_	-					1
•		111							•	



The row color indicates the following:

Row Color Code:

Tables with colored rows indicate the following:

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

row.

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

Gray indicates that the alert engine that is hosting the alert is not connected, not enabled or not initialized. When you select a gray row the **Own**, **Suppress**, **Unsuppress**, **Close**, **Annotate**, **Options** and **Details** options are disabled.

Fields	and	Data
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This display includes:

Field Filter	Name, Alert 1	column from the drop-down menu to perform a search in: Alert Fext, Alert Class, Service, CI, Closed Reason, Closed, CompId, Dcc, ID, Last Occ, Owner, Primary Service, Sup, TicketGroup,			
	that pass throu	play content and drop-down menu selections to only those items ugh the selected filter's criteria. If no items match the filter, you ro search results (an empty table).			
Clear	Clears the Fie l	Id Filter and Search Text entries.			
Search Text	Enter the (case-sensitive) string to search for in the selected Field Filter.				
CMDB Filter	Shows the sele default, all con	ected Owner, Area, Group, Service and Environment filters. By nponents of the CMDB (*) are included in the search.			
	which is access Alerts Table i and Multi Are opens in the no panel) to open	Filter fields are populated when you click Open Alerts Table . sible from the Multi Area Service Views displays, to open the n a new window. The filters selected in the All Management Areas a Service Views displays are applied to the Alerts Table (that ew window). NOTE: When you use the navigation tree (in the left the Alerts Table display, the Environment filter is applied to the s a value other than * (asterisk).			
Clear CMDB Filter	Clears all of th Environment	e values in the CMDB Filter (Owner, Area, Group, Service and filters). NOTE: This action is not applied to any other display.			
RegEx	Toggles the Se	earch Text field to accept Regular Expressions for filtering.			
All	Click to show a	all alerts in the table: Open and Closed alerts.			
Open	Click to only sl	how Open alerts in the table.			
Closed	Click to only sl	how Closed alerts in the table.			
Owner Filter	Select the aler	t Owner to show alerts for in the table.			
	AII	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.			
Alert Settings Conn OK	The Alert Serve Disconnecte Connected.	er connection state: ed.			
Total	X/Y where X i applied. Y is th filters applied.	is the total number of alerts in the table with all selected filters ne number of alerts in the table with only the CMDB and Cleared			
Critical		Check to show alerts in the table that are currently in a critical state. NOTE: You must check Critical to see alerts that are in a critical state.			
	X/Y where X i	is the total number of critical alerts in the table with all selected Y is the number of alerts in the table with only the CMDB Filter			
Warning	Check to show must check W	alerts in the table that are currently in a warning state. NOTE: You arning to see alerts that are in a warning state.			
	X/Y where X i	is the total number of warning alerts in the table with all selected Y is the number of alerts in the table with only the CMDB and			

- **Suppressed** Check to show alerts in the table that are suppressed. The **Suppressed** count is not impacted by the **Critical** and **Warning** filters. It is impacted only by the **CMDB Filter** and the **Owner Filter**. NOTE: You must check **Suppressed** to see Suppressed alerts in the table.
- Own Click to assign an Owner for the alert. This option is only visible when logged in as one of the following roles: event, full, admin, super. This option is disabled when you select a gray row. For details, see **Configure User and Role Management**.
- **Suppress** Click to suppress the alert. This option is only visible when logged in as one of the following roles: event, full, admin, super. This option is disabled when you select a gray row. For details, see **Configure User and Role Management**.
- **UnSuppress** Click to unsuppress the alert. This option is only visible when logged in as one of the following roles: event, full, admin, super. This option is disabled when you select a gray row or when you select a row. For details, see **Configure User and Role Management.**
- **Close** Click to close the alert. This option is only visible to users with Administrator privileges. This option is disabled when you select a gray row or you select a row where the Primary Service is not in the \$rtvManageableCompID list for the logged in user. For details, see **Configure User and Role Management**.

Alerts Table

This table lists all active alerts for the current filters. The table is empty unless you check **Critical**, **Warning**, or both. Filter the list using the search fields and drop-down menus (in the upper portion of the display). To view details about an alert, select an alert and click **Details** (in the bottom right portion of the display) to open the **Alert Detail** dialog. To view details about the CI source of the alert, select an alert and click **Go To CI** (in the bottom right portion of the display) to open its Summary display.

	First Occ	The date and time the alert first occurred.
	Last Occ	The date and time the alert last occurred.
	Count	The number of times the alert was generated.
	Sup	When checked, the alert has been suppressed by a user.
	Owner	The named owner assigned by the administrator.
	Alert Name	The name of the alert.
	Primary Service	The name of the Service with which the alert is associated.
	CI	The CI alert source.
	Alert Text	Description of the alert.
	AlertClass	An optional alert field which can be used when integrating with other alerting systems.
	CompID	An optional alert field which can be used when integrating with other alerting systems.
	TicketID	An optional alert field which can be used when integrating with other alerting systems.
	TicketGroup	An optional alert field which can be used when integrating with other alerting systems.
Columns	Id	When checked, shows the ID column in the table.
	Closed	When checked, shows the Closed column in the table.
	Closed Reason	When checked, shows the Closed Reason column in the table.
	Alert Index	When checked, shows the Alert Index column in the table.

Go To CI Select an alert from the **Alerts Table**, then click **Go To CI** to view details for the selected CI in the Summary display.

Annotate Select one or more alerts from the Alerts Table, then click Annotate to open the **Set Owner and Comments** dialog and enter comments or change alert owner. This option is only visible when logged in as one of the following roles: event, full, admin, super. This option is disabled when you select a gray row or when you select a row where the Primary Service is not in the \$rtvManageableCompID list for the logged in user. For details, see **Configure User and Role** Management.

- **ID** Lists the alert IDs, separated by semicolons, for the alerts selected from the **Alert Table**.
- **Source** Lists the name of the back-end Data Server reporting the alert, separated by semicolons.
- **Enter Owner** Enter the name of the owner for one or more alerts, click **Set Owner of One Alert** to assign the Owner, then click **Close**. By default, this field displays the current user name.
- **Enter Comment Commen**
- **Set Owner** Applies the name of the alert owner in the **Enter Owner** field for one or more alerts.
- Add Applies the comment in the **Enter Comment** field for one or more alerts.
- Clear Removes all comments for one or more alerts.
- **Close** Closes the dialog.
- **Options** Select a single alert from the **Alerts Table**, then click **Options** to open the **Alert Options** dialog. This dialog is provided for customizing your own alert options. This option is disabled when you select a gray row or more than one row.
- **Details** Select a single alert from the **Alerts Table**, then click **Details** to open the **Alert Detail** window and view alert details. This option is disabled when you select a gray row or more than one row.

Alert History Table

Use this display to track the history of any alert that has occurred in your RTView Enterprise Monitor system. There is one row in the table for each update to each alert. The table is limited to **20,000** rows. If there are more than **20,000** rows in the selected time range, the newest **20,000** rows are shown.

The color coded navigation tree shows the contents of the CMDB hierarchically ordered. Choose a node to filter alerts shown in the table. The **Alert History Table** only shows alerts associated with the node you select. A green indicator means the node has no associated alerts. A red indicator means the node has one or more associated alerts.

Service name labels are appended with the Environment. For example, the following illustrates that the **TAS-MEMBER** Service currently has no alerts in the **PRODUCTION** Environment.

TIBCO-AS TAS-MEMBER (PRODUCTION)

To filter the table, select a table column from the **Field Filter** drop-down menu. In the **Search Text** field, enter the (case-sensitive) string to search for in the selected **Field Filter**, then click **<Enter>**. Click **Clear** to clear the **Field Filter** and **Search Text** fields.

The **Count** label shows two values: the filtered row count / the total row count.

Click a column heading to sort the table by the column data.



Title Bar (possible features are):	🐼 Data OK Data connection state. Red indicates the Data
• Open the previous and upper display.	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 an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed 	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
displays.	current and valid.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Note: The **Count** field in the title bar of this display shows two values: the filtered row count and the unfiltered row count.

The row color indicates the most critical alert state for the row, as follows:

Row Color Code:

Tables with colored rows indicate the following:

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

O 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:

- Field
FilterSelect a table column from the drop-down menu to perform a search in: Alert Name,
Alert Text, Cleared Reason, Clr, ID, Owner, Sev, Source, Sup, ID or Time.FiltersFilters 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).
- Clear Clears entries in the Alert Name Filter field and all table data.

- **Search** Enter the (case-sensitive) string to search for in the selected **Field Filter**. **Text**
- **RegEx** Toggles the **Search Text** field to accept Regular Expressions for filtering.
- **Sort by** When checked, table rows are sorted by the **Time** and **ID** columns.
- ID + Time

Time 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 \square .



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 **I b** to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu. Click **Restore to Now** to reset the time range end point to the current time.

Alerts Table

This table lists all alerts for all Owners and all Areas that have occurred in your RTView Enterprise Monitor system. Filter the list by alert names using the **Alert Name Filter** drop-down menu.

- **Time** The date and time the alert first occurred.
- **ID** The unique string identifier for the alert.
- **Clear** When checked, the alert has been cleared by a user.
- **Sup** When checked, the alert has been suppressed by a user.
- **Owner** The named owner assigned by the administrator.
- Alert Name The name of the alert.
- **Alert Index** Lists the Alert Indexes, separated by tildes (~), for the alert.
- Alert Text Descriptive text about the alert.
- **Cleared DATA UPDATE**: The metric returned to normal thresholds.
- **Reason** MANUAL: A user cleared or closed the alert manually.
- Sev The severity level of the alert.
- **Source** The name of the back-end Data Server reporting the alert.

Administration

These displays enable you to set alert thresholds, and observe how alerts are managed. Displays in this View are:

- "Alert Administration" on page 197: Displays active alerts and provides interface to modify and manage alerts.
- "Alert Admin Audit" on page 203: Track modifications of alerts throughout your system, such as alert threshold modifications.
- "Alert Action Audit Trail" on page 205: Track alert management throughout your system, including the name of the user who performed the action, the time the action was performed and what the action was.

Alert Administration

Set global or override alert thresholds. Alert settings are global by default. Only users logged in with the admin or super roles can save changes to alert thresholds. For details, see **Configure User and Role Management**.

The table describes the global settings for all alerts on the system. To filter the alerts listed in the table, enter a string in the **Alert Filter** field and press **<enter>** or click elsewhere in the display. Filters are case sensitive and no wildcard characters are needed for partial strings. For example, if you enter Server in the **Alert Filter** field, it filters the table to show only alerts with **Server** in the name. Choose **Clear** to clear the filter.

Global Thresholds

To set a global alert, select an alert from the **Active Alert Table**. The name of the selected alert populates the **Settings for Selected Alert Name** field. Edit the **Settings for Selected Alert** and click **Save Settings** when finished.

The manner in which global alerts are applied depends on the Solution Package. For example, the EMS Monitor Solution Package has queue alerts, topic alerts and server alerts. When a queue alert is applied globally, it is applied to all queues on all servers. Likewise, a server alert applies to all servers, and a topic alert applies to all topics on all servers.

Override Thresholds

Setting override alerts allows you to set thresholds for a single resource (for example, a single server). Override alerts are useful if the majority of your alerts require the same threshold setting, but there are other alerts that require a different threshold setting. For example, you might not usually be concerned with execution time at a process level, but perhaps certain processes are critical. In this case, you can apply alert thresholds to each process individually.

To apply an individual alert you Index the Monitored Instance or resource (such as a message queue, in the case of the EMS Monitor package). The Index Types available are determined by the Solution Package installed. For example, with the EMS Monitor package you can set an alert for a specific topic on a specific server--the PerServerTopic Index option--rather than for all topics on all servers.

For information about setting override alerts, see "Tabular Alert Administration" on page 200.

Note: To filter the alerts shown in the **Administration - Alert Administration** display by Solution Package, use the **\$rtvAlertPackageMask** substitution.

+	Alert Admin	istration	23-Sep	-2015 16:15 🔅	Data OK 💠	?
Alert Filter: Clear				📀 Alert S	ettings Con	n OK
Alert	Warning Level	Alarm Level	Duration	Alert Enabled	Override Count	
AcwInstanceCpuHigh	50	75	30	V	(Ξ
AcwInstanceDiskReadBytesHigh	100000	200000	30	r	((
AcwInstanceDiskReadOpsHigh	100	200	30	r		(
AcwInstanceDiskWriteBytesHigh	100000	200000	30	r	((
AcwInstanceDiskWriteOpsHigh	100	200	30	r		(
AcwInstanceNetworkReadBytesHigh	100000	200000	30	V	(i
AcwInstanceNetworkWriteBytesHigh	100000	200000	30	Ľ	((
AmxServiceHitRateHigh	200	400	30	V	(i
AmxServiceNodeFaultRateHigh	200	400	30	Ľ	((
AmxServiceNodeHitRateHigh	200	400	30	V	(i
AmxServiceNodeMovingAvgHitRateHigh	200	400	30	Ľ	((
AmxServiceNodeMovingAvgResponseTimeHigh	200	400	30	V	(i
AmxServiceNodeResponseTimeHigh	200	400	30	Ľ	((
AmxServiceResponseTimeHigh	200	400	30	V	((
Bw6AppNodeCpuUsedHigh	50	80	30		((
Bw8AppNodeMemUsedHigh	50	80	30		((
Bw6AppProcessCreatedRateHigh	50	80	30	r	(_
Bw6AppProcessElapsedTimeHigh	100	200	30		(Ť.,
	Settings for Sel	ected Alert				
Name: AcwInstanceDiskWriteOpsHigh	Wa	arning Level:	100.0 Du	uration (Secs.): 30	
Description: Number of disk write operations in	current ir	Alarm Level:	200.0	Enabled	· 🗸	_
Tabular Alert Options				Sav	e Settings	
The Warning Level, Alert Level and Alarm Enabled	l values on this se	creen can be ov	verridden for ea	ch alert i Over	ride Setting	s

Title Bar (possible features are):	on Data OK Data connection state. Red indicates the Data
🗲 🔺 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Fields and Data

This display includes:

Alert Enter the (case-sensitive) string to filter the table by the Alert table column value. Filter NOTE: Partial strings can be used without wildcard characters. Press **<enter>** or click elsewhere in the display to apply the filter.

Clears the Alert Filter entry. Clear

The Alert Server connection state: Alert

- Disconnected.
- Connected.

Active Alert Table

Settings

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.

Alert	The name of the alert.
Warning Level	The global warning threshold for the selected alert. When the specified value is exceeded a warning is executed.
Alarm Level	The global alarm threshold for the selected alert. When the specified value is exceeded an alarm is executed.
Duration (Secs)	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. ${f 0}$ is for immediate execution.
Alert Enabled	When checked, the alert is enabled globally.
Override Count	The number of times thresholds for this alert have been defined individually in the Tabular Alert Administration display. A value of: - 0 indicates that no overrides are applied to the alert.

-1 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.

Name	The name of the alert selected in the Active Alert Table.
Description	Description of the selected alert. Click Calendar for more detail.
Warning Level	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.
	NOTE: For low value-based alerts (such as EmsQueuesConsumerCountLow), to set the warning to occur sooner, increase the Warning Level value. To set the warning to occur later, reduce the Warning Level value.
Alarm Level	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.
	NOTE: For low value-based alerts (such as EmsQueuesConsumerCountLow), to set the alarm to occur sooner, increase the Alarm Level value. To set the alarm to occur later, reduce the Alarm Level value.
Duration	Set the amount of time (in seconds) that the value must be above the specified Warning Level or Alarm Level threshold before an alert is executed. ${f 0}$ is for immediate execution. This setting is global.
Enabled	Check to enable alert globally.

Save Settings Click to apply alert settings.

Click to open the ${\bf Tabular} \ {\bf Alert} \ {\bf Administration}$ display to set override alerts on the selected alert. Override Settings

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.

(Tabular Alert Administrati	on 23-S	ep-2015 16:12	< Data	ок 🔶 🕜
	Override Settings For Alert: AcwInstanceDis	kWriteOpsHig	h 🌑 A	lert Settin	gs Conn OK
Index Type	Index	Override Settings	Warning Level	Alarm Level	Alert Enabled
Index Type: PerInst	tance				
Index:		Add	Remove	Save	e Settings
	Unassigned Indexes	1	Alert Se	ettings	
		War	ning Level:		
		A	larm Level:		
				ert Enab ide Sett	
				Back	to Alerts

Fields and Data

This display includes:

Alert Settings Conn ŎK

The connection state.

No servers are found.

One or more servers are delivering data.

Override Settings For Alert:(name) This table lists and describes alerts that have override settings for the selected alert. Select a row to edit alert thresholds. The selected item appears in the Index field. Edit settings in the Alert Settings fields, then click Save Settings.

Select the type of alert index to show in the Values table. Options in this Index drop-down menu are populated by the type of alert selected, which are determined by the Package installed. For example, with the EMS Monitor Туре package the following Index Types are available: PerServer: Alert settings are applied to a specific server. PerQueue: Alert settings are applied to the queue on each server that ٠ 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. When checked, the override settings are applied. **Override** Settings When checked, the alert is enabled. Alert Enabled 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 Index Type a single server. NOTE: Options in this drop-down menu are populated by the type of alert selected from the Alert Administration display. Index Types available depend on the Package installed. The selected index column to be edited. This field is populated by the selection made Index in the Unassigned Indexes table. This table lists all possible indexes corresponding to the Index Type chosen in the drop-down list. Select a row to apply individual alert thresholds. The selected item appears in the **Index** field. Edit settings in the **Alert Settings** fields, then click **Add**. Unassigned Indexes Click to add changes made in **Alert Settings**, then click **OK** to confirm. Add Click to remove an alert selected in the **Index Alert Settings** table, then click **OK** to Remove confirm.

Save Click to save changes made to alert settings. Settings

Alert Settings

Select a topic, server or queue from the **Unassigned Indexes** table and edit the following settings.

Warning	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.
Level	NOTE: For low value-based alerts (such as EmsQueuesConsumerCountLow), to set the warning to occur sooner, increase the Warning Level value. To set the warning to occur later, reduce the Warning Level value.
	Click Save Settings to save settings.
Alarm	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.
Level	NOTE: For low value-based alerts (such as EmsQueuesConsumerCountLow), to set the alarm to occur sooner, increase the Alarm Level value. To set the alarm to occur later, reduce the Alarm Level value. Click Save Settings to save settings.

Alert Check to enable the alert, then click Save Settings. Enabled

Override Check to enable override global setting, then click **Save Settings**. **Settings**

Back to Returns to the Administration - Alert Administration display.

Setting Override Alerts

Perform the following steps to set an override alert. Index Types available depend on the Solution Package installed. In this example, we use the EMS Monitor Package to illustrate.

Note: To turn on an alert, both Alert Enabled and Levels Enabled must be selected.

To turn on/off, change threshold settings, enable/disable or remove an alert on a single resource:

1. In the **Alert Administration** display, select a tabular alert in the **Active Alert Table** and click **Override Settings**. The **Tabular Alert Administration** display opens.

Note: Alerts that do not support overrides have a value of **-1** for the **Override Count** column and the **Override Settings** option is not present when you select such an alert.

- 2. In the **Tabular Alert Administration** display, select the Index type from the **Index Type** drop-down menu (options are populated by the type of alert you previously selected). For example, with the EMS Monitor package, select PerServerQueue, PerServerTopic or PerServer. NOTE: If you select PerServerQueue or PerServerTopic, the alert settings are applied to the queue or topic on a single server.
- **3.** In the **Unassigned Indexes** table, select the item you want to apply an override alert setting to, click **Add** and **OK** in the confirmation dialog. After a few moments the override setting appears in the **AlertLevels** table.
- 4. Select the item in the **AlertLevels** table.
- **5.** In the Alert Settings panel (lower right), if needed, modify the Warning Level and Alarm Level settings.
- 6. In the Alert Settings panel, set the following as appropriate.
- To turn on the alert for this index with the given thresholds:

Alert Enabled Select this option.

Override Settings Select this option.

NOTE: To turn on an alert, both **Alert Enabled** and **Override Settings** must be selected.

 To turn off the alert for only this index (global alert thresholds will no longer apply to this index): Alert Enabled Deselect this option.

Override Settings Select this option.

 To no longer evaluate this indexed alert and revert to global settings (or, optionally, Remove it if it is never to be used again):

Alert Enabled Not used.

Override Settings Deselect this option.

7. Click **Save Settings**. In a few moments the modifications are updated and a new record appears in the **AlertLevels** table. For example, in the following figure, the EmsServerConnectionCountHigh alert has a new override applied. New overrides increment the alert **Override Count** in the **ALERTLEVELS** table.

Alert	Warning Level	Alarm Level	Duration	Alert Enabled	Override Count
EmsQueuesProducerCountHigh	60	80	30		0
EmsQueuesProducerCountLow	15	5	30		0
EmsServerAsyncDBSizeHigh	50	100	30		0
EmsServerConnectionCountHigh	60	80	30		1
EmsServerInMsgRateHigh	60	80	30		0
EmsServerMemUsedHigh	60	80	30		0

Alert Admin Audit

View alert management details such as alert threshold modifications.

Each table row is a single modification made to an alert. To view modifications for a single alert in a group, click Sort **a** to order the **ALERTNAME** column.

F		Alert Ad	Iministration Audit Tra	il 23-5	ep-2015 16:08	💠 Data OK 💠
					🌔 Ai	udit 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	BwActivityExecutionTimeHig	Default	Default	0.0
09/20/15 15:16:00	admin	UPDATED	BwActivityErrorRateHigh	Default	Default	3
09/19/15 10:35:32	admin	UPDATED	BwProcessElapsedTimeHigh	Default	Default	3
09/19/15 10:35:20	admin	UPDATED	BwProcessElapsedTimeHigh	Default	Default	0.0
09/19/15 10:35:07	admin	UPDATED	BwProcessAbortRateHigh	Default	Default	3
09/19/15 10:34:56	admin	UPDATED	BwProcessAbortRateHigh	Default	Default	0.0
09/19/15 10:34:43	admin	UPDATED	BwEngineCpuUsedHigh	Default	Default	3
09/19/15 10:34:32	admin	UPDATED	BwEngineCpuUsedHigh	Default	Default	0.0
09/19/15 10:34:12	admin	UPDATED	BwEngineMemUsedHigh	Default	Default	3
09/19/15 10:34:00	admin	UPDATED	BwEngineMemUsedHigh	Default	Default	0.0
09/19/15 10:33:47	admin	UPDATED	BwEngineCpuUsedHigh	Default	Default	3
09/19/15 10:33:36	admin	UPDATED	BwEngineCpuUsedHigh	Default	Default	0.0
09/19/15 10:33:21	admin	UPDATED	BwActivityExecutionTimeHig	Default	Default	3
09/19/15 10:33:06	admin	UPDATED	BwActivityExecutionTimeHig	Default	Default	0.0
9/19/15 10:32:50	admin	UPDATED	BwActivityErrorRateHigh	Default	Default	5
9/19/15 10:32:19	admin	UPDATED	BwActivityErrorRateHigh	Default	Default	0.0
9/19/15 09:42:07	admin	UPDATED	BwEngineCpuUsedHigh	Default	Default	3
9/19/15 09:41:42	admin	UPDATED	BwActivityExecutionTimeHig	Default	Default	3
09/19/15 09:41:30	admin	UPDATED	BwActivityExecutionTimeHig	Default	Default	0.0
09/19/15 09:40:59	admin	UPDATED	BwActivityErrorRateHigh	Default	Default	5
09/19/15 09:40:30	admin	UPDATED	BwActivityErrorRateHigh	Default	Default	0.0
09/19/15 09:39:30	admin	UPDATED	BwActivityExecutionTimeHig	Default	Default	5
9/19/15 09:39:09	admin	UPDATED	BwActivityExecutionTimeHig	Default	Default	3
09/19/15 09:34:23	admin	UPDATED	BwActivityExecutionTimeHig	Default	Default	0.0
9/19/15 09:34:07	admin	UPDATED	BwActivityErrorRateHigh	Default	Default	3
4	111					b.

Title Bar (possible features are):	🐼 Data OK 🛛 Data connection state. Red indicates the Data
🗲 👖 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. 	data source is connected. 23-Mar-2017 12:04 Current date and time. Incorrect time
Menu , Table open commonly accessed displays.	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.	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.
INDEXTYPE	The type of alert Index. 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.
ALERTINDEX	The index of the alert which identifies its source.
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 be above 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, indicates the alert override was enabled at the time this modification was made, as indicated in the TIME_STAMP column. For details about alert overrides, see Alert Administration .

Alert Action Audit Trail

The **Alert Action Audit Trail** display shows all user actions concerning alert management, including the name of the user who performed the action, the time the action was performed and what the action was. This display can help managers of the RTView Enterprise Monitor solution determine how and when user interactions have impacted the alert system and help manage users so that best practices for alert handling are maintained.

						Action Audit Conn
TIME_STAMP	USER	ACTION_TYPE	ACTION	TARGET	VALUE	ALERT_NAME
10/01/15 16:56:29	admin	Event Management	Set Owner	2764	admin	EmsServerRouteState
10/01/15 16:56:29	admin	Event Management	Set Owner	2562	admin	EmsQueueProviderIdle
10/01/15 16:56:29	admin	Event Management	Set Owner	2385	admin	EmsQueueProviderIdle
10/01/15 16:56:29	admin	Event Management	Set Owner	2339	admin	EmsTopicsProducerCou
10/01/15 16:56:29	admin	Event Management	Set Owner	2304	admin	EmsTopicsProducerCou
10/01/15 16:56:29	admin	Event Management	Set Owner	2256	admin	EmsTopicsProducerCou
10/01/15 16:56:29	admin	Event Management	Set Owner	2096	admin	EmsTopicsProducerCou
10/01/15 16:56:29	admin	Event Management	Set Owner	2039	admin	EmsTopicsConsumerCo
10/01/15 16:56:29	admin	Event Management	Set Owner	2004	admin	EmsTopicsConsumerCo
10/01/15 16:56:29	admin	Event Management	Set Owner	1956	admin	EmsTopicsConsumerCo
10/01/15 16:56:29	admin	Event Management	Set Owner	1796	admin	EmsTopicsConsumerCo
10/01/15 16:56:29	admin	Event Management	Set Owner	1761	admin	EmsServerAsyncDBSize
10/01/15 16:56:29	admin	Event Management	Set Owner	1732	admin	EmsQueuesProducerCo
10/01/15 16:56:29	admin	Event Management	Set Owner	1375	admin	EmsQueuesProducerCo
10/01/15 16:56:29	admin	Event Management	Set Owner	1358	admin	EmsQueuesConsumerC
10/01/15 16:56:29	admin	Event Management	Set Owner	1001	admin	EmsQueuesConsumerC
10/01/15 16:56:29	admin	Event Management	Clear Alert	2764		EmsServerRouteState
10/01/15 16:56:29	admin	Event Management	Clear Alert	2562		EmsQueueProviderIdle
10/01/15 16:56:29	admin	Event Management	Clear Alert	2385		EmsQueueProviderIdle
10/01/15 16:56:29	admin	Event Management	Clear Alert	2339		EmsTopicsProducerCou
10/01/15 16:56:29	admin	Event Management	Clear Alert	2304		EmsTopicsProducerCou
10/01/15 16:56:29	admin	Event Management	Clear Alert	2256		EmsTopicsProducerCou
10/01/15 16:56:29	admin	Event Management	Clear Alert	2096		EmsTopicsProducerCou
10/01/15 16:56:29	admin	Event Management	Clear Alert	2039		EmsTopicsConsumerCo
10/01/15 16:56:29	admin	Event Management	Clear Alert	2004		EmsTopicsConsumerCo
10/01/15 16:56:29	admin	Event Management	Clear Alert	1956		EmsTopicsConsumerCo

 Title Bar (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. 	 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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Fields and Data

This display includes:

Action Audit Conn OK	The Alert Action database connection availability. The connection to the Alert Action database is not available. The connection to the Alert Action database is available. 							
Time_Stamp The time the action was performed.								
User	The log in name of the user who performed the action.							
Action_Type	The type of action which was performed.							
Action	The action which was performed.							
Target	The alert ID on which the action was performed.							
Value	Any value associated with the alert action.							

- Alert_Name The name of the alert on which the action was performed.
- Alert_Index The index of the alert which identifies its source.

CMDB Administration

This display allows you to modify your Service Data Model.

• "CMDB Admin" on page 206: View or modify your Service Data Model.

CMDB Admin

Use this display to setup, view or modify your Service Data Model (CMDB), including: adding, renaming, deleting or merging your CMDB hierarchical elements (Owners, Areas, Groups or Services), associating CIs with Services and assigning or modifying CI attributes (such as Criticality). Only users logged in with the admin or super roles can apply changes in this display. For details, see "Configure User and Role Management" on page 52.

The **CI List for Selected Service** (upper) table lists the CIs that are associated with the Service selected (from the **Service** drop-down menu).

The **Available Components** (lower) table is not part of the CMDB. The **Available Components** table lists all available CIs for the CI Type (selected from the **Selected CI Type** drop-down menu) that are in your RTView Enterprise Monitor system--whether or not they are in the CMDB. Filter this list using the **CIName Filter** field.

You add CIs to the CMDB by associating them with an Owner, Area, Group, and Service. To do so, select the CI Type from the **Selected CI Type** drop-down menu, choose one or more CIs from the **Available Components** table, then click **Add CI**.

It is not necessary to restart the Configuration Server after making changes to the Service Data Model using the **CMDB Admin** display.

Creating a new Service, Group, Area or Owner:

Select the CI Type from the **Selected CI Type** drop-down menu, choose one or more CIs from the **Available Components** table, then click **Add CI To...** Assign a new or existing Owner, Area, Group or Service, review your entries and click **OK**. Your changes are visible in drop-down menus and displays.

Associating CIs with a Service:

This option is useful when you want to define which CIs are to be monitored for Services. CIs can be associated with more than one Service, Group, Area or Owner. Select the Owner, Area, Group and Service to which you want to associate one or more CIs using the drop-down menus. The **CI List Table** (the upper table) populates with all CIs already associated with the Owner, Area, Group and Service you select. Select the CI Type of the CI(s) you want to associate. The **Available Components** table (the lower table) populates with all CIs that are categorized as that CI Type. Select one or more CIs in the **Available Components** table, set the Criticality and other optional assignments using the drop-down menus (on the right). Click **Add CI** to associate the CI(s) with the Service. A row is added for each associated CI to the **CI List Table**. Your changes are visible in the drop-down menus and displays.

Renaming a Service, Group, Area or Owner:

This option is useful when, for example, a *new* Owner is replacing a retiring Owner, a name is misspelled or a more relevant name is required. Select the relevant Owner, Area, Group or Service using the drop-down menus, then click the corresponding **Manage** (**Owner**, **Area**, **Group** or **Service**) option for what you are renaming. The **Manage** (**Owner**, **Area**, **Group** or **Service**) dialog opens. In the **Manage** (**Owner**, **Area**, **Group** or **Service**) dialog opens. In the **Manage** (**Owner**, **Area**, **Group** or **Service**) dialog, type the new name in the **New Name** field, click **Rename** and **OK**. Your changes are visible in the drop-down menus and displays.

Deleting a Service, Group, Area or Owner:

This option is useful when, for example, an Owner, Area, Group or Service and all the CIs associated with it are not relevant in your RTView Enterprise Monitor system. When you delete a Service, Group, Area or Owner everything underneath it (lower CMDB levels and associated CIs) is also removed from the CMDB database and displays. Select the relevant Owner, Area, Group or Service using the drop-down menus, then click the corresponding **Manage (Owner, Area, Group** or **Service**) option for what you are deleting. The **Manage (Owner, Area, Group** or **Service**) dialog opens. In the **Manage (Owner, Area, Group** or **Service**) dialog opens. In the **Manage (Owner, Area, Group** or **Service**) dialog opens. In the drop-down menus and displays.

Important: There is no option to undo a deletion from the CMDB. To restore a deletion you must recreate the Owner, Area, Group or Service and the CIs must be re-associated.

Moving a Service, Group or Area:

This option is useful when, for example, an Area belongs under a different Owner, a Group belongs under a different Area or a Service belongs under a different Group. When you move a Service, Group or Area (Owners cannot be moved) everything underneath it (lower CMDB levels and associated CIs) moves with it. Select the Area, Group or Service you want to move using the drop-down menus, then click the relevant **Manage** (**Area**, **Group** or **Service**) option for what you are moving. The **Manage** (**Area**, **Group** or **Service**) dialog opens. In the **Manage** (**Area**, **Group** or **Service**) dialog, select the new Owner, Area, Group or Service to move to from the **New** (**Area**, **Group** or **Service**) drop-down menus, click **Move** and **OK**. Your changes are visible in the drop-down menus and displays.

Merging Services, Groups, Areas or Owners:

This option is useful when, for example, an *existing* Owner is taking over for a retiring Owner. When you merge a Service, Group, Area or Owner its name changes to that of the target Service, Group, Area or Owner, and everything underneath it (lower CMDB levels and associated CIs) goes with it. Select the Area, Group or Service you want to merge using the drop-down menus, then click the relevant **Manage** (**Area**, **Group** or **Service**) option for what you are merging. The **Manage** (**Area**, **Group** or **Service**) dialog opens. In the **Manage** (**Area**, **Group** or **Service**) dialog, select an existing Owner, Area, Group or Service to merge to in the **New Name** field, click **Merge** and **OK**. Your changes are visible in the drop-down menus and displays.

Deleting a CI:

Select a CI from the **CI List Table**, click **Delete** and **OK**. The CI is removed from the CMDB database and displays. Your changes are visible in the drop-down menus and displays.

Applying Criticality value to multiple CIs:

In the **CI List Table** select a CI that has the Criticality value you want to apply to all CIs in the **CI List Table**, click **Update Criticality like selected CI** and **OK**. The **Criticality** column for all CIs is updated. Your changes are visible in the drop-down menus and displays.

Changing CI attributes

In the **CI List Table** select the CI you want to modify attributes for, use the **Environment**, **Region**, **SiteName**, **Criticality**, **City**, **Country** and **OSType** drop-down menus to apply attributes, then click **Update** and **OK**. The **CI List Table** is updated. Your changes are visible in the drop-down menus and displays.

By default, the Owner named **Infrastructure** is created. **Infrastructure** organizes all available CIs collected through all Data Servers configured under RTView EM by technology. This default organization can be disabled if needed.

÷				CMDB	- Administra	tion		24-Sep	2015 11:	45 🗳 Data OK 🔹	• 0
Owner:	Source: RTV_								CMDB		
Area:	System	15	•		Manage Area						
Group:	Databa	ises		•	Manage Gro	qu	Update Criticality like selected CI				
Service:	IBM DE	32		•	Manage Serv	ice					
CI List for Se	lected	Service - select a CI to s	ee detail a	nd to edit:				Environ	DEMO	SITE	•
CITyp			IName		Criticality	Region	Env	Region:			•
VMWARE-H		vSphere2;slesxi-1.slden	nos-hq.loca	il .	B		QA	Criticality:	٨		-
VMWARE-V	M	vSphere2;2008S-WIN1	4		В		QA	chucanty.	~		
								SiteName:	Name: Headquarters		
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Selected C	L		CIName Fi	Iter:			Reg	ex Ad	d CI	Add CI 1	ſo
Available (ompo	nents (CIs): Name				CI	Name			Data Ser	
vmrh5-1	TEST	Q 01			vmrh5-1;TEST		name			MQMON-64-OL7	
vmrh5-1		0_02			vmrh5-1;TEST				_	MQMON-64-OL7	
vmrh5-1		_Q_03			vmrh5-1;TEST					MQMON-64-OL7	
vmrh5-1	TEST	Q_04			vmrh5-1;TEST	Q_04				MQMON-64-OL7	
vmrh5-1	TEST	_Q_05			vmrh5-1;TEST_	Q_05				MQMON-64-OL7	$\leq \pm$
•				111					-	•	

Title Bar (possible features are):	🕼 Data OK Data connection state. Red indicates the Data
🗲 🔺 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Fields and Data

This display includes:

Owner Select an Owner to filter by. The Owner selected populates the **Area**, **Group** and **Service** drop-down menus.

	Manage Owner	Opens a dialog that enables you to Delete , Rename or Merge the Owner.
		Delete removes the Owner from the CMDB database as well as all CMDB data and CIs associated with the Owner.
		Rename Changes all records for the Owner to a new name. Rename is disabled when the name you are typing in the text box already exists in the CMDB.
		Merge Changes all records for the Owner to a different, already existing name in the CMDB. Merge is enabled when the name you are typing in the text box already exists in the CMDB.
		Note:: You cannot move Owners.
Area	Select an Area down menus.	to filter by. The Area selected populates the Group and Service drop-
	Manage Area	Opens a dialog that enables you to Delete , Rename or Merge the Area.
		Delete removes the Area from the CMDB database as well as all CMDB data and CIs associated with the Area.
		Rename Changes all records for the Area to a new name. Rename is disabled when the name you are typing in the text box already exists in the CMDB.
		Merge Changes all records for the Area to a different, already existing name in the CMDB. Merge is enabled when the name you are typing in the text box already exists in the CMDB.
		Move Changes all records for the Area to a different, already existing name in the CMDB that you choose from the New Area drop-down menu.
Group	Select a Group menu.	to filter by. The Group selected populates the Service drop-down
	Manage Group	Opens a dialog that enables you to Delete , Rename or Merge the Group.
		Delete removes the Group from the CMDB database as well as all CMDB data and CIs associated with the Group.
		Rename Changes all records for the Group to a new name. Rename is disabled when the name you are typing in the text box already exists in the CMDB.
		Merge Changes all records for the Group to a different, already existing name in the CMDB. Merge is enabled when the name you are typing in the text box already exists in the CMDB.
		Move Changes all records for the Group to a different, already existing name in the CMDB that you choose from the New Group drop-down menu.
Service	Select a Service	e to edit, then click Update .
	Manage Service	Opens a dialog that enables you to Delete , Rename or Merge the Service.
		Delete removes the Service from the CMDB database as well as all CMDB data and CIs associated with the Service.
		Rename Changes all records for the Service to a new name. Rename is disabled when the name you are typing in the text box already exists in the CMDB.
		Merge Changes all records for the Service to a different, already existing name in the CMDB. Merge is enabled when the name you are typing in the text box already exists in the CMDB.
		Move Changes all records for the Service to a different, already existing name in the CMDB that you choose from the New Service drop-down menu.

CI List Table This table lists all CIs associated with the selected Service. Each table row is a different CI. Select a CI to see its attributes in the drop-down menus at the right of the table. Use the **OSType**, **Region**, **SiteName**, **Criticality**, **City** and **Country** drop-down assign attributes, then click **Update**. To associate CIs with the Service, select one or more CIs from the **Available Components** table, then click **Add CI** (to associate the CI(s) with the selected Service.) or **Add CI To...** (to create a new Service and associate the CI(s) with it).

	СІТуре	The type of CI. For example, server or application.
	CIName	A unique identifier for the CI.
	Criticality	The importance level of the CI in your organization. Values range from A to E , where A is the highest Criticality and E is the lowest Criticality (with equally spaced intermediate values). This value is used to calculate the Alert Impact (maximum Alert Severity multiplied by the maximum Criticality equals Alert Impact). Criticality values are listed in the Component Views - CI Service Table display. Criticality values are also shown in heatmaps and tables.
	Region	The name of the Region for the CI.
	Environment	The name of the Environment for the CI.
	SiteName	The name of the Site for the CI.
	OSType	The operating system on the CI.
	City	The name of the City for the CI.
	Country	The name of the Country for the CI.
Update Criticality like selected CI	Updates the Cr selected CI leve	iticality attribute assigned to all CIs in the CI List table to match the el.
Environ	Select or type t selected in the	the Environment for the CI selected in the CI List Table , or the CI Available Components and added into the CI List Table .
Region	Select or type t the Available	the region for the CI selected in the CI List Table , or the CI selected in Components and added into the CI List Table .
SiteName	Select or type t in the Availab l	he site name for the CI selected in the CI List Table , or the CI selected le Components and added into the CI List Table .
Criticality	or a CI and set E is the lowest to calculate Ale Criticality equa Criticality value	bortance level of a Service or a CI for your organization. Select a Service the Criticality value from A to E , where A is the highest Criticality and Criticality (with equally spaced intermediate values). This value is used ert Impact (maximum Alert Severity multiplied by the maximum Is Alert Impact). es are listed in the Component Views - CI Service Table display. es are also shown in heatmaps and tables.
Country	Select or type 1	the country for the CI selected in the CI List Table , or the CI selected le Components and added into the CI List Table .
OSType	Select or type t selected in the	the operating system for the CI selected in the CI List Table , or the CI Available Components and added into the CI List Table .
Update	Updates the CI down menus (c	selected in the CI List Table with attributes selected from the drop- on the right).
Delete	Removes the se	elected CI from the CMDB database.

Available Components Table

This table lists all available CIs in your RTView Enterprise Monitor system whether they are in the CMDB or not. Each row in the table is a different CI (for example, a server or a process). Select one or more CIs to associate with the currently selected Service, then click **Add CI** (to associate the CI(s) with the selected Service.) or **Add CI To...** (to create a new Service and associate the CI(s) with it).

Selected CI Type	Select the type of CI to include in the Available Components table. All CIs of this type are listed. A CI can be associated with multiple Services.
CIName Filter	Enter a string to filter the list of available components.
Regex	Check to enable Regex filtering.
Add CI	Associates the CI selected in the Available Components table with the selected Service, and applies the attributes selected from the drop-down menus (on the right) to the CI.
	To associate a CI with the currently selected Service, select a CI from the Available Components table, use the drop-down menus on the right (Environ , Region , SiteName , etc.) to modify attributes for the CI, click Add CI and then click Update . The CI appears in the CI List Table .
Add CI To	Creates a new Service and associates the selected CI with it.
	To create a new Service and associate a CI with it, select a CI from the Available Components table, use the drop-down menus on the right (Environ, Region, SiteName , etc.) to modify attributes for the CI, click Add CI To , enter the name of the new Service, then click Update . The new Service is added to the list of Services and the CI appears in the CI List Table .

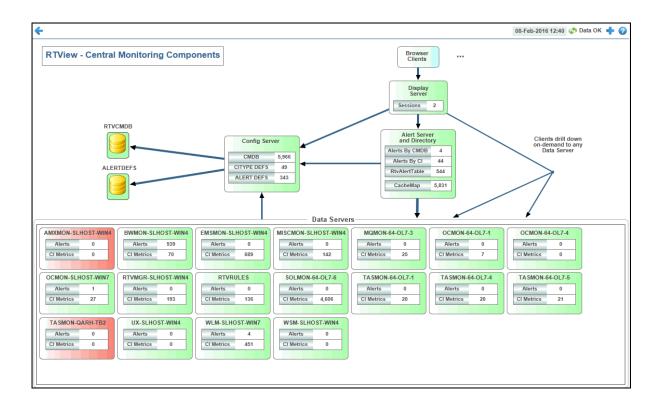
Architecture

These displays provide a view of RTView Enterprise Monitor component connectivity, mapping between component types, and component level connection and performance information. The Architecture displays are provided with RTView Enterprise Monitor. Displays in this View are:

- "System Overview" on page 212 Topology map of the main RTView Enterprise Monitor components. Objects are color-coded to show component status.
- "RTView Data Servers" on page 214: Configuration and connection details for RTView Data Servers.
- "Data Server Summary" on page 216: Connection and query statistics for RTView Data Servers.
- "RTView History Table Statistics" on page 218: Performance of historical data being stored from caches with history.
- "RTView Cache Tables" on page 219: Configuration and alert details for RTView Cache Tables.
- "RTView CI Stats Tables" on page 221: Alert details for RTView Cache Tables by CI.
- "RTView CI Type Defs" on page 222: CI Type definitions, cache map and alert map by CI Type.
- "RTView KM Defs" on page 224: Key Metrics definitions for all CI Types.
- "About" on page 225: This display shows details about the RTView Enterprise Monitor version and data sources available to your system.

System Overview

View the topology of the central RTView Enterprise Monitor monitoring components and their current connection state. Each object represents a component which are color-coded to indicate component status. Red indicates the component stopped running. Green indicates the component is running.





Fields and Data

This display includes:

Config Server

The Configuration Server provides configurations to all central RTView Enterprise Monitor components.

CMDB	The number of CIs in the CMDB.
CITYPE DEFS	The current number of CITYPE definitions.
ALERTDEFS	The current number of alert settings and override definitions.

Alert Server and Directory

The Alert and Directory Server centralizes access to all alerts sent by remote Data Servers, and maintains a directory table of CI locations. The CI location is the name of the source Data Server.

- Alerts By
CMDBThe number of Services in the CMDB that currently have at least one
associated alert.Alerts By CIThe number of CIs in the CMDB that currently have at least one
associated alert.
- **RtvAlertTable** The number of currently active alerts in the system.
- **CacheMap** The number of entries currently in the directory table.

Display Server

The Display Server generates HTML displays for browser clients.

Sessions The current number of users connected to the Display Server.

Browser The browser clients are represented in the topology as a single object. No data is shown for browser clients.

Data Servers

This panel in the topology shows all Data Servers.

Alerts The number of currently activated alerts for the Data Server.

CI Metrics The count of CI metrics that the remote Data Server is sending.

RTView Data Servers

View Data Server connection status and detailed client connection information.

(RT	View Data	Server Tables	23-Se	p-2015 14:	22 ᅉ	Data OK ┥	- 7	
			Loca	I Connection	ns to DataServer						
Name Connected Status Connection String Rcv Cnt Receiver									eT 🔺		
ALERT_SE	ERVER	Z	ок	192.168.200	.134:10028		5,111	9/23/15 1	14		
AMXMON-	SLHOST-WIN4	ľ	ОК	192.168.200		52	9/23/151	13			
BW6MON-	SLHOST-WIN4	N	OK	192.168.200.134:3378				5	9/23/15 1	13 E	
CONFIG_S	ERVER	Ľ	ОК	192.168.200		133	9/23/151	14			
EMSMON-	SLHOST-WIN4	Ň	OK	192.168.200).134:3178			5	9/23/15 1	13	
MISCMON	-SLHOST-WIN4	Ľ	ОК	192.168.200	.134:3978			112	9/23/15	11	
MOMON-6	4-OL7-3	ľ	ОК	192.168.200	.73:3478			3	9/23/15	11	
OCMON-64	4-OL7-1		no conne	192.168.200).71:3381			0	12/31/69 1	16	
OCMON-64	4-OL7-4	V	ОК	192.168.200	.74:3381			3	9/23/15	11	
OCMON-SI	LHOST-WIN7		no conne	192.168.200).137:3381			0	12/31/69 1	16	
RTVMGR-	VMGR-SLHOST-WIN4 VMGR-SLHOST-WIN4 OK 1				192.168.200.134:3078					13 🐣	
III								•			
				DataServe	r Manager						
Numt	perOfClients	Serv	vingData		ConnectionRequest	Count	Connec	tionRe	questFailed	dCour	
5 🖌						5					
				DataServe	er Clients						
Client ID	Address	Host	P	rocess Name	PID	Last D	ata Sent	Total	Data Sent	Du	
3	192,168,200,134	SLHOST-WIN4	da	taserverd	55364@SLHOST-WI		5,258		93.963.548		
4	127.0.0.1	127.0.0.1		storiand	15868@SLHOST-WI		2,722		37.981.383		
1	192.168.200.134	SLHOST-WIN4	di	playserver	27116@SLHOST-WI			6	16.260.790	260,790 0 04:	
2	127.0.0.1	127.0.0.1		taserverd	10564@SLHOST-WI		17,287				
5	192.168.200.134	SLHOST-WIN4		playserver			5,258		73,499,814		
•				111						•	

Title Bar (possible features are):	🔯 Data OK Data connection state. Red indicates the Data
 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. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Fields and Data This display includes:

Local Connections to Data Server This table lists all Data Servers and detailed connection information. Select a Data Server to view further details (in the lower tables).

Name	The Data Server name.
Connected	When checked, the connection is currently connected.
Status	The Data Server connection status.

Connection String	The host name and port number for TCP connections, or the URL for servlet connections.
Rcv Cnt	The number of data updates received from that Data Server.
ReceiveTime	The time that data was last received.
Config	The RTView version running on the Data Server.

Data Server Manager This table shows connection information for the Data Server selected from the **Local Connections to Data Server** table.

NumberOf Clients	The number of clients currently connected to the Data Server.
ServingData	When checked, the Data Server is currently serving data.
Connection Request Count	The number of client requests to connect to the Data Server.
Connection Request FailedCount	The number of client requests to connect to the Data Server that were unable to connect.

Data Server Clients This table shows information for clients connected to the Data Server selected from the **Local Connections to Data Server** table.

ClientID	A unique string identifier for the client.
Address	The client IP address.
Duration	The client session length of time.
Host	The address of the client host.
Last Data Sent	The amount of data, in bytes, the Data Server last sent to the client.
Total Data Sent	The total amount of data, in bytes, the Data Server has sent to the client.

Data Server Summary

View Data Server connection status, cache table sizes and database query metrics. Use the available drop-down menus or right-click to filter data shown in the display.

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Data Server:	<defau< td=""><td>t></td><td></td><td>•</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></defau<>	t>		•								
			Conn	ection Sta	tus				RTVie	w Cache T	ables	
Connected	Ct-t	C	onnectio	n l	Receive	Receive	Carta		CacheTa	ible	Rows	
Connected	Status		String		Count	Time	Config	F	RtvAlertTableL	.ocal	19,909	-
								F	RtvMxCacheD	efsWithCo	1,429	E
								F	RtvTabTreeCa	che	488	ε
									RtvMxCache	eDefsRaw	234	4
							-	F	RtvMxCacheD	efs	169	5
						Alert	Table View	F	RtvCmdbServi	ceTable_	5	
								F	RtvMxCacheIn	foByServ	50	E
						Al	ert Admin	-	RtvDataServer		20	
									RtvCmdbGroupTable_I 17			1
									RtvCmdbAreaTable_loc {			5
									RtvCmdbOwne	_	1	2
						Hist	ory Tables	-	mxStatsTotal			1
							-		RtvAlertMapByCl (C
								-	RtvAlertSource		((
									RtvAlertStatsB	-	(-
									RtvAlertStatsB	yCIAndAl	((*
			D	atabase Qu	ieries (runi	ning on selecte	ed Data Serve	r)				
Database	Conn	Count	Active	ExecTime	Rows	R	unTime		Status			
ALERTDEFS	V	0		Nal	V 0							
PROPDB	V	0		Nal	N 0							
RTVCMDB	V	0		Nal	0 ا							
RTVCONFIG	V	0		Nal	N 0							
RTVHISTORY		0		Nal	V 0							
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Title Bar (possible features are):	🔹 Data OK Data connection state. Red indicates the Data
 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. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Fields and Data

This display includes:

Select a Data Server from the drop-down menu to view details for in the display. Data Server

Connection Status This table shows connection details for the selected Data Server.

Connected When checked, the Data Server is currently connected.

Status The Data Server connection status.

Connection The host name and port number for TCP connections, or the URL for servlet connections.

Rcv Cnt The number of data updates received from that Data Server.

ReceiveTime The time that data was last received.

Config The RTView version running on the Data Server.

Alert Select to view or manage current alerts for the selected Data Server in the **RTView** Alerts Table display.

View

Alert Select to view or manage alert thresholds for the selected Data Server in the Alert Administration display.

History Select to view database table statistics for each cache for the selected Data Server in the "RTView History Table Statistics" display.

RTView Cache Tables

This table lists Cache Tables and their size, in number of rows, for the selected Data Server. Select a Cache Table to view details in the **RTView Cache Tables** display.

Use this data for debugging. This display is typically used for troubleshooting with SL Technical Support.

CacheTable The name of the Cache Table.

Rows The current number of rows in the Cache Table.

Database Queries

This table lists the databases and query details for the selected Data Server. Each table row describes a different query.

Database	The name of the database.
Conn	When checked, the database is currently connected.
Count	The number of query requests from current Data Server.
Active	When checked, the query is currently running.
ExecTime	The amount of time, in milliseconds, to execute the query.
Rows	The number of rows the query created.
RunTime	The time the query was executed.
Status	The latest result status of the query.
Query	The query that was executed.

RTView History Table Statistics

This display opens when you click **History Tables** from the **Architecture -** "Data Server Summary" on page 216 display. View information about the performance of historical data being stored from caches with history. Use this display to verify your tables are growing as expected by:

- seeing how many rows are in the database table (**Row Count**).
- seeing how many rows are added at each update period (**Delta**).
- verifying that the range of the data stored in the table is consistent with defined compaction rules and that behavior is as expected. To do this, compare the time of First Entry and Last Entry and verify the dates match the defined compaction interval (for example, 2 weeks by default). For this verification, you must first confirm the historian has been operating for at least the defined compaction time interval, otherwise the range of data will be shorter.

DataServer: EMSMON-SLDEMOS	RT	/iew Histor	y Table St	atistics 10-Dec-	2014 07:14 🛛 📫 Data O	к 🔶 (
Cache Name / DB Table Name	Row Count	Delta	Distinct	First Entry	Last Entry	Current
EmsAdmStats EMS_ADMSTATS	8,337	1	0	18-Sep-2014 01:15:00	10-Dec-2014 07:16:00	۲
EmsDurables EMS_DURABLES	395,397	53	53	18-Sep-2014 01:15:00	10-Dec-2014 07:15:00	۲
EmsQueueTotalsByServer EMS_QUEUETOTALS	181,236	181,236	24	18-Sep-2014 01:15:00	10-Dec-2014 05:25:00	0
EmsQueues EMS_QUEUES	3,958,595	296	665	15-Sep-2014 02:00:00	10-Dec-2014 07:16:00	۲
EmsRouteCountsByServer EMS_ROUTECOUNTS	124,790	15	16	18-Sep-2014 01:15:00	10-Dec-2014 07:16:00	۲
EmsRoutes EMS_ROUTES	208,014	25	26	18-Sep-2014 01:15:00	10-Dec-2014 07:16:00	۲
EmsServerInfo EMS_SERVERINFO	199,807	24	25	18-Sep-2014 01:15:00	10-Dec-2014 07:16:00	۲
EmsTopicTotalsByServer EMS_TOPICTOTALS	183,187	22	23	18-Sep-2014 01:15:00	10-Dec-2014 07:16:00	۲
EmsTopics EMS_TOPICS	7,132,737	621	37,369	18-Sep-2014 01:15:00	10-Dec-2014 07:16:00	۲
JvmMemory JVM_MEMORY	20,737	0	13	27-Nov-2014 00:15:00	10-Dec-2014 07:13:00	۲
JvmOperatingSystem JVM_OPERATINGSYSTEM	20,214	17	13	27-Nov-2014 00:15:00	10-Dec-2014 07:21:00	۲

Title Bar (possible features are):	💠 Data OK Data connection state. Red indicates the Data
🗲 🛧 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Fields and Data

This display includes:

Cache Name / DB Table Name	The name of the cache and the name of the database table. Mouse-over to see the Index columns for the cache.
Row Count	The number of rows in the table.
Delta	The number of rows added since the last update.

Distinct	The number of distinct indexes in the table.
First Entry	The time stamp of the oldest entry written to the table.
Last Entry	The time stamp of the most recent entry written to the table.
Current	 The current writing state of the table. (Time ≥ 10m) The writing latency is equal to or greater than ten minutes. (Time ≥ 4m and < 10m) The writing latency is equal to or greater than four minutes and less than ten minutes. (Time < 4m) The writing latency is less than four minutes.

RTView Cache Tables

View Data Server Cache table sizes and contents. Select a cache table in the upper table and view its contents in the lower table. Use the available drop-down menus or right-click to filter data shown in the display.

RTView Cache Tables				23	-Sep-2015 14:	16 🗳 Data Ok	+ ،	?			
Data Server: <de< th=""><th>fault></th><th>•</th><th>RTV</th><th>liew Ca</th><th>iche</th><th>Tables</th><th>Max Ro</th><th>ws:4000</th><th>Histor</th><th>ry Tab</th><th>les</th></de<>	fault>	•	RTV	liew Ca	iche	Tables	Max Ro	ws:4000	Histor	ry Tab	les
C	acheTable		TableType Rows			Colu	Columns		Memory		
RtvMxCacheDefs	Raw		current			234		9	9 190,222		-
JmxStatsTotals			current			1		4		441	
RtvAlertMapByCl			current			0		5		464	
RtvAlertSourceStat	s		current			0		0		(Ξ
RtvAlertStatsByCate	egoryIndex		current			0		7		673	
RtvAlertStatsByCl			current			0		5		477	
RtvAlertStatsByCIA	ndAlertGroup		current			0		6		565	
RtvAlertStatsByPac	kageIndex		current			0		6		583	
RtvAlertTable			current			0	29			2,676	
RtvAlertTableLocal			current			19,906	38		36,159,370		
RtvCacheMapByCl			current	0		5			475		
RtvCacheMapByCl [*]	Туре		current	0			0		(\mathbf{T}	
			Rtv	vAlertT	ablel	ocal		I	Rows: 19	906	
time_stamp	Time	Alert Name	Alert Index	Seve	rity	Alert Text	Cleared	Acknowled	lg ID	Last	
09/23/15 14:16:19	Sep 23, 201	HawkAlert	SLHOST5(do		1	Server Proce			1044	Sep	Ξ
09/23/15 14:16:19	Sep 23, 201	HawkAlert	SLHOST5(do		1	Service Print			1043	Sep	Ξ
09/23/15 14:16:19	Sep 23, 201	HawkAlert	SLHOST5(do		1	System Uptin			1042	Sep	
09/23/15 14:16:19	Sep 23, 201	HawkAlert	SLHOST5(do		2	Received fro			1041	Sep	
09/23/15 14:16:19	Sep 23, 201	HawkAlert	SLHOST6(do		2	Received fro			1045	Sep	
09/23/15 14:16:19	Sep 23, 201	BwEngineSt	SLHOST5(do		2	Engine has s			1051	Sep	
09/23/15 14:16:19	Sep 23, 201	BwEngineSte	SLHOST5(do		2	Engine has s			1050	Sep	
09/23/15 14:16:19	Sep 23, 201	BwEngineSt	SLHOST5(do		2	Engine has s			1049	Sep	
09/23/15 14:16:19	Sep 23, 201	BwEngineSte	SLHOST5(do		2	Engine has s			1048	Sep	
09/23/15 14:16:19	Sep 23, 201	BwEngineSt	SLHOST5(do		2	Engine has s			1047	Sep	
09/23/15 14:16:19	Sep 23, 201	HostMemory	myHawkDom		1	High Warning			1046	Sep	Ŧ
III										•	

Title Bar (possible features are):	🐼 Data OK Data connection state. Red indicates the Data
🔶 🛧 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Fields and Data

This display includes:

Data	Select a Data Server from the drop-down menu to view details for in the display.
Server	

Enter the maximum number of rows to include in the lower table, then click Enter. Max Rows

Select to include all defined history tables in the **RTView Cache Tables** list. History Tables

RTView Cache Tables

This table lists cache tables for the selected Data Server. Select a cache table to view details in the lower table.

CacheTable The name of the cache table.

The type of cache table. TableType

current	This table is a current table which shows the current values for each index.
current_condense d	This table is a current table with primary compaction configured.
history	This table is a history table.
history_condensed	This table is a history table with primary compaction configured.
history_combo	This table is a history table with primary compaction configured, and which is also configured to store rows of recent raw data followed by rows of older condensed data.
The number of rows of	urrently in the table

- Rows The number of rows currently in the table.
- Columns The number of columns currently in the table.
- The amount of space, in bytes, used by the table. Memory

(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.

The number of rows currently in the table. Rows

RTView CI Stats Tables

View details for components that currently have an active warning or alarm alert.

←	RTView CI Stats Tables 25-Sep-2015 11:34 🐢 Data OK 💠						Data OK 💠 😭
			Alert Stats By Cl				
time_stamp	E CITYPE	Ξ	CINAME	=	MaxSeverity =	AlertCou	int 🗉
09/25/15 11:13:33	BW-ENGINE	slhpux11(slmon);doma	inslmon.BWApp-7.Procs		1		1
09/25/15 11:13:33	BW-ENGINE	slapm(slapm);domains	lapm.BWApp-5.Procs		2		1 🔨
09/25/15 11:13:33	BW-ENGINE	slvmrh2(slapm);domai	nslapm.BWEngine.Process Archive		2	1	1
09/25/15 11:13:33	BW-ENGINE	slel4-64(slmon);domai	nsimon.BWApp-4.Procs		2	1	1
09/25/15 11:13:33	BW-ENGINE	slapm(slapm);domains	lapm.BW Engine.Process Archive		2		1
09/25/15 11:13:33	BW-ENGINE	slapm(slapm);domains	lapm.BWApp Space.Procs-1		2		1
09/25/15 11:13:33	BW-ENGINE	slel4-64(slmon);domai	nslmon.BWApp-5.Procs		1		1
09/25/15 11:13:33	BW-ENGINE	slel4-64(slmon);domai	nsimon.BWApp-10.Procs		1		1
<							>
			Cache Map By CIType				
time_stamp	E CITYPE	=	CACHENAME	Ξ	Sou	rce	Ξ
09/25/15 09:33:53	ACW	AwsEc2InstanceSta	ts	MISC	MON-DATA-1		
09/25/15 01:32:30	BW-ENGINE	BwEngines		Z-SIN	IDATA-1		^
09/25/15 06:02:09	BW-ENGINE	BwEngines		BWM	ON-SLDEMOS		
09/25/15 01:32:30	BW-PROCESS	BwProcesses		Z-SIN	IDATA-1		
09/25/15 06:02:09	BW-PROCESS	BwProcesses		BWM	ON-SLDEMOS		
09/25/15 01:32:30	BW-SERVER	BwServers		Z-SIN	IDATA-1		~
09/25/15 06:02:09	BW-SERVER	BwServers		BWM	ON-SLDEMOS		
•							>
CI Type Filter: All CI Typ	es 🗸		Cache Map By Cl			Co	ount: 2475
time stamp	= CIType =		CIName		Data ServerName	= Ev	nired =

Title Bar (possible features are): 🐼 Data OK 🛛 Data connection state. Red indicates the Data Server is not receiving data or the Display Server is not ÷ Open the previous and upper display. receiving data from the Data Server. Green indicates the data source is connected. Open an instance of this display in a new window. 23-Mar-2017 12:04 Current date and time. Incorrect time Open the online help page for this display. might indicate the Monitor stopped running. Correct time Menu , Table open commonly accessed and green Data OK icon is a strong indication that data is displays. current and valid. 6.047 The number of items currently in the display. Open the Alert Views - RTView Alerts Table display.

Fields and Data

This display includes:

Alert Stats By CI

This table provides summary alert details for all CIs that currently have active warning or alarm alerts.

time_stamp	The date and time this table row of data was last updated. Format:			
	MM/DD/YY HH:MM:SS <month>/ <day>/<year> <hours>:<minutes>:<seconds></seconds></minutes></hours></year></day></month>			
CIType	The component type.			
CIName	The name of the component.			
MaxSeverity	The most critical alert state of all current alerts for this component.			
AlertCount	The number of current warning and alarm alerts for this component.			
Cache Map By CIType				

This table provides mapping of all component types to caches.

time_stamp	The date and time this table row of data was last updated.
	Format:
	MM/DD/YY HH:MM:SS
	<month>/ <day>/<year> <hours>:<minutes>:<seconds></seconds></minutes></hours></year></day></month>
СІТуре	The component type.

CACHENAME The name of the cache associated with the component type.

The name of the Data Server alert sending data for that component type. Source

Cache Map By CI This table provides the location of all CIs.

CI Type Filter:	Select the CI Type to filter by in this table, or select All CI Types .
Count	The number of CIs currently in this table.
time_stamp	The date and time this table row of data was last updated. Format: MM/DD/YY HH:MM:SS <month>/ <day>/<year> <hours>:<minutes>:<seconds></seconds></minutes></hours></year></day></month>
СІТуре	The component type.
CIName	The name of the component.
DataServerN ame	The name of the Data Server which sent this CI.
Expired	When checked, data has not been received within the time specified in the Solution Package that is hosting the data. If the Solution Package is configured to delete expired data, this row will be deleted if no data is received within the time specified for deletion. See the documentation for the Solution Package that is hosting the data for information on how to configure expiration and deletion times.

RTView CI Type Defs

This display provides component type definitions and shows the mapping of component types to caches as well as component types to alerts.

<				RTView CI Type Definitio	ns 1:	3-Oct-2015 11:08 💠 Data OK	+ (
				CI Type Definitions			
CITYPE	INDEXMAP	INDEXNAMES		RTVDISPLAY	CIVARMAP	DEFAULTQUALITY	ON
ACW	1	Dimension		acw_instance_summary	\$awsEc2InstanceId	1 In	frastr ⁴
AMX-HOST	1	AMX Host		amx_host_summary	\$amxHost	1 In	frastr
AMX-NODE	1;2	AMX Host;Node		amx_node_summary	\$amxHost;\$amxNode	1 In	frastr
AMX-SERVICE	1;2	Application;Service		amx_service_summary	\$amxApplication;\$amxService	1 In	frastr
AMX-SERVICENOE)E 1;2;3;4	AMX Host;Node;Application	;Ser.	amx_servicenode_summary	<pre>\$amxHost;\$amxNode;\$amxApp</pre>	1 In	frastr
BW6-APP	1;2;3	Domain;AppSpace;Applicat	ion	bw6_app_summary	\$bw6domain;\$bw6appspace;\$b	1 In	frastr
BW6-APPNODE	1;2;3	Domain;AppSpace;AppNod	е	bw6_appnode_summary	\$bw6domain;\$bw6appspace;\$b	1 In	frastr
BW6-PROCESS	1;2;3;4;5	Domain;AppSpace;AppNod	e;Ap.	bw6_process_summary	\$bw6domain;\$bw6appspace;\$b	1 In	frastr
BW-ENGINE	1;2	AgentName;MicroAgentNar	ne	bw_engine_summary	\$bwserver;\$bwengine	1 In	frastr
<							>
	Cache Map B	у СІТуре			Alert Map By CIType		
CITYPE	CACHENAME			CITYPE ALERTNAME		RTNAME	
ACW	AwsEc2InstanceS	tats	1^	ACW	AcwInstanceCpuHigh		- '
AMX-NODE	AmxNodes			ACW	AcwInstanceDiskReadBytesHigh	1	
AMX-SERVICE	AmxServiceTotals			ACW	AcwInstanceDiskReadOpsHigh		
AMX-SERVICEN	AmxServices			ACW	AcwInstanceDiskWriteBytesHigh	1	
BW6-APP	Bw6Apps			ACW	AcwInstanceDiskWriteOpsHigh		
BW6-APP	Bw6ProcessTotals	sByApp		ACW	AcwInstanceNetworkReadBytes	High	
BW6-APPNODE	Bw6AppNodes			ACW	AcwInstanceNetworkWriteBytesH	High	
BW6-PROCESS	Bw6Processes			AMX-SERVICE	AmxServiceNodeHitRateHigh		
BW-ENGINE	BwEngines			AMX-SERVICE	AmxServiceNodeResponseTime	High	
BW-PROCESS	BwProcesses			AMX-SERVICE	AmxServiceNodeFaultRateHigh		
BW-SERVER	BwServers			AMX-SERVICE	AmxServiceHitRateHigh		
DB2	Db2DbSummary			AMX-SERVICE	AmxServiceResponseTimeHigh		
DB2	Db2ResponseTim	e		AMX-SERVICE	AmxServiceFaultRateHigh		
EM-SERVICE	RtvCmdbServiceT	able_local		AMX-SERVICE	AmxServiceNodeNotRunning		
EM-SERVICE	RtvCmdbServiceS	stats local	- •	BW6-APP	Bw6AppProcessCreatedRateHig	h	

Title Bar (possible features are):	🔄 Data OK Data connection state. Red indicates the Data
 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 	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
displays.	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.	Open the Alert Views - RTView Alerts Table display.

Fields and Data

This display includes:

CI Type Definitions This table provides definitions for all CI Types.

СІТуре	The component type.
INDEXMAP	Number of indexes and the order in which they are used to form the CI Name.
INDEXNAMES	Semicolon-separated list of the index columns.
RTVDISPLAY	The name of the RTView display to drill-down to from the Alerts Table to see summary data for this CI Type. This is the target of the Go To CI button in the Alerts Table and in the Service Summary display.
CIVARMAP	The names of substitutions that must be set to drill-down to the display.
DEFAULTQUALIT Y	A flag indicating whether the lack of data is considered an error condition or not.
OWNER	The Owner the CIType is associated with, when the CMDB is populated automatically from CIs of this type.
AREA	The Area the CIType is associated with.
SERVICEGROUP	The SERVICEGROUP the CIType is associated with, when the CMDB is populated automatically from CIs of this type.

Cache Map By CIType This table provides mapping of component types to caches for all component types.

- The type of CI. CIType
- CACHENAME The name of the cache associated with the component type.

Alert Map By CIType This table provides mapping of component types to alerts.

- The type of CI. CIType
- ALERTNAME The name of the alert.

RTView KM Defs

This display shows the Key Metrics definitions for all CI Types. For details, see "Available KM Metrics and Alerts" on page 163.

<	RT	View Key Metrics D	efinitions 23-Sep-201	15 14:11 💠 Data OK 💠 🕜
CITYPE	CACHENAME	SELECTOR	METRICNAME	AlertName
ACW	AwsEc2InstanceStats	Instance CPU Usage	CPUUtilization	AcwInstanceCpuHigh
AMX-SERVICE	AmxServiceTotals	Service Hits/Min	Hits Per Minute	AmxServiceHitRateHigh
AMX-SERVICE	AmxServiceTotals	Service Response Time	Avg. Response Time	AmxServiceResponseTir
AMX-SERVICENODE	AmxServices	Node Hits/Min	Hits Per Minute	AmxServiceNodeHitRate
AMX-SERVICENODE	AmxServices	Node Response Time	Avg. Response Time	AmxServiceNodeRespor
BW6-APP	Bw6ProcessTotalsByApp	App Created / sec	RateCreated	Bw6AppProcessCreatedF
BW6-APP	Bw6ProcessTotalsByApp	App Exec Time / sec	RateTotal Execution	Bw6AppProcessExecutio
BW6-APPNODE	Bw6AppNodes	CPU Used %	Used CPU Percentage	Bw6AppNodeCpuUsedH
BW6-APPNODE	Bw6AppNodes	Mem Used %	Used Memory Percentage	Bw6AppNodeMemUsedI
BW6-PROCESS	Bw6Processes	Process Created / sec	RateCreated	Bw6ProcessCreatedRate
BW6-PROCESS	Bw6Processes	Process Exec Time / sec	RateTotal Execution	Bw6ProcessExecutionTil
BW-ENGINE	BwEngines	CPU Used %	CPU %	BwEngineCpuUsedHigh
BW-ENGINE	BwEngines	Memory Used %	PercentUsed	BwEngineMemUsedHigh
BW-PROCESS	BwProcesses	Process Exec Time / sec	RateTotalExecution	BwProcessExecutionTim
BW-SERVER	BwServers	CPU Used %	CPU Usage %	BwServerCpuUsedHigh
DB2	Db2ResponseTime	Response Time	ResponseTimeMilliSec	Db2ResponseTimeHigh
EM-SERVICE	RtvCmdbServiceStats_local	Alert Impact	AlertImpact	RtvEmServiceAlertImpa
EMS-QUEUE	EmsQueues	Pending Msgs	pendingMessageCount	EmsQueuesPendingMsg
EMS-QUEUE	EmsQueues	In Msgs / sec	inboundMessageRate	EmsQueuesInMsgRateH
EMS-QUEUE	EmsQueues	Out Msgs / sec	outboundMessageRate	EmsQueuesOutMsgRate 🔻
	EmeQuation	Concument	concurrerCount	EmcOupureConcumptCo

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:

RTView Key Metrics Definitions

This table provides Key Metrics definitions for all CI Types.

СІТуре	The component type.
CACHENAME	The name of the cache that contains the Key Metric.
SELECTOR	The name used for this Key Metric in the Metric Name column of Key Metric displays.
METRICNAME	The name of the cache column that contains this Key Metric.
ALERTNAME	The name of the alert associated with this Key Metric. When blank, the Key Metric is not configured for inclusion in Key Metric displays.

CalcMode	The calculation used for the Threshold % value. The base value is calculated as the percent of the Key Metric value between 0 and the ALARMLEVEL of the associated alert. If the CalcMode is blank, this value is used. If the CalcMode is:
	 exp, the value is adjusted so that lower values are diminished. Typically, this is used for memory metrics.
	• inverse , the value is calculated in reverse of the standard thresholds. This is used when the associated alert is a low threshold alert.
	 invpct, the value is calculated in reverse of the standard threshold and is assumed to be percent and therefore a value between 0 and 100. This is used when the associated alert is a low threshold alert against a percent.
	• log , a logarithmic algorithm is applied.
Level	The Key Metric level. Level 0 KMs are always displayed. Level 1 KMs are displayed is Show More Metrics is selected.

About

Get RTView Enterprise Monitor version and configuration information including a list of all available data sources. For more detailed version information, click **Version Info For All Connected RTView Apps** to open the "Version Info" display.

<		23-Mar-2016 15:47 🗳 Data OK	+ 0
	RTView(R) Display Server - RTView Enterprise Monitor(R) Version: 3.3.0.0 ALPHA Configuration: APM.3.3.0.0_20160323_000.21116-alpha_114 Build Number: 000.21116 Detailed Version Info For All Connected RTView Apps Available Data Sources: Available Data Sources: CMDB JMX LOG4J OLAP Round Robin Database RtvAgent RtvPipe SPLUNK SQL WMI XML		

Property Views

These displays show how your Monitor properties are configured and the values for all connected RTView processes. The displays are located under the **ADMIN** tab. Displays in this View are:

- "Properties Configuration" on page 226: Table of properties configuration settings, per connection.
- "System Properties" on page 228: Table of system properties for RTView processes, per connection.
- "Applied Properties" on page 230: Table of all properties that were applied to RTView processes, per connection.
- "All Properties" on page 232: Table of all properties that were read from the properties files and database regardless of whether or not the RTView process uses them.
- "Properties Descriptions" on page 234: Table of all properties that are supported by RTView processes, per connection.

Properties Configuration

This display shows properties configuration information. The **Last Property Read Time** shows the last time that properties were read for the RTView process specified by the selected **Connection**.

Source: Data Server	Connection: ALERT_SERVER	
Last Property Read Time: Mar	23, 2016 10:53:12 AM	

Select the **Source** of the connection to the RTView process for which you want to see property information. Options are:

- Data Server: If the RTView process is a Data Server and the Thin Client has a defined Data Server connection for it, choose this option and select the name of the Data Server in the Connection field.
- Local JMX Connection: Select this option if the Thin Client has a defined JMX Connection to the RTView process.
- **RTVMGR JMX Connection:** Select this option if the RTView Monitor has a defined JMX Connection to the RTView process.

Select the **Connection** to the RTView process for which you want to see property information. Options available depend on your setup. For example, **RTView Monitor** is only visible when the **Source** is **RTView Monitor JMX Connection** and you have multiple RTView Monitors. You can then select an RTView Monitor that has a defined JMX Connection to the RTView process for which you want to see property information.

The **Property Files** table shows all of the properties files that were read by the RTView process specified by the selected **Connection** in the order they were read. The **Property Filters** table shows all filters that are applied to the properties. **Property Groups** shows all property groups that are applied to the properties. **Property Groups** are only used when reading properties from a database.

Click **Update Props** to have the RTView process specified by the selected **Connection** reread all properties files and database properties. Note that most non-connection properties do NOT support updates. See the "Properties Descriptions" on page 234 display to find out if a specific property supports updates. Right-click/**Export** to create a PDF image of the display. Click Sort **I** to order column data.

Source:			 •
	Data Server Connection: ALERT_SERVER	•	Update Props
Last Pro	perty Read Time: Mar 23, 2016 10:53:12 AM Property Files		Property Filters
	Files –		Filters
rtview			dataserver.
emcommo	n		collector.
central			 ConfigClient.
C:\TestBed	dirtvapm		 AlertCollector.
	onfvtvapm.nodemon.ref		AlertAggregator.
C:\TestBed	dirtvapm\wsm\conflvtvapm.wsm.ref		AllDataClient.
C:\TestBed	dirtvapm\wim\confirtvapm.wim.ref		AlertServer.
C:\TestBed	dirtvapm\vmwmon\conflrtvapm.vmwmon.ref		
C:\TestBed	dirtvapm\uxmon\conflvtvapm.uxmon.ref		
C:\TestBed	dirtvapmitbemoniconfirtvapm.tbemon.ref		
C:\TestBed	dirtvapm)tasmon/confirtvapm.tasmon.ref		
C:\TestBed	dirtvapm\syslog\confirtvapm.syslog.ref		Descents Comme
C:\TestBed	dirtvapm\solmon\confirtvapm.solmon.ref		Property Groups (Database Only)
C:\TestBed	dirtvapm\rtvmgr\confvtvapm.rtvmgr.ref		Groups
C:\TestBed	dirtvapm\oramon\confirtvapm.oramon.ref		
C:\TestBed	dirtvapm\ocmon\confirtvapm.ocmon.ref		
C:\TestBed	dirtvapm\mx\confirtvapm.mx		
C:\TestBed	dirtvapm\mqmon\conflitvapm.mqmon.ref		

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 "Up" Arrow (¹) opens the most recently viewed display under "Multi Area Service Views". For example, if the last viewed display under **Multi Area Service Views** was **Services CI Type Summary**, then clicking ¹ opens the "Services CI Type Summary" display.

Filter By:

Menu

displays.

Т

Source:	Select the Source of the connection to the RTView process for which you want to see property information.
Connection:	Select the Connection to the RTView process for which you want to see property information.
Fields and Dat This display incl	
Update Props	Click to have the RTView process specified by the selected Connection re-read all properties files and database properties. Note that most non-connection properties do NOT support updates. Use the "Properties Descriptions" display to see if a specific property supports updates.
Lact	The last time that properties were read for the RTView process specified by

Last The last time that properties were read for the RTView process specified by the selected **Connection**.

, Table open commonly accessed

6,047 The number of items currently in the display.

Property Files (table)	List of all properties files that were read by the RTView process specified by the selected Connection in the order they were read.
Property Filters (table)	List of all filters that are applied to the properties.
Property Groups	List of all property groups that are applied to the properties. Property Groups are only used when reading properties from a database.

System Properties

This display shows the System properties for the RTView process specified by the selected Connection.

Select the **Source** of the connection to the RTView process for which you want to see property information. Options are:

- Data Server: If the RTView process is a Data Server and the Thin Client has a defined Data Server connection for it, choose this option and select the name of the Data Server in the Connection field.
- Local JMX Connection: Select this option if the Thin Client has a defined JMX Connection to the RTView process.
- RTVMGR JMX Connection: Select this option if the RTView Monitor has a defined JMX Connection to the RTView process.

Select the **Connection** to the RTView process for which you want to see property information. Options available depend on your setup. For example, **RTVMGR** is only visible when the **Source** is **RTVMGR JMX Connection** and you have multiple RTView Monitors. You can then select an RTView Monitor that has a defined JMX Connection to the RTView process for which you want to see property information.

Click **Update Props** to have the RTView process specified by the selected Connection re-read all properties files and database properties. Note that most non-connection properties do NOT support updates. See the "Properties Descriptions" display to find out if a specific property supports updates.

Right-click/**Export** to create a PDF image of the display. Click Sort **I** to order column data.

¢	System Properties 23-Mar-2016 15:16 💠 Data OK 🛉	• 🕜
Source: Data Server Conn	tion: ALERT_SERVER Update Pro	ps
	System Properties	
Property	Value	
awt.toolkit	sun.awt.windows.WToolkit	11
com.sl.rtview.customRtvAppManagerClassNar	com.sl.gmsjrtvutils.RtvApmAppManager	
com.sl.rtview.log4jFile	C:\TestBedirtvapm/common/conf/sl.log4j.properties	
com.sl.rtview.RTVLog4jLevel	info	
com.sl.rtview.showLogCategory	true	= =
com.sl.rtview.useLog4j	true	
com.sun.management.jmxremote.authenticate	false	
com.sun.management.jmxremote.port	10023	
com.sun.management.jmxremote.ssl	false	_
file.encoding	Cp1252	_
file.encoding.pkg	sun.io	
file.separator	1	
java.awt.graphicsenv	sun.awt.Win32GraphicsEnvironment	
java.awt.printerjob	sun.awt.windows.WPrinterJob	
java.class.path	.;./myclasses.jar;C:\TestBedVjdbc/jtds12.jar;C:\TestBed\emsample/custom/lib/rtvapm_cust	01
java.class.version	50.0	
java.endorsed.dirs	c:\Program Files\Java\jdk1.6.0_35\jre\lib\endorsed	_
ing energification name	Java Blatform ADI Specification	- 1
4	III	•

Title Bar (possible features are):	🔹 Data OK Data connection state. Red indicates the Data
 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 	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
displays.	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.	👔 Open the Alert Views - RTView Alerts Table display.

Filter By:

Source:		Select the Source of the connection to the RTView process for which you want
		to see property information.
-		Select the Connection to the PTView process for which you want to see

Connection: Select the Connection to the RTView process for which you want to see property information.

Fields and Data This display includes:

Update Props	Click to have the RTView process specified by the selected Connection re-read all properties files and database properties. Note that most non-connection properties do NOT support updates. Use the "Properties Descriptions" display to see if a specific property supports updates.
System Properties (table)	List of all system properties for the RTView process specified by the selected Connection .
Property	The name of the property.
Value	The property setting.

Applied Properties

This display shows all properties that were applied to the RTView process specified by the selected **Connection**.

There are several reasons a property specified in a properties file might not be applied to an RTView process:

- the filter doesn't match.
- it was overridden in another property file.
- it was specified in a file that is not used by the RTView process.
- it was a property that is not supported in that RTView process (ex, a builder specific property would not be applied to a data server process).

You can filter the **Applied Properties** table using the **Filter Column** and **Field Value** fields. The **Clear Filter** button clears the filter. Double-click on a row in the table to drill down to the "All Properties" display filtered by the **Property Name** for that row.

Note: The double-click feature is not supported on IPad. IPad users can access the "All Properties" display from the navigation tree.

Select the **Source** of the connection to the RTView process for which you want to see property information. Options are:

- Data Server: If the RTView process is a Data Server and the Thin Client has a defined Data Server connection for it, choose this option and select the name of the Data Server in the Connection field.
- Local JMX Connection: Select this option if the Thin Client has a defined JMX Connection to the RTView process.
- RTVMGR JMX Connection: Select this option if the RTView Monitor has a defined JMX Connection to the RTView process.

Select the **Connection** to the RTView process for which you want to see property information. Options available depend on your setup. For example, **RTVMGR** is only visible when the **Source** is **RTVMGR JMX Connection** and you have multiple RTView Monitors. You can then select an RTView Monitor that has a defined JMX Connection to the RTView process for which you want to see property information.

Click **Update Props** to have the RTView process specified by the selected Connection re-read all properties files and database properties. Note that most non-connection properties do NOT support updates. See the "Properties Descriptions" display to find out if a specific property supports updates.

Right-click/**Export** to create a PDF image of the display. Click Sort **I** to order column data.

+			Applied Properties	23-Mar-2016 15:21 🔅 Data OK 🚦	0
Source: Data Serve	er 📑	Connec	tion: ALERT_SERVER	Update Prop	ps
Filter Column: None		▼ Fi	ilter Value:	Clear Filter	r
			Applied Properties		
Apply Time	Action	Success	File Name	Property Name	
03/23/2016 10:53:12	ADDED	R	C:\TestBed\rtvapm\common\conf\rtvapm	sl.rtview.dataserver.socket	- 11
03/23/2016 10:53:12	ADDED	V	central	sl.rtview.dataserver.port	=
03/23/2016 10:53:12	ADDED	V	C:\TestBed\rtvapm\appmon\conf\rtvapm.appmon	sl.rtview.global	
03/23/2016 10:53:12	ADDED	R	C:\TestBedvtvapm\appmon\confvtvapm.appmon	sl.rtview.global	
03/23/2016 10:53:12	ADDED	R	C:\TestBed\rtvapm\appmon\conf\rtvapm.appmon	sl.rtview.sub	
03/23/2016 10:53:12	ADDED	r	C:\TestBed\rtvapm\appmon\conf\rtvapm.appmon	sl.rtview.sub	
03/23/2016 10:53:12	ADDED	r	C:\TestBedvtvapm\appmon\confvtvapm.appmon	sl.rtview.sub	
03/23/2016 10:53:12	ADDED	r	C:\TestBed\rtvapm\appmon\conf\rtvapm.appmon	sl.rtview.sub	
03/23/2016 10:53:12	ADDED		C:\TestBed\rtvapm\appmon\conf\rtvapm.appmon	sl.rtview.sub	
03/23/2016 10:53:12	ADDED	Ľ	C:\TestBedirtvapm\appmon\confirtvapm.appmon	sl.rtview.sub	
03/23/2016 10:53:12	ADDED	r	C:\TestBed\rtvapm\appmon\conf\rtvapm.appmon	sl.rtview.sub	
03/23/2016 10:53:12	ADDED	r	C:\TestBedvtvapm\appmon\confvtvapm.appmon	sl.rtview.sub	
03/23/2016 10:53:12	ADDED		C:\TestBed\rtvapm\appmon\conf\rtvapm.appmon	sl.rtview.sub	
03/23/2016 10:53:12	ADDED	~	C:\TestBedirtvapm\appmon\confvtvapm.appmon	sl.rtview.sub	
•				•	

Title Bar (possible features are):	🕼 Data OK Data connection state. Red indicates the Data
 Open the previous and upper display. Open an instance of this display in a new window. 	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 online help page for this display. Menu , 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.	Open the Alert Views - RTView Alerts Table display.

Filter By:

	Source:	Select the Source of the connection to the RTView process for which you want to see property information.
	Connection:	Select the Connection to the RTView process for which you want to see property information.
Fields and D This display i		
	Update Props	Click to have the RTView process specified by the selected Connection re-read all properties files and database properties. Note that most non-connection properties do NOT support updates. Use the "Properties Descriptions" display to see if a specific property supports updates.
	Filter Column:	Select a column to filter the Applied Properties table.
	Filter Value:	Enter a string to filter the Applied Properties table.
	Clear Filter	Clears the filter.
Applied Properties (table)	Apply Time	The last time this property was applied.

Action	Describes what occurred at Apply Time.
	 ADDED: Property was added.
	REMOVED: Property was removed.
	CHANGED: Property was modified.
Success	When the box is checked the Action was successful.
File Name	The source of this property. For properties read from a database this value is database .
Property Name	The name of the property after the property filter has been applied.
Property Value	The value of the property.
Handler	The RTView Handler that uses this property.

All Properties

This display shows all properties that were read from the properties files and database regardless of whether or not the RTView process uses them. There are several reasons a property specified in a properties file might not be applied to an RTView process:

- the filter doesn't match.
- it was overridden in another property file.
- it was specified in a file that is not used by the RTView process.
- it was a property that is not supported in that RTView process (ex, a builder specific property would not be applied to a data server process).

You can filter the **All Properties** table using the **Filter Column** and **Field Value** fields. The **Clear Filter** button clears the filter. Double-click on a row in the table to drill down to the "All Properties" display filtered by the **Property Name** for that row.

Select the **Source** of the connection to the RTView process for which you want to see property information. Options are:

- Data Server: If the RTView process is a Data Server and the Thin Client has a defined Data Server connection for it, choose this option and select the name of the Data Server in the Connection field.
- Local JMX Connection: Select this option if the Thin Client has a defined JMX Connection to the RTView process.
- RTVMGR JMX Connection: Select this option if the RTView Monitor has a defined JMX Connection to the RTView process.

Select the **Connection** to the RTView process for which you want to see property information. Options available depend on your setup. For example, **RTVMGR** is only visible when the **Source** is **RTVMGR JMX Connection** and you have multiple RTView Monitors. You can then select an RTView Monitor that has a defined JMX Connection to the RTView process for which you want to see property information. Click **Update Props** to have the RTView process specified by the selected **Connection** reread all properties files and database properties. Note that most non-connection properties do NOT support updates. See the "Properties Descriptions" display to find out if a specific property supports updates.

÷		All Properties	23-Mar-2016 15:37 💸 Data OK 💠	0
Sourc	ce: Data Server 💌 Connectio	n: ALERT_SERVER	Update Prop	s
Filter	Column: None 💌 Filte	r Value:	Clear Filter	
		All Properties		
Order	File Name	Property Name	Property Value	
0	C:\TestBedirtvapm\common\confirtvapm	sl.rtview.cp	C:\TestBed\rtvapm\rtview/lib/rtvssa.jar	=
1	C:\TestBedirtvapm\common\confvtvapm	sl.rtview.cp	C:\TestBed/rtvapm/common/lib/rtvapm_common.jar	
2	C:\TestBedirtvapm\common\confirtvapm	sl.rtview.cp	C:\TestBed\rtvapm/common/lib/gmsjrtvutils.jar	
3	C:\TestBedirtvapm\common\conf\rtvapm	sl.rtview.cp	C:\TestBed\rtvapm\rtview/lib/rtvdebug.jar	
4	C:\TestBed\rtvapm\common\conf\rtvapm	sl.rtview.jvm	-Xmx256m	
5	C:\TestBedirtvapm\common\confirtvapm	sl.rtview.jvm	-Xms128m	
6	C:\TestBedirtvapm\common\conftrtvapm	sl.rtview.cmd_line	-notibco	
7	C:\TestBedirtvapm\common\confvtvapm	sl.rtview.stylesheet	rtv_darkstyles,rtv_flat,rtv_html5	
8	C:\TestBedirtvapm\common\conf\rtvapm	sl.rtview.sql.dbretry	40000	
9	C:\TestBedirtvapm\common\confvtvapm	sl.rtview.global	rtv_global_vars.rtv	
10	C:\TestBed\rtvapm\common\conf\rtvapm	sl.rtview.global	rtv_global_trendrange.rtv	
11	C:\TestBedirtvapm\common\confvtvapm	sl.rtview.xml.xmlsource	rtv_constants.xml 0 rtv_constants.xml 0 1	
12	C:\TestBed\rtvapm\common\conf\rtvapm	sl.rtview.jmx.jmxconn	local 'URL:local' false	
13	C:\TestBed\rtvapm\common\conf\rtvapm	sl.rtview.dsenable	jmx	
14	C:\TestBed\rtvapm\common\conf\rtvapm	sl.rtview.jmx.jmx_metrics_period	10000	
15	C:\TestBed\rtvapm\common\conf\rtvapm	sl.rtview.jmx.jmx_minreconnecttime	30	
16	C:\TestBed\rtvapm\common\conf\rtvapm	sl.rtview.jmx.jmx_mbeans_change_dyn	false	
17	C:\TestBed\rtvapm\common\conf\rtvapm	sl.rtview.jmx.jmxdsShowConnectionOnl	true	
18	C:\TestBed\rtvapm\common\conf\rtvapm	sl.rtview.jvm	-Dcom.sl.rtview.customRtvAppManagerClassName=com.	*
•			4	

Title Bar (possible features are):	🕼 Data OK Data connection state. Red indicates the Data
 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. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Order	The order in which this property was read. For properties that support a single value that are specified multiple times, the one with the highest Order value will be applied.
File Name	The source of this property. It will be database for properties read from a database.
Property Name	The name of the property after the property filter has been applied.
Property Value	The value of the property.
Original Property Name	The name of the property before the property filter was applied. This will match the literal property string in your properties file.

Filter By:		
	Source:	Select the Source of the connection to the RTView process for which you want to see property information.
	Connection:	Select the Connection to the RTView process for which you want to see property information.
Fields and Data This display includes:		
	Update Props	Click to have the RTView process specified by the selected Connection re-read all properties files and database properties. Note that most non-connection properties do NOT support updates. Use the "Properties Descriptions" display to see if a specific property supports updates.
	Filter Column:	Select a column to filter the Applied Properties table.
	Filter Value:	Enter a string to filter the Applied Properties table.
	Clear Filter	Clears the filter.
All Properties (table)	Order	The order in which this property was read. For properties that support a single value that are specified multiple times, the one with the highest Order value will be applied.
	File Name	The source of this property. It will be database for properties read from a database.
	Property Name	The name of the property after the property filter has been applied.
	Property Value	The value of the property.
	Original Property Name	The name of the property before the property filter was applied. This will match the literal property string in your properties file.

Properties Descriptions

This display shows one row for each property that is supported for the RTView process specified by the selected Connection.

Select the **Source** of the connection to the RTView process for which you want to see property information. Options are:

- Data Server: If the RTView process is a Data Server and the Thin Client has a defined Data Server connection for it, choose this option and select the name of the Data Server in the Connection field.
- Local JMX Connection: Select this option if the Thin Client has a defined JMX Connection to the RTView process.
- RTVMGR JMX Connection: Select this option if the RTView Monitor has a defined JMX Connection to the RTView process.

Select the **Connection** to the RTView process for which you want to see property information. Options available depend on your setup. For example, **RTVMGR** is only visible when the **Source** is **RTVMGR JMX Connection** and you have multiple RTView Monitors. You can then select an RTView Monitor that has a defined JMX Connection to the RTView process for which you want to see property information.

¢		Propert	y Descriptions		23-Mar-2016 15:39 💠 Data OK 💠	2
Source: Data Server Conne	ction: ALER	T_SERVER	•		Update Props	
		Propert	ty Descriptions			
Property	Multi	Updates	Handler	Deprecated	Deprica	
sl.rtview.alert.actionauditdataserver			Alert Data Source			-
sl.rtview.alert.actionauditdb			Alert Data Source			Ξ
sl.rtview.alert.actionaudittable			Alert Data Source			
sl.rtview.alert.alertclearedcommand			Alert Data Source			
sl.rtview.alert.alertcleartime			Alert Data Source			
sl.rtview.alert.alertcommand			Alert Data Source			
sl.rtview.alert.alertinitdelay			Alert Data Source			
sl.rtview.alert.cleansettingstable			Alert Data Source			
sl.rtview.alert.commentcommand			Alert Data Source			
sl.rtview.alert.commentlimit			Alert Data Source			
sl.rtview.alert.config	r		Alert Data Source			
sl.rtview.alert.createDbTables			Alert Data Source			
sl.rtview.alert.customAlertActionHandlerClassN			Alert Data Source			
sl.rtview.alert.custom_alertdef_prop	r		Alert Data Source			
sl.rtview.alert.custom_event_attr	×		Alert Data Source			
sl.rtview.alert.enableactionaudit			Alert Data Source			
sl.rtview.alert.enablebuffer			Alert Data Source			
sl.rtview.alert.enabled			Alert Data Source			
sl.rtview.alert.enablessa			Alert Data Source			
sl.rtview.alert.exitOnPersistInitFailed			Alert Data Source			
sl.rtview.alert.history			Alert Data Source			
sl.rtview.alert.lutupdatesnewdata			Alert Data Source			Ŧ
•	111				+	

 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. 	 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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Filter By:

Source:	Select the Source of the connection to the RTView process for which you want to see property information.
Connection:	Select the Connection to the RTView process for which you want to see property information.
Fields and Data This display includes:	
Update Props	Click to have the RTView process specified by the selected Connection

ops Click to have the RTView process specified by the selected Connection re-read all properties files and database properties. Note that most non-connection properties do NOT support updates. Use the "Properties Descriptions" display to see if a specific property supports updates.

All Properties (table)	Property	The name of the property
	Multi	Box is checked if this property supports multiple values.
	Updates	Box is checked if this property supports updates.
	Handler	The name of the RTView Handler that uses this property.
	Deprecated	Box is checked if this property is deprecated.
	Deprecation Info	If the property is deprecated, this lists the currently supported property to use instead.

Diagram Views

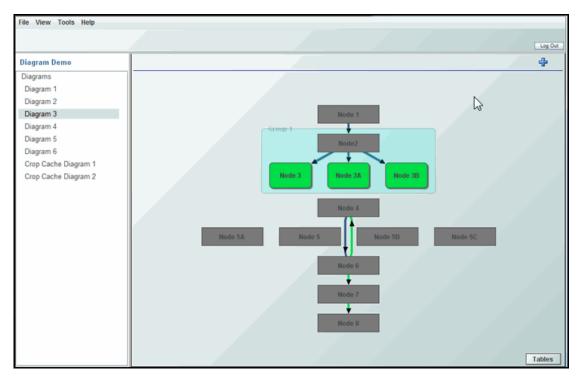
The RTView Enterprise Monitor comes with the Diagram Generator, a feature that auto-creates diagram displays which mirror your system components and hierarchy.

When you monitor applications with complex architectures, it is often very beneficial to visualize the health of individual components within the context of the application hierarchy. This allows you to understand the complete architecture which is supporting the application as well as understand how individual components may affect the behavior of other components. RTView Enterprise Monitor allows you to manually construct such views, but at times this might become too time consuming to maintain if there are many applications to model or the architecture is constantly changing. The Diagram Generator is a feature which allows for the automatic generation of these application diagrams using application meta-data, without having to manually construct them.

The Diagram Generator, located under **CUSTOM Tab/Diagram Views**, is comprised of several displays which you use to create your diagram displays.

This section includes the following Diagram Generator instructions and displays:

- "Steps to Create a Diagram Display" on page 238
- "Create an Object Template Display" on page 239
- "Node Administration Display" on page 240
- "Link Admin Display" on page 242
- "Diagram Properties Admin Display" on page 243
- "Add Diagrams to your Project" on page 245
- "View Diagram Displays" on page 245
- "Optional Diagram Display Customizations" on page 245



The Diagram Generator feature uses a database table of your nodes and database table of your links to create the diagrams. For example, the diagram below was generated from the tables shown next to it. The order of the nodes in the table controls the order of the nodes in the diagram.

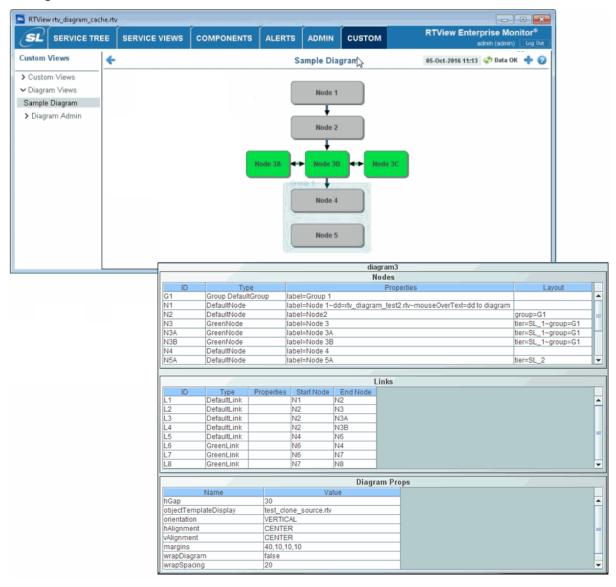


Diagram Generator Demo

You can view a demo of the Diagram Generator, located under **CUSTOM/Sample Diagram**. This demo shows a simple diagram as well as the UI used to construct diagrams. The icons in the sample diagram come from a sample object template display. When creating diagrams for your project, you will create an object template display with icons that are appropriate for the process you are diagraming.

Steps to Create a Diagram Display

To create a custom diagram display using the Diagram Generator:

- If you are using EM 3.5 or earlier, see Upgrading the Monitor. If you are using EM 3.6+, the em-tibco project is already configured to include the Diagram Generator and no setup is required.
- 2. "Create an Object Template Display" using the Display Builder. This step is optional. The object template display serves as your palette of objects (icons, links, shapes, and so forth) for building your diagrams. A sample object template display is built-in that can be used for simple diagrams and to demo the Diagram Generator. When creating diagrams for your project, you should create an object template display with icons that are appropriate for the process you are diagraming. If you are going to create a custom object template display, you must create it and add it to the Diagram Properties before defining nodes and links for your diagrams.
- **3.** In the RTView Enterprise Monitor, open the "Node Administration Display" display, located under **CUSTOM Tab/Diagram Views/Diagram Admin** and add nodes to your diagram.
- **4.** Open the "Link Admin Display" display and add links to your diagram.
- **5.** Open the "Diagram Properties Admin Display" display and format the layout of your diagram display.
- **6.** "Add Diagrams to your Project" to publish the diagram display.
- **7.** "View Diagram Displays" to confirm settings.
- **8.** "Optional Diagram Display Customizations": These customizations are not required.

Create an Object Template Display

This section describes how to create an object template display using the Display Builder. The object template display serves as your palette of objects (icons, links, shapes, and so forth) that you use to build your diagrams.

Assumptions:

- You have familiarized yourself with the "Diagram Generator Demo".
- You are familiar with using the Display Builder.
- **1.** Create a display in the Display Builder that contains all the icons you want to use for the nodes, links and icons in your diagram displays.
- 2. For each object, specify a user friendly name in the **objName** field (it must be alphanumeric but can contain under-bar). The **objName** field will be referenced in the **Type** field when you add nodes and links to your diagram. You will be able to override any of the properties by specifying them in the **Properties** field.
- 3. Save this file to the RTViewTIBCOMonitor/em-tibco/servers/central directory.
- **4.** Use the "Diagram Properties Admin Display" to set the **objectTemplateDisplay** property to the name of this file.

For assistance, contact Technical Support.

Proceed to "Node Administration Display".

Node Administration Display

Use this Diagram Generator display to create new diagrams and add or edit nodes in existing diagrams. Diagram definitions are stored in the DIAGRAMS database.

To define a new diagram, enter a new diagram name in the **Diagram** field, then fill in the fields in the **Enter Values** section to define the first node in the diagram.

To add a new node to a diagram, enter the name of the diagram to which you want to add the node, then fill in the fields in the **Enter Values** section, described below, and click **Add Node**.

To edit an existing node, select it in the table to populate the **Enter Values** fields at the bottom of the display, make your changes and click **Update Node**.

SL SERVICE TREE	SERVICE VIEWS	COMPONE	INTS	ALERTS	ADMIN	CUSTON	1	RTView Enter	r prise Mon admin (admin)	itor® Log Our
Custom Views	(Nodes	-	1	Node Ta	ble Admir	istration	05-Oct-2016 11:10		+ 0
Custom Views					_					
 Diagram Views 	Diagram	Filter: All							Click on a row	to edit
Sample Diagram	Order E	Diagram	ID	6 C	Туре		Layout	24 m		
, .	0 sample		N1	Defaul				label=Node 1		
r Diagram Admin	1 sample		N2	Defaul		/		label=Node 2		
Node Admin	2 sample		N3	Green		tier		label=Node 3A		
ink Admin	3 sample		N4	Green		tier		label=Node 3B		
	4 sample		N5 N6	Green		tier=		label=Node 3C		
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	4				2					1
	▲ —Enter Values									
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	Enter Values Diagram s Layout	ample_diagram ibel=Node 1	1	11			v 🗆 Is		1	
	Enter Values Diagram s Layout Properties a			II.		DefaultNode		Group	1 Node Down	

For each node in your diagram display, fill in the following fields:

Diagram	Required. The name of the diagram. Note: The diagram name GLOBAL is reserved for global properties in Diagram Props. The value in this column will be used to identify this diagram when you add this diagram to the navigation tree.
ID	Required. Must be unique within the diagram across nodes and links. Use this value in the Link Node1 and Node2 fields to refer to this node. The value must be alpha-numeric but may contain underbars (_).
Layout	Optional. One or more layout options for the icon. All icons with the same tier=value will be positioned in a single tier (row if the diagram property orientation=VERTICAL, column if orientation=HORIZONTAL). Each tier is centered along the diagram's centerline unless only one node in a tier has a link to another tier. In that case the node with the link is centered on the diagram's centerline.
	All icons with the same group=value will have a group object drawn behind them. The group value must be the ID of a node whose type is defined as a Group.
	To specify both a tier and a group, separate them with a \sim . For example:
	tier=T1~group=G1

Туре	Required. The name of the object in the objectTemplateDisplay file to use as the icon for this node. When you select a type from the list, you will see a preview of it to the right of the Type field.
Is Group	Optional. Check to specify that this node is a Group. Groups are only drawn if at least one node references them in their Layout field. They are drawn behind the nodes that reference them and their extent is set to the combined extent of all nodes that reference them. In wrapped diagrams, if the nodes in the group break across multiple tiers, the group object will be broken across the tiers as well.
Properties	Optional. One or more properties to set on the node icon delimited by ~. Syntax is propName=propVal~propName2=otherPropVa l.
	Note that property values must be specified as they are saved in .rtv files, which is not necessarily the same as they are shown in the Object Properties dialog in the Display Builder.
	In addition to properties on the RTView object, you can also specify hGap or vGap to override the diagram property hGap or vGap for this object. The hGap is applied to the left of an object and the vGap is applied above an object.
	For example, you must specify the font index instead of the font name for font properties, and the color index instead of the color for color properties.

Use the following buttons to save changes to the database and to preview the diagram display (after the changes have been saved to the database):

Update Node	Save changes to the selected node to the database. This is only enabled if the selected node is already in the database.
Insert Node	Insert a new node to the database. This is only enabled if the selected node is not in the database.
Delete Node	Delete the selected node from the database. This is only enabled if the selected node is already in the database.
Cancel	Clear the Enter Values fields.
Move Node Up	Move the selected node up in the diagram. Nodes are laid out in the diagram according to their order.
Move Node Down	Move the selected node down in the diagram. Nodes are laid out in the diagram according to their order.
Preview	Open a window showing the selected diagram as it is saved in the database. Changes to the diagram will not update an open preview window. To update the diagram in the preview window, close and reopen the window.

Link Admin Display

Use this display to add or edit links in your diagrams. To add a link, enter the name of the diagram containing the nodes you want to link, then fill in the fields below for each link you want to add. To edit an existing link, select it in the table.

Custom Views Custom Views Diagram Views Sample Diagram Diagram Admin Node Admin Link Admin Diagram Prop Admin Diagram Prop Admin Cisk on a row book Cisk on a row book Diagram Prop Admin Cisk on a row book Cisk on a row book Diagram Prop Admin Cisk on a row book Cisk on a row book Cisk on a row book Diagram Prop Admin Diagram Prop Admin Diagram Prop Admin Cisk on a row book Cisk on a row book<		SERVICE VIEWS	COMPONENTS			ом	RTView Entern	p rise Monitor® dmin (admin) Log Ou
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V Diagram Admin Node Admin Nample_diag. L2 DefaultLink N4 N6 Link Admin Sample_diag. L3 DefaultLink N4 N6 arrow1VisFlag=1 Diagram Prop Admin Sample_diag. L4 GreenLink N3 N4 arrow1VisFlag=1 Diagram Prop Admin GreenLink N4 N5 arrow1VisFlag=1 Enter Values GreenLink N4 N5 arrow1VisFlag=1 Diagram sample_diag. L5 GreenLink N4 N5 Visit Main Main Main Main Main	Sample Diagram							F
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Diagram Prop Admin		sample_diag	L4				arrow1VisFlag=1	
Image: Constraint of the second se		sample_diag	L5	GreenLink	N4	N5	arrow1VisFlag=1	
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Diagram ID L2 Type DefaultLink Node 1 N2 Node 2 N4 V								
Node 1 N2 Vode 2 N4 V		and a second sec		11				
Properties		Enter Values	ample diagram		ID 1 2		Type Default	
		Enter Values - Diagram s						
Update Link Insert Link Delete Link Cancel		Enter Values - Diagram s						
		Enter Values Diagram s Node 1						
Preview		Enter Values Diagram s Node 1	2		Node 2 N4	Delete Link	•	Link 💌

Diagram	Required. The name of the diagram. Note: The diagram name GLOBAL is reserved for global properties in Diagram Props.				
ID	Required. Must be unique within the diagram across the node and link tables. Value must be alpha-numeric but may contain under-bars (_).				
Туре	Required. The name of the link object in the objectTemplateDisplay to use for this link.				
Node 1	Required. The ID of the start node for the link.				
Node 2	Required. The ID of the end node for the link.				
Properties	Optional. One or more properties to set on the icon delimited by ~. Syntax is propName=propVal~propName2=otherPropVal				
Use the following buttons to save link changes to the database and to preview the diagram display (after the changes have been applied to the database):					

Update Link	Save changes to the selected link to the database. This is only enabled if the selected link is already in the database.
Insert Link	Insert a new link to the database. This is only enabled if the selected link is not in the database.
Delete Link	Delete the selected link from the database. This is only enabled if the selected link is already in the database.

Cancel Clear the Enter Values fields.

Preview Opens a window showing the selected diagram as it is saved in the database. Changes to the diagram will not update the preview window. To update the preview, close and reopen it.

Diagram Properties Admin Display

Use this Diagram Generator display to configure "Diagram Properties" for your diagrams. Diagram properties are settings that are applied to the diagrams as a whole, such as orientation, alignment and spacing. Properties that use GLOBAL for the diagram name are applied to all diagrams. You can override a diagram property for a single diagram by using the name of that diagram in the **Diagram** field.

SL SERVICE TREE	SERVICE VIEWS	COMPONENTS	ALERTS	ADMINC	USTOM	RTView Ent	erprise Moni admin (admin)	Log Out
Custom Views	← [Diagram Props 💌	Diagr	am Proper	ties Administration	05-Oct-2016 11:	12 🗳 Data OK	+ 0
> Custom Views								
✓ Diagram Views	Diagram	Filter: All	•				Click on a row t	o edit
Sample Diagram	Diagram	Property	Name			Property Value		
✓ Diagram Admin	GLOBAL	hAlignment		VERTICAL				
Node Admin	GLOBAL	vAlignment		CENTER				
Link Admin								
Diagram Prop Admin								
	4							•
	Enter Values							
	Diagram	LOBAL						
	Property V	Alignment	-					
	Value 0	ENTER						
		Update	Property	Insert Property	Delete Property	Cancel		

Diagram	Required. The name of the diagram or GLOBAL if it should be applied to all diagrams.
Property	Required. The name of the property.
Value	Required. The value of the property.

Use the following buttons to save diagram property changes to the database:

Update Property	Save changes to the selected property to the database. This is only enabled if the selected property is already in the database.
Insert Property	Insert a new property to the database. This is only enabled if the selected property is not in the database.
Delete Property	Delete the selected property from the database. This is only enabled if the selected link is already in the database.
Cancel	Clear the Enter Values fields.

Diagram Properties

Use the following properties in the **Property/Value** fields in the "Diagram Properties Admin Display" display to configure diagram display.

Property Name	Description
hGap	Horizontal space between nodes in pixels. This can be overridden per- node in the node properties. Default is 28.
vGap	Vertical space between nodes in pixels. This can be overridden per- node in the node properties. Default is 22.
objectTemplateDisplay	The name of the file containing the nodes and links to use for the diagrams. The name of each node and link in this file corresponds to the name in the Type field of the node and link tables.
orientation	The orientation of the diagram. Default is VERTICAL which lays the nodes out in the order specified from the top of the display to the bottom with nodes in the same tier laid out left to right. HORIZONTAL lays out the nodes in the order specified from left to right with nodes in the same tier laid out top to bottom.
hAlignment	Controls the horizontal alignment of the diagram in the available space. Default is CENTER which centers the diagram in the available space. Options are:
	LEFT – Position the diagram at the left of the available space.
	CENTER – Position the diagram in the center of the available space.
	CENTERLINE – Position the centerline of the diagram in the center of the available space. This option is only valid if orientation=VERTICAL and wrapDiagram=false. If orientation=HORIZONTAL or wrapDiagram=true, CENTER will be used instead.
	RIGHT – Position the diagram at the right of the available space.
vAlignment	Controls the vertical alignment of the diagram in the available space. Default is CENTER which centers the diagram in the available space. Options are:
	TOP – Position the diagram at the top of the available space.
	CENTER – Position the diagram in the center of the available space.
	CENTERLINE – Position the centerline of the diagram in the center of the available space. This option is only valid if orientation=HORIZONTAL and wrapDiagram=false. If orientation=VERTICAL or wrapDiagram=true, CENTER will be used instead.
	Bottom – Position the diagram at the bottom of the available space.
wrapDiagram	If true, the diagram wraps into columns if orientation=VERTICAL or rows if orientation=HORIZONTAL. Default is false.
wrapSpacing	The number of pixels between columns/rows if wrapDiagram = true. Default is 20.
margins	Sets the minimum amount of space between the edge of the display and the diagram in pixels. You can either specify one value that will be used for all 4 margins or a comma separated list of 4 values in this order: top, left, bottom, right. Default is 40,10,10,10 which sets the top margin to 40 pixels and the left, bottom and right margins to 10 pixels.
deleteSavedDiagramNodes	This option applies to diagrams that were manually editED as described in "Edit Diagrams in the Display Builder". If true, delete any diagram nodes that were saved to the display in the Display Builder. Default is false.

Proceed to "Add Diagrams to your Project" to publish your displays.

Add Diagrams to your Project

This section describes how to add diagrams to your EM project. After you define one or more diagrams as described in "Node Administration Display", you can add a display for each diagram to the EM navigation tree. The navigation tree entry for each diagram should look like this:

<node label="Diagram 1" display="rtv_diagram_cache" **subs**="\$diagramName:diagram1 \$diagramTitle:'Diagram 1'"/>

The value for **label** is the label to use in the navigation tree. The value for **display** is **rtv_diagram_cache** unless you have a custom diagram background as described in "Customize the Diagram Background Display", in which case you should use the name of that display instead.

The **subs** values are as follows:

- \$diagramName Set this to the name of your diagram. This corresponds to the value in the DIAGRAM column in the database.
- **\$diagramTitle** Set this to the value to use for the title label in the diagram display.

Note: You must use single quotes around any substitution values that contain spaces.

Proceed to "View Diagram Displays".

View Diagram Displays

After you add one or more diagram displays to your EM project as described in the "Add Diagrams to your Project", open them in the navigation tree. Note that:

- Diagram definitions are only read when the display is opened. If you edit the diagram definition for an open diagram display, you must re-open the diagram display to see the changes.
- When you resize the window, the diagram display auto-resizes to fill the available space, and also positions the diagram in the available space according to the **margin** and **alignment** Diagram Properties. If you resize the window smaller than 800x576 or the area required to display the diagram (whichever is larger) scrollbars auto-appear.
- Diagrams with the wrapDiagram Diagram Property set to true reposition nodes to use the available space when the window is resized.

Optional Diagram Display Customizations

This section includes:

- "Edit Diagrams in the Display Builder":
- "Customize the Diagram Background Display":
- "Customize the Diagram Database":

Edit Diagrams in the Display Builder

To manually edit your generated diagram, use the Display Builder to open the diagram in the **RTViewTIBCOMonitor/em-tibco/servers/central** directory.

Note: If you created a custom diagram background display as described in "Customize the Diagram Background Display", use the name of that file instead of **rtv_diagram_cache** in the instructions below. Run the Display Builder in the **RTViewTIBCOMonitor/em-tibco/servers/centra**l directory as follows (where **diagramName** is the name of the diagram you want to modify):

runb_appmon -sub:\$diagramName:diagramName rtv_diagram_cache

Edit the diagram and save the display as **rtv_diagram_cache_diagramName**, replacing the **diagramName** with the name of your diagram. Update the corresponding navigation tree entry to use the new display name.

Important: Do NOT to save these changes to **rtv_diagram_cache.rtv** or these nodes will show up in all of your diagrams.

When you view this diagram, any saved diagram nodes and links that are no longer in the diagram definition will be removed and any new nodes in the diagram definition will be added to the bottom left corner. You need to position those new nodes by hand in the Display Builder. The Properties from the database will be applied to diagram nodes that were saved in the Display Builder. The diagram will still be positioned in the Display Viewer according to the **alignment** and **margin** Diagram Properties when the window is resized. However, for diagrams where **wrapDiagram** is set to true, the diagram will not be re-wrapped to fit the available space.

Customize the Diagram Background Display

To create a custom version of the diagram background display, open **rtv_diagram_cache.rtv** in the Display Builder from the **central** directory of your EM project as follows:

runb_appmon rtv_diagram_cache

Modify the display and save it under a new name in the **central** directory. The name must start with **rtv_diagram**. When adding diagram displays to the navigation tree as described in "Add Diagrams to your Project", use the name of this file instead of **rtv_diagram_cache**.

When modifying the display, use the following guidelines:

- Do not change the **Resize Mode**. It must be set to **Crop**.
- When you resize this display in the viewer or thin client, objects will be positioned according to their anchor properties.
- Do not remove the dg_include_cache.rtv entry from the list of included files. This file reads the diagram data and creates the data structures required to generate the diagrams.

Customize the Diagram Database

Diagram definitions are stored in the DIAGRAM database. By default, an HSQLDB database is used. Schemas for all supported databases are provided in **RTVAPM_HOME\dg\dbconfig**. To change to another supported database, use the schema for your database to create the diagram tables and add this property to the central properties file for your project (**central.properties** in **em-tibco**) replacing the user name, password, URL and driver with the appropriate information for your database:

ConfigCollector.sl.rtview.sql.sqldb=DIAGRAMS sa - jdbc:hsqldb:hsql://localhost:9099/ rtvdiagram org.hsqldb.jdbcDriver - false true

CHAPTER 6 Solution Package for Apache Tomcat

This section describes how to install, configure, deploy, start and use the Solution Package for Tomcat. See **README_sysreq.txt** for the full system requirements for RTView®.

The Solution Package for Tomcat is an easy to configure and use monitoring system that gives you extensive visibility into the health and performance of your Tomcat application servers and web modules.

The Solution Package for Tomcat enables Tomcat 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 system. It does so by aggregating and analyzing key performance metrics across all instances, databases, and collections, and presents the results, in real time, through meaningful dashboards as data is collected.

Users also benefit from predefined dashboards and alerts that pin-point critical areas to monitor in most environments, and allow for customization of thresholds to let users fine-tune when alert events should be activated.

The Solution Package for Tomcat also contains alert management features so that the life cycle of an alert event can be managed to proper resolution. All of these features allow you to know exactly what is going on at any given point, analyze the historical trends of the key metrics, and respond to issues before they can degrade service levels in high-volume, high-transaction environments.

This section includes:

- "Configuration Parameters You Need" on page 249
- "Configure Data Collection" on page 250
- "Troubleshoot" on page 251
- "Tomcat Monitor Views/Displays" on page 252

Configuration Parameters You Need

To configure the Solution Package for Tomcat make a note of the following values:

- PackageName=tomcat
- ServerDirectory=miscmon
- AlertPrefix=Tomcat

Configure Data Collection

Connect your own databases and enable for data collection.

1. Open the **RTView/rtvapm_projects/em-tibco/servers/miscmon/** sample.properties file and find the following section:

```
# Tomcat Monitor Sample Properties
#
#
```

2. Uncomment and edit the path to your JDBC driver:

```
#collector.sl.rtview.cp=%RTVAPM_HOME%/../ext/tomcatserver/tomcat-connector-java-
5.1.31-bin.jar
```

3. Uncomment and edit the following lines for each Tomcat to which you want to connect (and to enable the Monitor to collect data from them):

```
#collector.sl.rtview.sql.sqldb=<ConnStr> <myUser> <myPassword> jdbc:tomcat://
<myHost>:3306/tomcat com.tomcat.jdbc.Driver - false false
# Specify what metrics to collect
#collector.sl.rtview.cache.config=tomcat_stats_sources.rtv $tomcatServerName:<ConnStr>
#collector.sl.rtview.cache.config=tomcat_table_sources.rtv $tomcatServerName:<ConnStr>
#collector.sl.rtview.cache.config=tomcat_property_sources.rtv
$tomcatServerName:<ConnStr>
```

Where

<ConnStr>: is the connection string that identifies that database connection. Use the same value for the four **<ConnStr>** references (as shown in the example, below).

<MyUser>: is a registered username for that database

<myPassword>: is the password for the username specified above

<myHost>:3306/tomcat is the URL of the Tomcat Server location. Port 3306 is the default port to connect with the database. And **tomcat** is the database that you wish to monitor. Change the port and database name as required.

4. Repeat this step for each Tomcat you wish to monitor.

Example of database connection:

```
collector.sl.rtview.sql.sqldb=DB-Tomcat myUsr myPwd jdbc:tomcat://localhost:3306/
RTVHISTORY com.tomcat.jdbc.Driver - false false
```

```
collector.sl.rtview.cache.config=tomcat_stats_sources.rtv $tomcatServerName:DB-tomcat
collector.sl.rtview.cache.config=tomcat_table_sources.rtv $tomcatServerName:DB-tomcat
collector.sl.rtview.cache.config=tomcat_property_sources.rtv $tomcatServerName:DB-
tomcat
```

Troubleshoot

This section includes:

- Log Files," next
- "JAVA_HOME"
- "Permissions"
- "Network/DNS"
- "Verify Data Received from Data Server"
- "Verify Port Assignments"

Log Files

When a Monitor component encounters an error, it outputs an error message to the console and/or to the corresponding log file. If you encounter issues, look for errors in the following log files:

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

which are located in the **rtvapm_projects/em-tibco/servers/tomcat/logs** directory.

Logging is enabled by default. If you encounter issues with log files, verify the **logs** directory exists in the **rtvapm_projects/em-tibco/servers/tomcat** directory.

JAVA_HOME

If the terminal window closes after executing the **start_rtv** command, verify that JAVA_HOME is set correctly.

Permissions

If there are permissions-related errors in the response from the **start_rtv** command, check ownership of the directory structure.

Network/DNS

If any log file shows reference to an invalid URL, check your system's hosts file and confirm with your Network Administrator whether your access to the remote system is being blocked.

Verify Data Received from Data Server

If you encounter problems collecting data, restart the Data Server, start the Monitor and go to **Administration>RTView Cache Tables** in the navigation tree. You should see all caches being populated with monitoring data (the number of rows in the table is greater than 0). If not, there is a problem with the connection to the Data Server.

Verify Port Assignments

If the Display Server or Historian fail to connect to the Data Server or they receive no data, verify the ports are assigned correctly in your properties files and restart the Data Server.

Tomcat Monitor Views/Displays

The Tomcat displays provide extensive visibility into the health and performance of Tomcat application servers and installed web modules. The following Tomcat Monitor Views (and their associated displays) can be found under **Components** tab **> Application/Web Servers > Tomcat**. The Tomcat displays come with RTView Enterprise Monitor. However, the displays are empty until you install and configure the Solution Package for Tomcat.

Tomcat has the following Views:

- "Tomcat Servers"
- "Tomcat Applications"

Tomcat Servers

These displays present performance data for monitored Tomcat 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. To see your data in these displays you must install and configure the Solution Package for Tomcat. Displays in this View are:

- "All Tomcat Servers": Table of connection details and performance metrics for all Tomcat connections.
- "Tomcat Server Summary": Performance metrics for one Tomcat Server, including current and historic performance metrics.

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 get Tomcat server session counts, access and request rates, cache hit rates and data transmission metrics.

Drill-down and investigate by clicking a row in the table to view details for the selected connection in the **Service Summary** display.

(All Tomcat Servers - Table 23-Sep-2015 16:34 💠 Data OK 💠 🖓							
Tomcat Count: 1 All Tomcat Servers								
Connection	Source	Sessions Active	Sessions Total	Sessions Expired	Accesses per sec	Accesses Total	Bytes Rovd per sec	Bytes Rov Total
TOMCAT	localhost	4	17	13	1.4	30,302	603.1	433,851,9
•	III							•

Title Bar (possible features are):	🔯 Data OK Data connection state. Red indicates the Data
Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

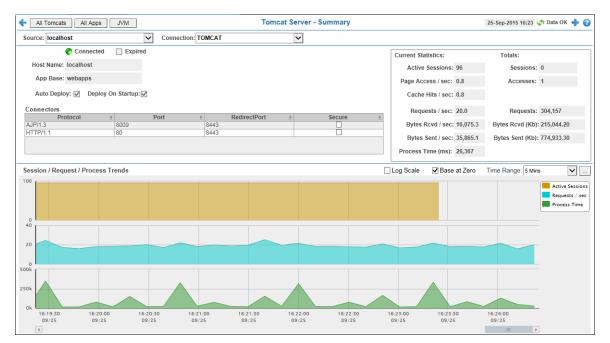
Fields and Data This display includes:

Tomcat Count	The number of Tomcat connections in the table.
Connection	The name of the Tomcat connection.
Source	The host where the Tomcat Server is running.
Sessions Active	The number of currently active client sessions.
Sessions Total	The total number of client sessions since the server was started.
Sessions Expired	The total number of client sessions that expired since the server was started.
Accesses per sec	The number of times pages are accessed, per second.
Accesses Total	The total number of times pages have been accessed since the server was started.

Bytes Rcvd per sec	The number of bytes received per second.
Bytes Rcvd Total	The total number of bytes received since the server was started.
Bytes Sent per sec	The number of bytes sent per second.
Bytes Sent Total	The total number of bytes sent since the server was started.
Cache Hit Rate	The number of times the cache is accessed, per second.
Requests per sec	The number of requests received, per second.
Requests Total	The total number of requests received since the server was started.
Process Time	The average amount of time, in milliseconds, to process requests.
Error Count	The number of errors that have occurred since the server was started.
appBase	The directory in which Tomcat is installed.
Display Name	The name of the currently open display.
Expired	When checked, this connection is expired due to inactivity.
time_stamp	The date and time this row of data was last updated. Format: MM/DD/YY HH:MM:SS <month>/ <day>/<year> <hours>:<minutes>:<seconds></seconds></minutes></hours></year></day></month>

Tomcat Server Summary

Track the performance of one Tomcat Server and get Tomcat hosting and connection details. You can drill down to this display from the Servers table for detailed information and historical trends for a specific server. The trends include Active Sessions, Requests per Sec, and Process Time.





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.
Connected	The Tomcat Server connection state: Disconnected. Connected.
Expired	When checked, this server is expired due to inactivity.
Host Name	The name of the host where the application resides.
App Base	The directory in which Tomcat modules are installed.

Auto Deploy	When checked, indicates that the Tomcat option, automatic application deployment, is enabled.					
,	Note: This Tomca file, located in the	at option is set using the autoDeploy property in the server.xml e Tomcat conf directory. autoDeploy=true enables the option.				
Deploy On Startup	When checked, indicates that the option to deploy the application on Tomcat startup is enabled.					
	Note: This Tomcat option is set using the deployOnStartup property in the server.xml file, located in the Tomcat conf directory. When enabled (deployOnStartup=true), applications from the host are automatically deployed.					
Connectors This table sho	ows Tomcat applica	tion connection information.				
	Protocol	The protocol used by the Tomcat application on the host.				
	Port	The port number used by the Tomcat application on the host.				
	RedirectPort	The redirect port number used by the Tomcat application on the host.				
	Secure	When checked, specifies that the Tomcat application uses a secure connection on the host.				
Current Stat	istics / Totals					
	Active Sessions	The number of clients currently in session with the servlet.				
	Sessions	The total number of client sessions since the server was started.				
	Page Access / sec	The number of times pages are accessed, per second.				
	Accesses	The total number of page accesses since the server was started.				
	Cache Hits / sec	The number of times the cache is accessed, per second.				
	Requests / sec	The number of requests received, per second.				
	Requests	The total number of requests since the server was started.				
	Bytes Rcvd / sec	The number of bytes received, per second.				
	Bytes Rcvd (Kb)	The number of kilobytes received since the server was started.				
	Bytes Sent / sec	The number of bytes sent, per second.				
	Bytes Sent (Kb)	The total number of kilobytes sent since the server was started.				
	Process Time	The amount of time, in milliseconds, for the servlet to process client requests.				

Session / Request / Process Trends Shows metrics for the selected server.

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

Base at Zero Use zero as the Y axis minimum for all graph traces.

Time Range Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .

Select or Enter Date and Time:
Restore to Now
Ok Apply Cancel

By default, the time range end point is the current time. To change the time range end point, click Calendar and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

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

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

Active Sessions	Traces the number of currently active client sessions.
Requests /sec	Traces the number of requests received, per second.
Process Time	Traces the average amount of time, in milliseconds, to process requests.

Tomcat Applications

These displays present performance data for monitored Tomcat Applications. Use these displays to examine the state and performance of your Tomcat applications and all installed web modules. The server displays include summary overviews and detail pages with historical trends.

To see your data in these displays you must install and configure the Solution Package for Tomcat. Displays in this View are:

- "Applications Heatmap": Heatmap of performance metrics for all Web modules for one Tomcat Server.
- "Applications Summary": Table and trend graphs of performance metrics for Web modules.

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 \forall 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.

F Tomcat Summary	Tomcat Ap	plications - Activ	vity Heatmap 23-Sep-201	5 16:30 📫 D	ata OK 💠 🕜
Source: localhost	Con	nection: TOMCAT	•		
Application Count: 14	Select Metric: Ac	tive Sessions	Log Scale (Activity)	0	50 100
Арр	lication Activity Heatmap	organized by Webl	Aodule where Color = Me	tric	
/docs	/emsample_config_rtvdata	/emsmon	/gfmon_rtvdata	/gf	mon_rtvquery
/emsample	/emsample_dark	/gfmon			
			/manager		/wsm
/emsample_alert_rtvdata	/emsample_rtvdata	/gfmon_rtvagent			
			/wim		



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.		

Applications 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.

🗧 Tomcat Modules - Summary 23-Sep-2015 16:28 💠 Data OK 💠 🍞				0					
Source: localhost Connection: TOMCAT									
Web Module: /emsample									
Web Modules Summary									
Web Module	Active Sessions	Expired Sessions	Total Sessions	Process Time	Accesses per sec	Total Accesses	Cache Hit Rate	Total Cache H	•
/emsample	4	13	17	168.8	1.9	29,740	1.6	24,3	
/gfmon_rtvquery	0	0	0	0.0	0.0	7	0.0		=
/gfmon_rtvdata	0	0	0	0.0	0.0	7	0.0		
/emsample_config_rtvdata	0	0	0	0.0	0.0	7	0.0		
/emsmon	0	0	0	0.0	0.0	7	0.0		
/emsample_rtvdata	0	0	0	0.0	0.0	7	0.0		
/emsample_dark	0	0	0	0.0	0.0	7	0.0		
/docs	0	0	0	0.0	0.0	7	0.0		-
/emsemble elect rhydete	0	0	0	0.0	0.0	7	0.0		
•				-				- P	
Session / Data / Latency Trends: /emsample Log Scale Sase at Zero Time Range: 5 Mins									
10								ccesses / se rocess Time	ĸ
400			Sessions :	4.0					
	6:25:00			1.9 518 :27:00 09 23		28:00			
4)		



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

Web Module The name of the Web module.

Sessions Active	The number of currently active client sessions.
Sessions Total	The total number of client sessions since the application was started.
Sessions Expired	The total number of client sessions that expired since the application was started.
Accesses per sec	The number of times pages are accessed, per second.
Accesses Total	The total number of times pages have been accessed since the application was started.
Bytes Rcvd per sec	The number of bytes received per second.
Bytes Rcvd Total	The total number of bytes received since the application was started.
Bytes Sent per sec	The number of bytes sent per second.
Bytes Sent Total	The total number of bytes sent since the application was started.
Cache Hit Rate	The number of times the cache is accessed, per second.
Requests per sec	The number of requests received, per second.
Requests Total	The total number of requests received since the application was started.
Process Time	The average amount of time, in milliseconds, to process requests.
Error Count	The number of errors occurred since the application was started.
appBase	The directory in which Tomcat is installed.
Expired	When checked, this connection is expired due to inactivity.
time_stamp	The date and time this row of data was last updated. Format: MM/DD/YY HH:MM:SS <month>/ <day>/<year> <hours>:<minutes>:<seconds></seconds></minutes></hours></year></day></month>

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.

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. Log Scale

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 \square .

Select or Enter Date and Time:
Restore to Now
Ok Apply Cancel

By default, the time range end point is the current time. To change the time range end point, click Calendar and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

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

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

- Active Traces the number of currently active client sessions. Sessions
- Accesses / Traces the number of times pages are accessed, per second. sec
- **Process Time** Traces the average amount of time, in milliseconds, to process requests.

CHAPTER 7 Solution Package for TIBCO ActiveMatrix Businessworks

The Solution Package for TIBCO ActiveMatrix BusinessWorks[™] takes the time and guesswork out of monitoring and troubleshooting TIBCO ActiveMatrix BusinessWorks System deployments, providing a centralized view of both realtime and historical performance metrics across numerous ActiveMatrix BusinessWorks Servers.

The Solution Package for TIBCO ActiveMatrix BusinessWorks[™] enables TIBCO users to continually assess and analyze the health and performance of their TIBCO ActiveMatrix BusinessWorks infrastructure, gain early warning of issues with historical context, and effectively plan for capacity of their ActiveMatrix BusinessWorks servers. It does so by aggregating and analyzing key performance metrics across all servers, engines, processes and activities, and presents the results, in real time, through meaningful dashboards as data is collected.

Users also benefit from predefined rules and alerts that pin-point critical areas to monitor in most ActiveMatrix BusinessWorks environments and allow for customization of thresholds to let users fine-tune when alert events should be activated.

The Solution Package for TIBCO ActiveMatrix BusinessWorks[™] also contains alert management features so that the life cycle of an alert event can be managed to proper resolution. All of these features allow you to know exactly what is going on at any given point, analyze the historical trends of the key metrics, and respond to issues before they can degrade service levels in high-volume, high-transaction environments.

This section describes how to install, configure and setup the Solution Package for TIBCO ActiveMatrix BusinessWorks[™].

See **README_sysreq.txt** for the full system requirements.

For Linux, these instructions require a Bourne-compatible shell.

This document assumes you created a project directory, **rtvapm_projects**, when you installed RTView Enterprise Monitor. All examples (of configurations, property settings, command execution and so forth) refer to the project directory. The Solution Package configuration files which you modify are located in the **rtvapm_projects/em-tibco/servers/bwmon** folder.

This section includes:

- "Enabling Monitoring in TIBCO ActiveMatrix BusinessWorks," next
- "Configuration Parameters You Need"
- "Configure Data Collection"
- "Troubleshoot"
- "BusinessWorks Monitor Views/Displays"

Enabling Monitoring in TIBCO ActiveMatrix BusinessWorks

Some setup is required in TIBCO ActiveMatrix BusinessWorks Versions 5 and 6 to enable monitoring. For Version 6, there are two options: You can either install the OSGI plugin in every AppSpace you want to monitor, or you can enable the TIBCO Hawk MicroAgent in each AppSpace you want to monitor. Monitoring via the OSGI plugin is recommended for better performance and reliability.

For Version 5, monitoring must be done via TIBCO Hawk, which is enabled by default, but you also need to install the RTViewBWAgent plug-in microagent. If you enable JMX monitoring, you can access additional data such as CPU and Memory data. For BWSE engines, additional setup is needed to allow access to AMX Node data.

This section contains:

- "Enable Monitoring via OSGi Plugin for Version 6"
- "Enable Monitoring via TIBCO Hawk for Versions 5 and 6"
- "Enable Monitoring via JMX for Version 5"
- "Enable Monitoring of BWSE Engines for Version 5"

Enable Monitoring via OSGi Plugin for Version 6

This section describes the "Prerequisites" and steps required to install the RTView OSGI (Open Service Gateway Initiative) BusinessWorks plugin into "RTView TIBCO ActiveMatrix BusinessWorks", "Docker", and "Cloud Foundry".

Prerequisites

BW 6.3.4 BWCE 2.2.0 RTVAPM X.X

RTView TIBCO ActiveMatrix BusinessWorks

Note: When upgrading to a new version of the OSGi plugin jar, make sure to delete the contents of the AppNode config directory (**\$TIBCO_HOME/bw/<version>/domains/<domain>/appnodes/ <appspace>/<appnode>/config**) for each AppNode in the AppSpace. If you do not remove the existing contents, the plugin might not function properly.

To enable the plugin in RTView® TIBCO® ActiveMatrix BusinessWorks[™], perform the following:

- **1.** Stop all AppSpaces that are to be monitored and stop the bwagent, if running.
- 2. Copy the plugin to **\$TIBCO_HOME/bw/<version>/system/shared**.

3. Start the bwagent. Do not start the AppNode(s) or AppSpace(s) yet.

Note: Continue to step 4 if you want to modify the default property values. You may skip steps 4-7 entirely if you want to use the default property values.

- 4. Navigate to the system config folder: **\$TIBCO_HOME/bw/<version>/config/**
- 5. Copy the appspace_config.ini_template file to a temporary file.
- **6.** Edit the temporary file and set the properties below as needed.

Available Properties	Default Value
sl.rtview.rtvagent.name	updater
sl.rtview.rtvagent.target	localhost:3372
sl.rtview.rtvagent.update	10 (seconds)
sl.rtview.bw.activities.enabled	false

7. Use the **bwadmin config** command to push the configuration to the AppSpace:

bwadmin config -d <domain> -cf <temporary-file> appspace <appspace>

8. (Optional) For any AppNode, to see plugin output (INFO or TRACE) in the bwappnode.log file, add the following to the "user properties" section of the logback.xml file (\$TIBCO_HOME/bw/<version>/domains/<domain>/appnodes/<appspace>/<appnode>/logback.xml):

```
<logger name="com.sl.rtvapm.osgi">
<level value="INFO"/>
</logger>
```

Note: When debugging the behavior of the plugin, it is recommended to set level value to "TRACE."

- **9.** Restart the AppSpace(s).
- **10.**Repeat steps 6-9 for every AppSpace to be monitored.

Docker

To enable the plugin in Docker, perform the following:

1. Download **bwce_cf.zip** from TIBCO (for example, save the file to the **/opt** directory).

```
cd /opt/tibco/bwce/2.2/docker
cp /opt/bwce_cf.zip ./resources/bwce-runtime
```

2. Build the image

```
docker build -t tibco/bwce:latest .
```

- Add the RTView OSGi plugin to your application by copying the application archive (tibco.bwce.sample.BookStore.ear, for example) and the plugin jar (com.sl.rtvapm.osgi.jar) to your project directory.
- 4. Create a Docker file containing:

```
FROM tibco/bwce:latest
MAINTAINER Tibco
ADD tibco.bwce.sample.BookStore.ear /
RUN mkdir -p /resources/addons/jars
ADD com.sl.rtvapm.osgi.jar /resources/addons/jars
EXPOSE 8080
```

5. Build the application:

docker build -t tibco/bookstore:latest .

6. Configure the plugin via Java system properties, **BW_JAVA_OPTS**, and the Docker run command, for example:

```
OPTS="-Dsl.rtview.rtvagent.target=localhost:3372 \
-Dsl.rtview.rtvagent.name=updater \
-Dsl.rtview.bw.domain=Containers \
-Dsl.rtview.bw.appspace=Docker \
-Dsl.rtview.bw.appnode=docker-1"
docker run -i \
-e ... \
-e BW_JAVA_OPTS="$OPTS" \
-e ... \
tibco/bookstore:latest
```

Available Properties	Default Value
sl.rtview.rtvagent.name	updater
sl.rtview.rtvagent.target	localhost:3372
sl.rtview.rtvagent.update	10 (seconds)
sl.rtview.rtvagent.class	SL-BW6OSGI-Agent
sl.rtview.bw.activities.enabled	false
sl.rtview.bw.domain	<system default=""></system>
sl.rtview.bw.appspace	<system default=""></system>
sl.rtview.bw.appnode	<system default=""></system>

Note: If you choose not to supply values for the **sl.rtview.bw.domain**, **sl.rtview.bw.appspace**, and **sl.rtview.bw.appnode** properties, then unique names will be created for appspace and appnode, and each container will appear as a standalone application with a single appnode. If you supply specific names, then your containers will appear in the displays as if they were appnodes in an appspace, and if they are instances of the same application, their metrics will be summed for the application as if it were

deployed to the appspace. In summary, you may configure your containers to run as if they were appnodes in an appspace; or else they will run such that each is a unique appnode and application.

7. The plugin logs to the console at levels INFO and TRACE. You can set the log level for all packages with **BW_LOGLEVEL**, and so on.

-e BW_LOGLEVEL=INFO

Cloud Foundry

To enable the plugin in Cloud Foundry, perform the following:

- 1. Download the bwce-buildpack_cf-v2.2.0.18.zip file from TIBCO.
- 2. Insert the plugin jar into the zip file at /resources/addons/jars.
- **3.** Upload the buildpack to your cloud. For example:

cf create-buildpack bw-buildpack bwce-buildpack_cf-v2.2.0.18.zip 1

4. Configure the plugin via Java system properties and **BW_JAVA_OPTS** in the **manifest.yml** file. For example:

```
env:
env:
...
BW_JAVA_OPTS: '-Dsl.rtview.rtvagent.target=hostyy:3372 -
Dsl.rtview.rtvagent.name=hostxx -Dsl.rtview.bw.domain=BW6 -
Dsl.rtview.bw.appspace=PCF -Dsl.rtview.bw.appnode=pcf'
...
```

Available Properties	Default Value
sl.rtview.rtvagent.name	updater
sl.rtview.rtvagent.target	localhost:3372
sl.rtview.rtvagent.update	10 (seconds)
sl.rtview.rtvagent.class	SL-BW6OSGI-Agent
sl.rtview.bw.activities.enabled	false
sl.rtview.bw.domain	<system default=""></system>
sl.rtview.bw.appspace	<system default=""></system>
sl.rtview.bw.appnode	<system default=""></system>

5. Push the application.

Enable Monitoring via TIBCO Hawk for Versions 5 and 6

See the appropriate instructions:

"ActiveMatrix BusinessWorks Version 6"

"ActiveMatrix BusinessWorks Version 5"

ActiveMatrix BusinessWorks Version 6

Perform these instructions if you are monitoring ActiveMatrix BusinessWorks version 6:

1. Enable your applications for statistics collection. You can do this using the TIBCO BusinessWorks administrator CLI with commands such as:

bwadmin enablestats -d MyDomain -a MyAppSpace process MyAppName MyAppVersion

Repeat for each application you wish to monitor.

2. Enable the Hawk MicroAgent in your AppNodes for each AppSpace you wish to monitor. Refer to the **Enabling TIBCO Hawk MicroAgent** section of the *TIBCO BusinessWorks6 Administration Guide*.

ActiveMatrix BusinessWorks Version 5

This section is for ActiveMatrix BusinessWorks Version 5 users.

Note: This section does not apply if all your engines are deployed as BusinessWorks Service Engines (BWSE).

Install the RTViewBWAgent plug-in microagent in the Hawk Agent for each domain you have configured to communicate with the Monitor.

RTViewBWAgent detects deployed engines and gets their maximum heap size metrics when the Hawk agent is started. If RTViewBWAgent is not installed, deployed engines are not detected until they have been started and report data to the Monitor. When live data is received the engine is added and its **Status** is set to **LIMITED**. The **Status** remains **LIMITED** because, although live data metrics are available, the deployment and maximum heap size metrics are still unavailable.

Note: After installation, you can use the Hawk Display to view the RTViewBWAgent microagent and invoke its methods: GetBWDeploymentNames and GetBWDeploymentMaxHeapSizes.

You can also configure the agent to detect deployed engines and make data updates at more frequent, specified intervals. To specify the update interval you uncomment the **-update** argument in the **BWAgentPlugin.hma** file and specify a non-zero value. When the **-update** argument is not used (is commented out), the Monitor does not report that an engine has been deployed or undeployed until the Hawk agent is restarted.

- 1. Navigate to the **agents/BWAgentPlugin** directory of your Monitor installation and locate the following two files:
- BWAgentPlugin.jar
- BWAgentPlugin.hma
- 2. For a given domain, find the plug-in directory via this path:

<TIBCO-home>/tra/domain/<domain-name>

- **3.** Repeat Step 2 for each Hawk domain you have configured to communicate with the Monitor.
- 4. To (optionally) set RTViewBWAgent to make data updates at more frequent, specified intervals, open the BWAgentPlugin.hma file, uncomment the -update argument and specify a non-zero value. The value, which defaults to 300, represents the update interval in seconds. For example, a value of 3600 updates every hour:

```
<arguments>
<arg>-update:3600</arg>
. .
</arguments>
```

5. Copy the **BWAgentPlugin.jar** file and **BWAgentPlugin.hma** file into the plug-in directory and restart the Hawk Agent.

Enable Monitoring via JMX for Version 5

ActiveMatrix BusinessWorks version 5 engines can also be enabled for JMX monitoring as documented in *TIBCO ActiveMatrix BusinessWorks*[™] Administration, Monitoring the BusinessWorks Engine Using JMX:

To enable monitoring of BW5 engines via JMX:

1. To enable local JMX monitoring, add the following properties to **bwengine.tra**:

Jmx.Enabled=true

java.property.com.sun.management.jmxremote=true

2. To enable remote JMX monitoring, add the following properties to **bwengine.tra**: (Note <**port_number**> can be any available port)

java.property.com.sun.management.jmxremote.port=<port_number> java.property.com.sun.management.jmxremote.authenticate=false java.property.com.sun.management.jmxremote.ssl=false

For example, the BW Engine **MyDomain.MyApp.Procs** can be enabled for remote JMX monitoring by adding the following lines to the file

C:\Tibco\tra\domain\MyDomain\application\MyApp\MyApp-Procs.tra:

```
#
# Enable JMX on port 9000
#
Jmx.Enabled=true
java.property.com.sun.management.jmxremote=true
java.property.com.sun.management.jmxremote.port=9000
java.property.com.sun.management.jmxremote.authenticate=false
java.property.com.sun.management.jmxremote.ssl=false
```

3. After the BW Engine is enabled for JMX monitoring and restarted, it can be monitored by adding a JMX Connection property in the RTView Configuration Application where the **Connection** name is the Engine name. See "Configuring Data Collection for RTView Manager" for more information.

Enable Monitoring of BWSE Engines for Version 5

This section is for TIBCO ActiveMatrix (AMX) users, and describes how to configure BW Monitor to monitor BWSE engines. BW Monitor needs access to AMX Node data stored in EMS message queues on the AMX Host system. To make this data available to BW Monitor you will create EMS topics with bridges from the queues.

The TIBCO ActiveMatrix BusinessWorks Service Engine (BWSE) is an ActiveMatrix (AMX) component that enables BW engines to participate in the implementation of AMX services. In this case, the BWSE engines run within an AMX Node and are not visible to BW Monitor. However, you can configure BW Monitor to display these engines, as well as to gather JVM memory metrics for the AMX Nodes in which they are running.

To Configure for BWSE engines:

1. To configure the AMX Host, execute the following commands in the EMS administration tool (tibemsadmin):

create topic rtv.amx.governance.stats

create bridge source=queue:amx.governance.stats target=topic:rtv.amx.governance.stats

2. In AMX Administrator, in the properties for each BWSE engine, set HawkEnabled to **true**.

Configuration Parameters You Need

To configure the Monitor, make a note of the following values:

- PackageName=bwmon
- ServerDirectory=bwmon
- AlertPrefix=Bw

Configure Data Collection

This section describes how to collect data from the BW Servers you want to monitor. This part of the Monitor configuration is required.

This section describes how to configure the data source connections for each TIBCO BusinessWorks component that you want to monitor.

For most installations, the default Monitor property settings are sufficient. Consult Technical Support before modifying other configurations to avoid upgrade issues.

This section includes:

- "Configure for Hawk (for BW5 and BW)": Define the classpaths for TIBCO jar files and various connections for TIBCO ActiveMatrix BusinessWorks.
- "Configure for RTView Manager": Configure data collection and historical data collection for RTView Manager.

- "Configure for TIBCO ActiveMatrix Businessworks": Configure data collection and historical data collection for TIBCO ActiveMatrix BusinessWorks.
- "Configure for TIBCO ActiveMatrix Businessworks 5": Configure data collection and historical data collection for TIBCO ActiveMatrix BusinessWorks Version 5.

Configure for Hawk (for BW5 and BW)

This section contains:

 "Configuring Data Collection for Hawk": Configure data collection in Hawk that is required for TIBCO ActiveMatrix BusinessWorks and TIBCO ActiveMatrix BusinessWorks 5.

Configuring Data Collection for Hawk

Note: Only the **Classpath** and **Connections** regions on the **CONNECTIONS** tab need to be set up for TIBCO ActiveMatrix BusinessWorks (Version 5 or 6). The **DATA COLLECTION** and **DATA STORAGE** tabs do not need to be configured.

- 1. Navigate to the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO Hawk > CONNECTIONS tab.
- **2.** In the **CONNECTIONS** tab, specify the classpaths for the TIBCO Hawk jar files, the TIBCO Rendezvous jar files, and the TIBCO EMS jar files.

Note: If using Version 6 and you have installed the OSGI plugin, TIBCO Hawk connections are not needed. Skip to Step 5.

CONNECTIONS	DATA COLLECTION	DATA STORAGE
Classpaths (Required) Directories containing TIBCO Jars. The TIBCO Hawk and TIBCO Rendezvous jars are required to TIBCO Hawk and TIBCO Hawk to connect to TIBCO Hawk. In order to connect to TIBCO Hawk agents running on a TIBCO JUBRARY_PATH on Unix. Directory Containing TIBCO Hawk Jars		in directory to PATH on Windows and to
ex: /bboo/hawk/5.2/lib or c:fbboo/hawk/5.2/lib Always enclose envin	onment variables in %, ex. %MY_ENV_VAR%	
Directory Containing TIBCO Rendezvous Jars		
ex: /tibco/tibrv/8.3/lib or c:\tibco\tibrv\8.3\lib Always enclose environ	ment variables in %, ex. %MY_ENV_VAR%	
Directory Containing TIBCO EMS Jars		
ex:/tibco/ems/8.2/lib or c:\tibco\ems\8.2\lib Always enclose environ	nent variables in %, ex. %MY_ENV_VAR%	
Connections To be	gin adding Connections, click	•

3. Click the \bigcirc icon.

The **Add Connection** dialog displays.

Add Connection
Domain *
Transport Type *
Agents * (One Required) Unix
Enter agent name(s)
Windows
Enter agent name(s)
Multiple agents can be separated by commas, Tab or Enter
* Indicates required field
SAVE

4. For TIBCO Hawk domains running on **EMS** transports, specify the connection information and click **Save** where:

Add Connection	
Domain *	
TestDom	
Transport Type *	
EMS	
URL*	
tcp://myhost:7222	
ex: tcp://myhost:7222 or tcp://myotherhost:7222,tcp://myotherhost:722,tcp://myotherhost:722,tcp://myotherhost:7222	
Username	Password
TestUser	0
Agents * (One Required) Unix UnixAgent1 X	
Windows	
Enter agent name(s)	
Multiple agents can be separated by commas, Tab or Enter	
* Indicates required field	
SAVE	

Domain: Enter the name of the domain.

Transport Type: Select EMS from this drop down list.

URL: Enter the complete URL for the EMS connection.

Username: The username is used when creating the EMS connection. This field is optional.

Password: This password is used when creating the EMS connection. This field is optional. By default, the password entered is hidden. Click the \odot icon to view the password text.

Agents: Enter the associated Unix/Windows agents. The agent name displays in the field after entering the name and typing a comma or by clicking the Tab or Enter key. You can enter more than one agent in the fields. Once the agent is specified, you can delete the agent by clicking the **X** next to their name.

For TIBCO Hawk domains running on **Rendezvous** transports, specify the connection information and click **Save** where:

Add Connection	
Domain * TestDom2	
Transport Type * Rendezvous	
Service * 7474	
ex. 7474 Network * ;	Daemon * tcp:7474
, ex:: Agents * (One Required) Unix	ex: top:7474
WinAgent2 ×	
Enter agent name(s) Multiple agents can be separated by commas, Tab or Enter	
* Indicates required field	
SAVE	

Domain: Enter the name of the domain.

Transport Type: Select Rendezvous from this drop down list.

Service: Enter the Service for the Rendezvous connection.

Network: Enter the Network for the Rendezvous connection.

Daemon: Enter the Daemon for the Rendezvous connection.

Agents: Enter the associated Unix/Windows agents. The agent name displays in the field after entering the name and typing a comma or by clicking the Tab or Enter key. You can enter more than one agent in the fields. Once the agent is specified, you can delete the agent by clicking the **X** next to their name.

Note: After you complete these configuration steps and start the RTView Data Server, you can verify your Hawk configuration by viewing the **dataserver.log** file, located in the **logs** directory. For example:

```
2013-05-08 13:39:48,009 INFO rtv stdout - [rtview] ... AppMgr.initApp
2013-05-08 13:39:48,009 INFO rtv stdout - [rtview] ... BWMON Manager AppMgr.initApp
2013-05-08 13:39:48,025 INFO rtv stdout - [rtview] ... using filters file
<bwmon filters.xml>
2013-05-08 13:39:49,056 INFO rtv stdout - [rtview] ... startApplication()
2013-05-08 13:39:49,056 INFO rtv_stdout - [rtview] ... startApplication()
2013-05-08 13:39:49,056 INFO rtv_stdout - [rtview] ------
2013-05-08 13:39:49,056 INFO rtv_stdout - [rtview] Group: WIN_AGENTS
2013-05-08 13:39:49,056 INFO rtv_stdout - [rtview] Agent: demol(domain1)
2013-05-08 13:39:49,056 INFO rtv stdout - [rtview] Agent: demo2(domain1)
2013-05-08 13:39:49,056 INFO rtv_stdout - [rtview] Agent: demo3(domain1)
2013-05-08 13:39:49,056 INFO rtv stdout - [rtview] ------
2013-05-08 1339:49,056 INFO rtv stdout - [rtview] ------
2013-05-08 13:39:49,056 INFO rtv stdout - [rtview] Group: UNIX AGENTS
2013-05-08 13:39:49,072 INFO rtv stdout - [rtview] Agent: demo4(domain2)
2013-05-08 13:39:49,072 INFO rtv_stdout - [rtview] Agent: demo5(domain2)
2013-05-08 13:39:49,072 INFO rtv stdout - [rtview] Agent: demo6(domain2)
```

```
2013-05-08 13:39:49,072 INFO rtv_stdout - [rtview] -----
```

5. SAVE your changes in the RTView Configuration Application (upper left-hand corner), and then stop and restart your project using the following in your project directory:

```
stop_rtv all
start_rtv all
```

Configure for RTView Manager

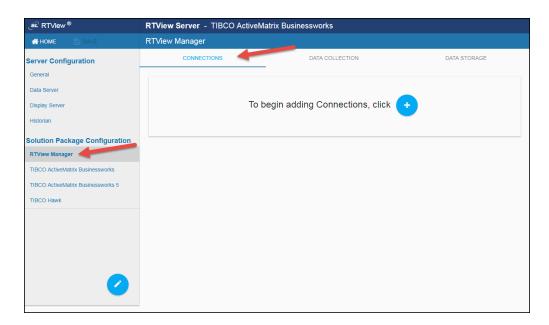
The configuration defined in this section is only relevant for Version 5 users, and only if they enabled JMX. Version 6 users do not need to complete this section.

This section contains:

- "Configuring Data Collection for RTView Manager": Defines the steps required to configure data collection in the RTView Configuration Application for RTView Manager. (Required)
- "Configuring Historical Data for RTView Manager": Describes the steps required to configure historical data collection for RTView Manager. (Optional)

Configuring Data Collection for RTView Manager

1. Navigate to the RTView Configuration Application > MISCMON-LOCAL project>RTView Manager > CONNECTIONS tab.



2. Click the 💿 icon.

The Add Connection dialog displays.

Connection Name*			
Host*			
Port *			
Username			
Password		Ø	
* Indicates required	field	U	
SAVE	CANCEL		

- **3.** Add a connection for each BusinessWorks engine for which you enabled monitoring via JMX. See "Enable Monitoring via JMX for Version 5" for more information. Use the Engine name for the **Name** field and the **Port** specified in your **.tra** file. JMX data is available in the Monitor in the RTView Servers view.
- **4.** In the **DATA COLLECTION** tab, enter the **Poll Rates** to update the default polling rates for all RTView Manager caches.

RTView Manager		
CONNECTIONS	DATA COLLECTION	DATA STORAGE
Poll Rates Set the rate in seconds at which to collect metric data Poll Rate		
Connection Discovery Enable automatic discovery and connection to local JMX ME Autodiscover JMX Connections	een Servers. Disable to connect only to the JMX MBean Servers listed in	the Connections tab.

5. SAVE your changes in the RTView Configuration Application (upper left-hand corner), and then stop and restart your project using the following in your project directory:

stop_rtv all start_rtv all

Configuring Historical Data for RTView Manager

You can specify the number of history rows to store in memory, the compaction rules, the duration before metrics are expired and deleted, and the different types of metrics that you want the Historian to store in the **Data Storage** tab in the RTView Configuration Application. This section contains the following:

- "Defining the Storage of In Memory RTView Manager History"
- "Defining Compaction Rules for RTView Manager"
- "Defining Expiration and Deletion Duration for RTView Manager Metrics"
- "Enabling/Disabling Storage of Historical Data for RTView Manager"
- "Defining a Prefix for All History Table Names for RTView Manager Metrics"

Defining the Storage of In Memory RTView Manager History

You can modify the maximum number of history rows to store in memory in the **Data Storage** tab. The **History Rows** property defines the maximum number of rows to store for the JvmGcInfo, JvmMemoryPool, RtvDataServerManager, RtvDisplayServerManager, RtvDataServerClientTotals, TomcatGlobalRequestStats, and TomcatWebModuleTotals caches. The **History Rows Large** property defines the maximum number of rows to store for the JvmOperatingSystem, JvmThreading, JvmMemory, RtvDataServerClientStats, and TomcatWebModuleStats caches. The default setting for **History Rows** is 50,000 and the default setting for **History Rows Large** is 100,000. To update the default settings:

- 1. Navigate to the RTView Configuration Application > (Project Name) > Solution Package Configuration > RTView Manager > DATA STORAGE tab.
- 2. In the Size region, click the **History Rows** and **History Rows Large** fields and specify the desired number of rows.

CONNECTIONS	DATA COLLECTION	DATA STORAGE
Size Set the number of history rows to keep in memo History Rows	ry History Rows Large	
50000	100000	
Compaction Condense Interval	Condense Raw Time	Compaction Rules
60	1200	Th - ;1d 5m ;2w 15m
Duration Set the number of seconds between data update Expire Time	es before metrics are expired or deleted Delete Time	
45	3600	

Defining Compaction Rules for RTView Manager

Data compaction, essentially, is taking large quantities of data and condensing it using a defined rule so that you store a reasonably sized sample of data instead of all of your data, thus preventing you from potentially overloading your database. The available fields are:

- Condense Interval -- The time interval at which the cache history is condensed. The default is 60 seconds. The following caches are impacted by this setting: JvmGcInfo, JvmMemoryPool, JvmOperatingSystem, JvmThreading, JvmMemory, RtvDataServerManager, and RtvDataServerClientTotals.
- Condense Raw Time -- The time span of raw data kept in the cache history table. The default is 1200 seconds. The following caches are impacted by this setting: JvmGcInfo, JvmMemoryPool, JvmOperatingSystem, JvmThreading, JvmMemory, RtvDataServerManager, RtvDataServerClientTotals, TomcatWebModuleStats, TomcatGlobalRequestStats, and TomcatWebModuleTotals.
- Compaction Rules -- This field defines the rules used to condense your historical data in the database. By default, the columns kept in history will be aggregated by averaging rows with the following rule 1h -;1d 5m;2w 15m, which means the data from 1 hour will not be aggregated (1h - rule), the data over a period of 1 day will be aggregated every 5 minutes (1d 5m rule), and the data over a period of 2 weeks old will be aggregated every 15 minutes (2w 15m rule). The following caches are impacted by this setting: JvmOperatingSystem, JvmThreading, JvmMemory, RtvDataServerManager, RtvDataServerClientTotals, TomcatWebModuleStats, TomcatGlobalRequestStats, and TomcatWebModuleTotals.
- 1. Navigate to the RTView Configuration Application > (Project Name) > Solution Package Configuration > RTView Manager > DATA STORAGE tab.

2. In the Compaction region, click the Condense Interval, Condense Raw Time, and Compaction Rules fields and specify the desired settings.

RTView Manager		
CONNECTIONS	DATA COLLECTION	DATA STORAGE
Size Set the number of history rows to keep in memory History Rows 50000	History Rows Large	
Compaction Condense Interval 60 Duration Set the number of seconds between data updates before metri	Condense Raw Time	Compaction Rules 1h - ;1d 5m ;2w 15m
Expire Time	Delete Time	
45	3600	
History Storage Select metrics the Historian will store in the history database. N	Metrics that are not listed do not support storing history.	
Data Server Client Totals		Default

Defining Expiration and Deletion Duration for RTView Manager Metrics

The data for each metric is stored in a specific cache and, when the data is not updated in a certain period of time, that data will either be marked as expired or, if it has been an extended period of time, it will be deleted from the cache altogether.

The **Expire Time** field, which sets the expire time for the JvmConnections, JvmGcInfo, JvmMemoryPool, JvmClassLoading, JvmCompilation, JvmOperatingSystem, JvmThreading, JvmMemory, JvmMemoryManager, JvmSystemProperties, RtvDataServerManager, RtvDisplayServerManager, RtvHistorianManager, RtvDataServerClientStats, RtvDataServerClientTotals, RtvServerVersion, TomcatWebModuleStats, TomcatConnectorInfo, TomcatGlobalRequestStats, TomcatHostInfo, and TomcatWebModuleTotals caches, defaults to 45 seconds.

The **Delete Time**, which sets the delete time for the JvmConnections, JvmGcInfo, JvmMemoryPool, JvmClassLoading, JvmCompilation, JvmOperatingSystem, JvmRuntime, JvmThreading, JvmMemory, JvmMemoryManager, JvmSystemProperties, RtvDataServerManager, RtvDisplayServerManager, TomcatWebModuleStats, TomcatGlobalRequestStats, TomcatWebModuleTotals, RtvHistorianManager, RtvDataServerClientStats, RtvDataServerClientTotals, RtvServerVersion, TomcatWebModuleStats, TomcatConnectorInfo, TomcatGlobalRequestStats, TomcatHostInfo, and TomcatWebModuleTotals caches, defaults to 3600 seconds. To modify these defaults:

- 1. Navigate to the RTView Configuration Application > (Project Name) > Solution Package Configuration > RTView Manager > DATA STORAGE tab.
- 2. In the **Duration** region, click the **Expire Time** and **Delete Time** fields and specify the desired settings.

	DATA COLLECTION	DATA STORAGE
Size Set the number of history rows to keep in men	nory	
History Rows	History Rows Large	
50000	100000	
Compaction		
Condense Interval	Condense Raw Time	Compaction Rules
60	1200	1h - ;1d 5m ;2w 15m
	stee hefore metrice are evolved or delated	
Set the number of seconds between data upda	Delete Time	
	Delete Time	
Set the number of seconds between data upda	Delete Time	
Set the number of seconds between data update the number of seconds between data update the second s	Delete Time	
Set the number of seconds between data update the number of seconds between data update the second s	Delete Time	

Enabling/Disabling Storage of Historical Data for RTView Manager

The **History Storage** region allows you to select which metrics you want the Historian to store in the history database. By default, all RTView Manager historical data is saved to the database. To enable/disable the collection of historical data, perform the following steps:

- 1. Navigate to the RTView Configuration Application > (Project Name) > Solution Package Configuration > RTView Manager > DATA STORAGE tab.
- 2. In the **History Storage** region, select the toggles for the various metrics that you want to collect/deselect for the metrics that you do not want to collect. Blue is enabled, gray is disabled.

View Manager		
CONNECTIONS	DATA COLLECTION	DATA STORAGE
History Storage Select metrics the Historian will store in the history database.	Metrics that are not listed do not support storing history.	
Data Server Client Totals Data Server Manager		
Memory		
os		
Threading		
Tomcat Global Requests		
Tomcat Webmodule Statistics		
Tomcat Webmodule Totals		
HISTORY Lable Name Prenx Enter a value to prepend to the history table names for all metrics. I	lote that this requires a change to your history database schema.	

Defining a Prefix for All History Table Names for RTView Manager Metrics

The **History Table Name Prefix** field allows you to define a prefix that will be added to the database table names so that the Monitor can differentiate history data between data servers when you have multiple data servers with corresponding Historians using the same solution package(s) and database. In this case, each Historian needs to save to a different table, otherwise the corresponding data server will load metrics from both Historians on startup. Once you have defined the **History Table Name Prefix**, you will need to create the corresponding tables in your database as follows:

- Locate the .sql template for your database under RTVAPM_HOME/rtvmgr/dbconfig and make a copy of it
- Add the value you entered for the History Table Name Prefix to the beginning of all table names in the copied .sql template
- Use the copied .sql template to create the tables in your database

To add the prefix:

- 1. Navigate to the RTView Configuration Application > (Project Name) > Solution Package Configuration > RTView Manager > DATA STORAGE tab.
- 2. Click on the History Table Name Prefix field and enter the desired prefix name.

CONNECTIONS	DATA COLLECTION	DATA STORAGE
listory Storage elect metrics the Historian will store in the history database. Met	irics that are not listed do not support storing history.	
Data Server Client Totals		
Data Server Manager		
Memory		
os		
Threading		
Tomcat Global Requests		
Tomcat Webmodule Statistics		
Tomcat Webmodule Totals		
listory Table Name Prefix	that this requires a change to your history database schema.	

Configure for TIBCO ActiveMatrix Businessworks

This section contains:

- "Configuring Data Collection in the RTView Configuration Application for Version 6": Defines the steps required to configure data collection in the RTView Configuration Application for TIBCO ActiveMatrix Businessworks. (Required)
- "Configuring Historical Data for Version 6": Describes the steps required to configure historical data collection. (Optional)

Configuring Data Collection in the RTView Configuration Application for Version 6

- 1. Navigate to the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO ActiveMatrix BusinessWorks > DATA COLLECTION tab.
- By default, collecting activities data for TIBCO ActiveMatris Businessworks is disabled. To enable collecting activities (Bw6Activities cache) data, navigate to the RTView Configuration Application > TIBCO ActiveMatrix BusinessWorks > DATA

COLLECTION tab > **Metric Selection** section and enable the **Activities** toggle. Grey toggle is disabled, blue toggle is enabled.

CONNECTI	ONS	DATA COLLECTION	DATA STORAGE
Aetric Selection elect which metrics to collect	Any metrics not listed are automatica	lly collected and cannot be disabled.	
Poll Rates et the rate in seconds at whit Activities	App Nodes	Apps	Processes
30	30	300	30

3. If you want to modify the default values for the update rates for the TIBCO ActiveMatrix BusinessWorks caches, you can update the default polling rates in RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO ActiveMatrix BusinessWorks > DATA COLLECTION > Poll Rates.

Modify the value for the **Activities** field to modify the default polling rate for the _Bw6HawkActivityStatistics, _Bw6Activities, Bw6Activities, and Bw6ActivityTotalsByProcess caches. Modify the value for the **App Nodes** field to modify the polling rate for the _Bw6HawkAppNodeProcessInfo, and _Bw6AppNodes caches. Modify the value for the **Apps** field to modify the polling rate for the _Bw6HawkApps, Bw6AppSlices, __Bw6Apps, _Bw6Apps, _Bw6AppsDelta, and Bw6Apps caches. Modify the value for the **Processes** field to modify the polling rate for the _Bw6HawkProcessStatistics, _Bw6Processes, Bw6Processes, Bw6ProcessTotalsByAppNodeAndApp, Bw6ProcessTotalsByAppNode, Bw6ProcessTotalsByApp caches.

CONNECTIONS DATA COLLECTION DATA ST Interior Selection elect which metrics to collect. Any metrics not listed are automatically collected and cannot be disabled. Data st Activities Connection Connection Connection	ORAGE
elect which metrics to collect. Any metrics not listed are automatically collected and cannot be disabled.	
Activities	
oll Rates at the rate in seconds at which to collect metric data	
Activities App Nodes Apps Processes	
30 30 30 30 30	

Configuring Historical Data for Version 6

You can specify the number of history rows to store in memory, the compaction rules, the duration before metrics are expired and deleted, and the different types of metrics that you want the Historian to store in the **DATA STORAGE** tab in the RTView Configuration Application. This section contains the following:

- "Defining the Storage of In Memory BWMON History"
- "Defining Compaction Rules for BWMON"
- "Defining Expiration and Deletion Duration for BWMON Metrics"
- "Enabling/Disabling Storage of BWMON Historical Data"
- "Defining a Prefix for All History Table Names for Metrics"

Defining the Storage of In Memory BWMON History

You can modify the maximum number of history rows to store in memory in the Data Storage tab. The **History Rows** property defines the maximum number of rows to store for the Bw6AppNodes, Bw6ProcessTotalsByAppNode, Bw6ProcessTotalsByApp, and Bw6ProcessTotalsByAppNodeAndApp caches. The **History Rows Medium** property defines the maximum number of rows to store for the Bw6ActivityTotalsByProcess and Bw6Processes caches. The **History Rows Large** property defines the maximum number of rows to store for the Bw6Activities cache. The default setting for **History Rows** is 50,000, the default setting for **History Rows Medium** is 100,000, and the default setting for **History Rows Large** is 200,000. To update the default settings:

- 1. Navigate to the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO ActiveMatrix Businessworks > DATA STORAGE tab.
- 2. In the Size region, click the History Rows, History Rows Medium, and History Rows Large fields and specify the desired number of rows.

CONNECTIONS		DATA COLLECTION	DATA STORAGE
Size iet the number of history rows to ke	ep in memory		
History Rows	History Rows Medium	History Rows Large	
50000	100000	200000	
Compaction Let the compaction rules for history. Condense Interval 60	The Condense Interval and Condense Raw Ti Condense Raw Time 1200	me are in seconds. Compaction Rules 1h - ;1d 5m ;2w 15m	
et the number of seconds between	n data updates before metrics are expired or de Expire Time	leted App Delete Time	Delete Time
Duration Set the number of seconds between App Expire Time			Delete Time 3600
Set the number of seconds between App Expire Time	Expire Time	App Delete Time	

Defining Compaction Rules for BWMON

Data compaction, essentially, is taking large quantities of data and condensing it using a defined rule so that you store a reasonably sized sample of data instead of all of your data, thus preventing you from potentially overloading your database. The available fields are:

- Condense Interval -- The time interval at which the cache history is condensed. The default is 60 seconds. The following caches are impacted by this setting: Bw6Activities, Bw6ActivityTotalsByProcess, Bw6AppNodes, Bw6Processes, Bw6ProcessTotalsByAppNode, Bw6ProcessTotalsByApp, and Bw6ProcessTotalsByAppNodeAndApp.
- Condense Raw Time -- The time span of raw data kept in the cache history table. The default is 1200 seconds. The following caches are impacted by this setting: Bw6Activities, Bw6ActivityTotalsByProcess, Bw6AppNodes, Bw6Processes, Bw6ProcessTotalsByAppNode, Bw6ProcessTotalsByApp, and Bw6ProcessTotalsByAppNodeAndApp.
- Compaction Rules -- This field defines the rules used to condense your historical data in the database. By default, the columns kept in history will be aggregated by averaging rows with the following rule 1h -;1d 5m;2w 15m, which means the data from 1 hour will not be aggregated (1h - rule), the data over a period of 1 day will be aggregated every 5 minutes (1d 5m rule), and the data over a period of 2 weeks old will be aggregated every 15 minutes (2w 15m rule). The following caches are impacted by this setting: Bw6Activities, Bw6ActivityTotalsByProcess, Bw6AppNodes, Bw6Processes, Bw6ProcessTotalsByAppNode, Bw6ProcessTotalsByApp, and Bw6ProcessTotalsByAppNodeAndApp.
- 1. Navigate to the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO ActiveMatrix Businessworks > DATA STORAGE tab.
- 2. In the Compaction region, click the Condense Interval, Condense Raw Time, and Compaction Rules fields and specify the desired settings.

	Businessworks		
CONNECTION	IS	DATA COLLECTION	DATA STORAGE
Size Set the number of history rows to I	keep in memory		
History Rows	History Rows Medium	History Rows Large	
50000	100000	200000	
Compaction Set the compaction rules for histor	ry. The Condense Interval and Condense Raw Ti	me are in seconds.	
Condense Interval	Condense Raw Time	Compaction Rules	
60	1200	1h - ;1d 5m ;2w 15m 🥌	
Duration			
	en data updates before metrics are expired or de Expire Time	leted App Delete Time	Delete Time

Defining Expiration and Deletion Duration for BWMON Metrics

The data for each metric is stored in a specific cache and, when the data is not updated in a certain period of time, that data will either be marked as expired or, if it has been an extended period of time, it will be deleted from the cache altogether. The **App Expire Time** field, which sets the expire time for the Bw6Apps cache, defaults to 600 seconds. The **Expire Time** field, which sets the expire time for the Bw6Activities, Bw6AppSlices, Bw6OsgiAgents, and Bw6Processes caches, defaults to 75 seconds. The **App Delete Time**, which sets the delete time for the Bw6Apps cache, defaults to 86,400 seconds. The **Delete Time**, which sets the delete time for the Bw6Activities, Bw6AppSlices, Bw6AppNodes, Bw6AppNodes, Bw6OsgiAgents, and Bw6Processes caches, defaults to 3600 seconds. To modify these defaults:

- 1. Navigate to the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO ActiveMatrix Businessworks > DATA STORAGE tab.
- 2. In the Duration region, click the App Expire Time, Expire Time, App Delete Time, and Delete Time fields and specify the desired settings.

CONNECTIO	NS	DATA COLLECTION	DATA STORAGE
Size Set the number of history rows to	o keep in memory		
History Rows	History Rows Medium	History Rows Large	
50000	100000	200000	
Compaction Set the compaction rules for hist Condense Interval 60	ory. The Condense Interval and Condense Ray Condense Raw Time 1200	v Time are in seconds. Compaction Rules 1h - ;1d 5m ;2w 15m	
Duration Set the number of seconds betw App Expire Time	een data updates before metrics are expired o	deleted App Delete Time	Delete Time
600	75	86400	3600

Enabling/Disabling Storage of BWMON Historical Data

The **History Storage** region allows you to select which metrics you want the Historian to store in the history database. By default, historical Activities and Activity Totals data is not saved to the database. All other metrics are saved by default. To enable/disable the collection of historical data, perform the following steps:

1. Navigate to the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO ActiveMatrix Businessworks > DATA STORAGE tab. 2. In the **History Storage** region, select the toggles for the various metrics that you want to collect/deselect for the metrics that you do not want to collect. Blue is enabled, gray is disabled.

CONNECTIONS	3	DATA COLLECTION	DATA	STORAGE
00	/5	864UU	3600	
story Storage				
	e in the history database. Metri	cs that are not listed do not support storing history.		
Activities				
Activity Totals				
App Node Totals				
App Nodes				
App Slices				
Process Totals				
Processes				
story Table Name Prefix				
		hat this requires a change to your history database schema.		

Defining a Prefix for All History Table Names for Metrics

The **History Table Name Prefix** field allows you to define a prefix that will be added to the database table names so that the Monitor can differentiate history data between data servers when you have multiple data servers with corresponding Historians using the same solution package(s) and database. In this case, each Historian needs to save to a different table, otherwise the corresponding data server will load metrics from both Historians on startup. Once you have defined the **History Table Name Prefix**, you will need to create the corresponding tables in your database as follows:

- Locate the .sql template for your database under RTVAPM_HOME/bw6mon/dbconfig and make a copy of it
- Add the value you entered for the History Table Name Prefix to the beginning of all table names in the copied .sql template
- Use the copied .sql template to create the tables in your database

To add the prefix:

- 1. Navigate to the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO ActiveMatrix Businessworks > DATA STORAGE tab.
- 2. Click on the **History Table Name Prefix** field and enter the desired prefix name.

bull 7b 8b400 3600 istory Storage leadt metrics the Historien will store in the history database. Metrics that are not listed do not support storing history. Image: Comparison of Compar	ks	
Istory Storage lect metrics the Historian will store in the history database. Metrics that are not listed do not support storing history. Activities Activity Totals App Node Totals App Nodes App Slices Processs Totals Processes	DATA COLLECTION DATA STORAGE	CONNECTIONS
 Activities Activities Activity Totals App Node Totals App Slices Processs Totals Processes 	86400 3600	U /5
 Activities Activities Activity Totals App Node Totals App Slices Processs Totals Processes 		
 Activity Totals App Node Totals App Nodes App Slices Process Totals 		
 Activity Totals App Node Totals App Nodes App Slices Process Totals Processes 	usse. Metrics that are not listed do not support storing history.	cory Storage t metrics the Historian will store in the history database.
 App Node Totals App Nodes App Slices Process Totals Processes 		Activities
App Nodes App Slices Process Totals Processes		Activity Totals
App Slices Process Totals Processes		App Node Totals
Process Totals Processes		App Nodes
Processes		App Slices
		Process Totals
istory Table Name Prefix	Default	Processes
		ary Table Name Prefix
nter a value to prepend to the history table names for all metrics. Note that this requires a change to your history database schema.	rics. Note that this requires a change to your history database schema.	a value to prepend to the history table names for all metrics.

Configure for TIBCO ActiveMatrix Businessworks 5

This section contains:

- "Configuring Data Collection in the RTView Configuration Application for Version 5": Defines the steps required to configure data collection in the RTView Configuration Application for TIBCO ActiveMatrix Businessworks. (Required)
- "Configuring Historical Data for Version 5": Describes the steps required to configure historical data collection. (Optional)
- "Configure for BWSE Engines for Version 5": Describes how to configure BW Monitor to monitor BWSE engines for TIBCO ActiveMatrix (AMX) users.
- "Create Customized Filters for Version 5": Describes how to create customized filters for BusinessWorks version 5.
- "Enable BW Servers Displays for Version 5": Describes how to make the **BW Servers** -"Server Processes" and "Single Server Process - Summary" displays visible in the Monitor for BusinessWorks version 5. By default, these displays are not enabled.
- "Reduce Collection of Process Data for Version 5": Describes how to modify data collection for BusinessWorks version 5.

Configuring Data Collection in the RTView Configuration Application for Version 5

- 1. Navigate to the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO ActiveMatrix Businessworks 5 > DATA COLLECTION tab.
- By default, collecting activities and processes data for TIBCO ActiveMatrix Businessworks 5 is enabled. To disable collecting activities (BwActivities cache) and processes (BwProcesses cache) data, navigate to the RTView Configuration Application > TIBCO ActiveMatrix Businessworks 5 > DATA COLLECTION tab > Metric Selection section and disable the Activities and Processes toggles. Grey toggle is disabled, blue toggle is enabled.

		DATA COLLECTION	DATA STORAGE
etric Selection ect which metrics to collect	. Any metrics not listed are	automatically collected and cannot be disabled.	
🛑 Activities 🚽			
Processes			
II Rates the rate in seconds at whit ctivities	ch to collect metric data Engines	Processes	
0	30	30	

 If you want to modify the default values for the update rates for the TIBCO ActiveMatrix Businessworks 5 caches, you can update the default polling rates in RTView Configuration Application >(Project Name) > Solution Package Configuration > TIBCO ActiveMatrix Businessworks 5 > DATA COLLECTION > Poll Rates.

Modify the value for the **Activities** field to modify the default polling rate for the BwActivities and BwActivityTotalsByProcess caches, which will update at approximately this rate, but will get occasional extra updates. Modify the value for the **Engines** field to modify the polling rate for the BwUndeployedEngines, BwEngines, BwEnginesDeployment, BwEngineState caches, which will update at approximately this rate, but will get occasional extra updates. Modify the **Processes** field to modify the polling rate for the BwProcessTotalsByEngine caches, which will update at approximately this rate, but will get occasional extra updates.

CO ActiveMa	trix Businesswo	rks 5	
CONNECTIO	NS	DATA COLLECTION	DATA STORAGE
etric Selection lect which metrics to co	llect. Any metrics not listed ar	re automatically collected and cannot be disabled.	
Activities			
Processes			
oll Rates at the rate in seconds at	which to collect metric data	Processes	-
	30	30	
30			
30			

1.

Configuring Historical Data for Version 5

You can specify the number of history rows to store in memory, the compaction rules, the duration before metrics are expired and deleted, and the different types of metrics that you want the Historian to store in the **DATA STORAGE** tab in the RTView Configuration Application. This section contains the following:

- "Defining the Storage of In Memory BWMON5 History"
- "Defining Compaction Rules for BWMON5"
- "Defining Expiration and Deletion Duration for BWMON5 Metrics"
- "Enabling/Disabling Storage of Historical Data for BWMON5"
- "Defining a Prefix for All History Table Names for BWMON5 Metrics"

Defining the Storage of In Memory BWMON5 History

You can modify the maximum number of history rows to store in memory in the **Data Storage** tab. The **History Rows** property defines the maximum number of rows to store for the BwEngines, BwProcessTotalsByEngine, and BwServers caches. The **History Rows Medium** property defines the maximum number of rows to store for the BwActivityTotalsByProcess and BwProcesses caches. The **History Rows Large** property defines the maximum number of rows to store for the BwActivities cache. The default setting for **History Rows** is 50,000, the default setting for **History Rows Medium** is 100,000, and the default setting for **History Rows Large** is 200,000. To update the default settings:

- 1. Navigate to the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO ActiveMatrix Businessworks 5 > DATA STORAGE tab.
- 2. In the Size region, click the History Rows, History Rows Medium, and History Rows Large fields and specify the desired number of rows.

CONNECTIONS	DATA COLLECTION	DATA STORAGE
Size Set the number of history rows to keep in r		
History Rows	History Rows Medium	History Rows Large
50000	10000	200000
00000	10000	20000
compaction et the compaction rules for history. The C	Condense Interval and Condense Raw Time are in seconds.	
Condense Interval	Condense Raw Time	Compaction Rules
Condense Interval		Compaction Rules 1h - ;1d 5m ;2w 15m
Condense Interval	Condense Raw Time	
	Condense Raw Time	
60	Condense Raw Time	
60 Duration	Condense Raw Time 1200	
60 Duration et the number of seconds between data is	Condense Raw Time 1200	
60 Duration et the number of seconds between data is	Condense Raw Time 1200	
60 Duration let the number of seconds between data of Expire Time 300	Condense Raw Time 1200 updates before metrics are expired	
60 Duration let the number of seconds between data of Expire Time 300	Condense Raw Time 1200 updates before metrics are expired	
60 Duration Set the number of seconds between data of Expire Time 300 Metrics data are considered expired after this	Condense Raw Time 1200 updates before metrics are expired	
60 Duration Set the number of seconds between data of Expire Time 300 Metrics data are considered expired after this History Storage	Condense Raw Time 1200 updates before metrics are expired	<u>1h - ;1d 5m ;2w 15m</u>
60 Duration Set the number of seconds between data of Expire Time 300 Metrics data are considered expired after this History Storage	Condense Raw Time 1200 updates before metrics are expired	<u>1h - ;1d 5m ;2w 15m</u>

Defining Compaction Rules for BWMON5

Data compaction, essentially, is taking large quantities of data and condensing it using a defined rule so that you store a reasonably sized sample of data instead of all of your data, thus preventing you from potentially overloading your database. The available fields are:

- Condense Interval -- The time interval at which the cache history is condensed. The default is 60 seconds. The following caches are impacted by this setting: BwActivities, BwActivityTotalsByProcess, BwEngines, BwProcesses, BwProcessTotalsByEngine, and BwServers.
- Condense Raw Time -- The time span of raw data kept in the cache history table. The default is 1200 seconds. The following caches are impacted by this setting: BwActivities, BwActivityTotalsByProcess, BwEngines, BwProcesses, and BwProcessTotalsByEngine.
- Compaction Rules -- This field defines the rules used to condense your historical data in the database. By default, the columns kept in history will be aggregated by averaging rows with the following rule 1h -;1d 5m;2w 15m, which means the data from 1 hour will not be aggregated (1h rule), the data over a period of 1 day will be aggregated every 5 minutes (1d 5m rule), and the data over a period of 2 weeks old will be aggregated every 15 minutes (2w 15m rule). The following caches are impacted by this setting: BwActivities, BwActivityTotalsByProcess, BwEngines, BwProcesses, BwProcessTotalsByEngine, and BwServers.
- 1. Navigate to the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO ActiveMatrix Businessworks 5 > DATA STORAGE tab.

2. In the Compaction region, click the Condense Interval, Condense Raw Time, and Compaction Rules fields and specify the desired settings.

5	
DATA COLLECTION	DATA STORAGE
History Rows Medium	History Rows Large
100000	200000
nd Condense Raw Time are in seconds.	
Condense Raw Time	Compaction Rules
1200	1h - ;1d 5m ;2w 15m
ics are expired	
Metrics that are not listed do not support storing history.	
	Default
	History Rows Medium 100000 Ind Condense Raw Time are in seconds. Condense Raw Time 1200 Its are expired

Defining Expiration and Deletion Duration for BWMON5 Metrics

The data for each metric is stored in a specific cache and, when the data is not updated in a certain period of time, that data will be marked as expired. The **Expire Time** field, which sets the expire time for the BwServers cache, defaults to 75 seconds. To modify this default:

- 1. Navigate to the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO ActiveMatrix Businessworks 5 > DATA STORAGE tab.
- 2. In the **Duration** region, click the **Expire Time** field and specify the desired settings.

	DATA COLLECTION	DATA STORAGE
ize et the number of history rows to keep	in memory	
History Rows	History Rows Medium	History Rows Large
50000	100000	200000
60	1200	1h - ;1d 5m ;2w 15m
Duration Set the number of seconds between da	ata updates before metrics are expired	
	•	

Enabling/Disabling Storage of Historical Data for BWMON5

The **History Storage** region allows you to select which metrics you want the Historian to store in the history database. By default, historical Activities, Activity Total, and Processes data is not saved to the database. All other metrics are saved by default. To enable/disable the collection of historical data, perform the following steps:

- 1. Navigate to the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO ActiveMatrix Businessworks 5 > DATA STORAGE tab.
- 2. In the **History Storage** region, select the toggles for the various metrics that you want to collect/deselect for the metrics that you do not want to collect. Blue is enabled, gray is disabled.

RTView Server - RTView DataS	erver for TIBCO	1
TIBCO ActiveMatrix Businesswork	<s 5<="" th=""><th></th></s>	
CONNECTIONS	DATA COLLECTION	DATA STORAGE
Metrics data are considered expired after this number of seconds		
History Storage Select metrics the Historian will store in the history databa	ase. Metrics that are not listed do not support storing history.	
Activities		
Activity Totals		
Engines		
Process Totals		
Processes		
Servers		
History Table Name Prefix		
Enter a value to prepend to the history table names for all metr	ics. Note that this requires a change to your history database schema.	

Defining a Prefix for All History Table Names for BWMON5 Metrics

The **History Table Name Prefix** field allows you to define a prefix that will be added to the database table names so that the Monitor can differentiate history data between data servers when you have multiple data servers with corresponding Historians using the same solution package(s) and database. In this case, each Historian needs to save to a different table, otherwise the corresponding data server will load metrics from both Historians on startup. Once you have defined the **History Table Name Prefix**, you will need to create the corresponding tables in your database as follows:

- Locate the .sql template for your database under RTVAPM_HOME/bwmon/dbconfig and make a copy of it
- Add the value you entered for the History Table Name Prefix to the beginning of all table names in the copied .sql template

Use the copied .sql template to create the tables in your database

To add the prefix:

- 1. Navigate to the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO ActiveMatrix Businessworks 5 > DATA STORAGE tab.
- 2. Click on the **History Table Name Prefix** field and enter the desired prefix name.

BCO ActiveMatrix Businesswork	s 5	
CONNECTIONS	DATA COLLECTION	DATA STORAGE
Metrics data are considered expired after this number of seconds	-	
History Storage Select metrics the Historian will store in the history databa	se. Metrics that are not listed do not support storing history.	
Activities		
Activity Totals		
Engines		
Process Totals		
Processes		
C Servers		
History Table Name Prefix Enter a value to prepend to the history table names for all metric	cs. Note that this requires a change to your history database schema.	

Configure for BWSE Engines for Version 5

This section is for TIBCO ActiveMatrix (AMX) users, and describes how to configure BW Monitor to monitor BWSE engines. BW Monitor needs access to AMX Node data stored in EMS message queues on the AMX Host system. To make this data available to BW Monitor you will create EMS topics with bridges from the queues.

The TIBCO ActiveMatrix BusinessWorks Service Engine (BWSE) is an ActiveMatrix (AMX) component that enables BW engines to participate in the implementation of AMX services. In this case, the BWSE engines run within an AMX Node and are not visible to BW Monitor. However, you can configure BW Monitor to display these engines, as well as to gather JVM memory metrics for the AMX Nodes in which they are running.

To Configure for BWSE engines:

1. Navigate to the RTView Configuration Application > (Project Name) > Server Configuration > General > CUSTOM PROPERTIES tab.

2. Click the \bigcirc icon.

The Add Property dialog displays.

Add Property
Name *
Value
Filter
Comment
* Indicates required field SAVE CANCEL

3. Create the following custom properties, one at a time, and click Save after creating each:
 Name: sl.rtview.cache.config
 Value: bw_engine_microagents.rtv
 Filter: collector

Name: sl.rtview.cache.config Value: bw_amx_node_cache.rtv Filter: collector

Name: sl.rtview.sub Value: \$AMX3.x_STATS_TOPIC:rtv.amx.governance.stats Filter: collector

Once all three are created and saved, the newly created properties display in the **Custom Properties** tab.

GENERAL	ALERTS	CUSTOM PROPER	TIES	
To configure a custom property, you must know the Property values are applied in the order specified w		property value and the appropriate property filter.		
sl.rtview.cache.config bw_engine_microagents.rtv collector		1		Î
sl.rtview.cache.config bw_amx_node_cache.rtv collector		1		
sl.rtview.sub \$AMX3.x_STATS_TOPIC:rtv.ar collector	nx.governance.stats	1		

4. For each AMX host, click the \bigcirc icon, add the following custom properties, and click Save after entering each:

Name: sl.rtview.jms.jmsconn

Value: local com.tibco.tibjms.TibjmsTopicConnectionFactory tcp://localhost:7222 admin - - - -

Filter: collector

(where **local** is the connection name and **tcp://localhost:7222** is the URL for your ems server)

Name: sl.rtview.cache.config

Value: bw_amx_node_cache_source.rtv \$jms_conn:local

Filter: collector

(where **local** is the connection name)

Name: sl.rtview.jms.jmstopic Value: local \$AMX3.x_STATS_TOPIC Filter: collector

(where **local** is the connection name)

Once all three are created and saved, the newly created properties display in the **Custom Properties** tab.

GENERAL	ALERTS	CUSTOM PROPERTIES
Property values are applied in the order spec	ified with the last value taking precedence.	
sl.rtview.cache.config bw_engine_microagents.r collector	tv	/ 🗇 🕯
si.rtview.cache.config bw_amx_node_cache.rtv collector		/ 🗇 🕯
sl.rtview.sub \$AMX3.x_STATS_TOPIC: collector	rtv.amx.governance.stats	/ 🗇 🕯
sl.rtview.jms.jmsconn local com.tibco.tibjms.Tibj collector	msTopicConnectionFactory tcp://localhost.7222 admin -	···· / D #
sl.rtview.cache.config bw_amx_node_cache_so collector	urce.rtv \$jms_conn:local	/ 🗇 🕯
sl.rtview.jms.jmstopic local \$AMX3.x_STATS_T0 collector	DPIC	/ 🗇 🕯

5. Click **Save** and restart the data server to apply your changes.

Create Customized Filters for Version 5

This section applies to BusinessWorks version 5, and describes how to create filtering options for the **Filter:** drop-down menu. By default, the **Filter:** drop-down menu only contains the **No Filter** option.

You can create filtering options that limit display data based on a combination of domain, engine, process, and activity names. You configure the filtering options prior to running the Monitor.

To create your filtering options edit the **bwmon_filters.xml** file, located in your project directory. Edit by inserting regular expressions for each type of name you want filter by, as well as a name for the filter. The filter name becomes the option in the **Filters:** drop-down menu. Instructions and examples are provided in the **bwmon_filters.xml** file.

Enable BW Servers Displays for Version 5

This section applies to BusinessWorks **version 5**, and describes how to make the **BW Servers** - Server Processes and Single Server Process - Summary displays visible in the Monitor. By default, these displays are not enabled.

The **Server Processes** and **Single Server Summary** displays show information about BW Server operating system processes. Due to limitations in TIBCO Hawk, the data they display is not available from IBM AIX or HP-UX servers.

To enable the displays:

1. Open the **bwmon_navtree.xml** file, located in your project directory.

- 2. Uncomment the following two lines,
- <!-- <node label="Server Processes" display="bw_server_processes"/> -->
- <!-- <node label="Server Process Summary" display="bw_server_process_summary"/> -->
- 3. Save the file.
- 4. Restart the Monitor.
- 5. Verify the displays appear under **BW Servers** in the navigation tree.

Reduce Collection of Process Data for Version 5

This section describes how to exclude BW5 process data that is collected by the Monitor but not of interest to you. By default, all process data is included. Excluding data stops it from being stored in the cache and removes it from displays. To exclude (or include) data, create a custom property in the RTView Configuration Application as such:

 Navigate to the RTView Configuration Application > (Project Name) > Server Configuration > General > Custom Properties tab.

e RTView®	RTView Server - TIBCO ActiveMatrix Businessworks Requires restart 2	1
👫 HOME 📑 SAVE	General	
Server Configuration	GENERAL ALERTS CUSTOM PROPERTIES	
Data Server Display Server Historian	Custom Properties To configure a custom property, you must know the name of the associated property, the syntax for the property value and the appropriate property filter. Property values are applied in the order specified with the last value taking precedence.	
Solution Package Configuration RTView Manager TIBCO ActiveMatrix Businessworks	To begin adding Custom Properties, click 🔸	
TIBCO ActiveMatrix Businessworks 5 TIBCO Hawk		

2. Click the \bigcirc icon.

The Add Property dialog displays.

Add Property
Name *
sl.rtview.sub
Value
\$bwprocessFilterPattern:'0[3-5]'
Filter
collector
Comment
data for process03 to process05 are stored and displayed
* Indicates required field SAVE CANCEL

3. Define the values for the desired property. Each property specifies a regular expression that is applied to a process name. If the name matches the pattern, then the process is included. To exclude processes, start the filter pattern with ^ (negation).

For example, if you have the following processes:

process01.process

process02.process

process03.process

process04.process

process05.process

process06.process

process07.process

and you set the first property as follows:

Name: sl.rtview.sub

Value: \$bwprocessFilterPattern:'0[3-5]'

Filter: collector

Comment: (description of the filter)

then the data for process03 to process05 is stored and displayed:

process03.process

process04.process

process05.process

If you set the second property as follows:

Name: sl.rtview.sub

Value: \$bwprocessFilterPattern:'0[^4]' Filter: collector Comment: (description of the filter)

Then data from process04 is excluded and you continue getting data from:

process03.process

process05.process

4. Once all your properties have been added, click Save.

€ RTView®	RTView Server - TIBCO Active	Matrix Businessworks *	Requires restart 🥰 🚦
👫 HOME 🖺 SAVE	General *		
Server Configuration	GENERAL	ALERTS	CUSTOM PROPERTIES
Data Server Display Server Historian	Custom Properties To configure a custom property, you must know Property values are applied in the order specifie	the name of the associated property, the syntax for the p ad with the last value taking precedence.	operty value and the appropriate property filter.
Solution Package Configuration RTView Manager	sl.rtview.sub SbwprocessFilterPattern:'0[3 collector data for process03 to proces		× © 1
TIBCO ActiveMatrix Businessworks TIBCO ActiveMatrix Businessworks 5 TIBCO Hawk	sl.rtview.sub \$bwprocessFilterPattern:'0(* collector data for process04 is exclud	-	/ 6 =

5. Restart the data server so that your changes take effect.

Troubleshoot

This section includes:

- "Log Files"
- "JAVA_HOME"
- "Permissions"
- "Network/DNS"
- "Verify Data Received from Data Server"
- "Verify Port Assignments"

Log Files

When a Monitor component encounters an error, it outputs an error message to the console and/or to the corresponding log file. If you encounter issues, look for errors in the following log files:

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

which are located in the **RTViewTIBCOMonitor/em-tibco/servers/bwmon/logs** directory.

Logging is enabled by default. If you encounter issues with log files, verify the **logs** directory exists in the **RTViewTIBCOMonitor/em-tibco/servers/bwmon** directory.

JAVA_HOME

If the terminal window closes after executing the **start_rtv** command, verify that JAVA_HOME is set correctly.

Permissions

If there are permissions-related errors in the response from the **start_rtv** command, check ownership of the directory structure.

Network/DNS

If any log file shows reference to an invalid URL, check your system's hosts file and confirm with your Network Administrator whether your access to the remote system is being blocked.

Verify Data Received from Data Server

If you encounter problems collecting data, restart the Data Server, start the Monitor, and go to the **Admin** tab and select **Architecture> RTView Cache Tables** in the navigation tree. Select **BWMON-LOCAL** from the **Data Server** drop down list, and search for all caches that start with "BWMON." Make sure these caches are populated (the number of **Rows** and **Columns** in the table should be greater than 0). If not, there might be a problem with the connection to the Data Server.

Verify Port Assignments

If the display server or Historian fail to connect to the Data Server or they receive no data, verify the ports are assigned correctly in your properties files and restart the Data Server.

BusinessWorks Monitor Views/Displays

The following Solution Package for TIBCO ActiveMatrix BusinessWorks[™] Views (and their associated displays) can be found under **Components** tab > **Middleware** > **TIBCO BusinessWorks** after installation:

This section describes Monitor displays. This section includes:

- "BW Applications" on page 304: The displays in this View present BusinessWorks 6 application performance metrics.
- "BW Containers" on page 313: The displays in this View present BusinessWorks container performance metrics.
- "BW AppNodes" on page 321: The displays in this View present BusinessWorks 6 AppNode performance metrics.
- "BW AppSlices" on page 329: The displays in this View present BusinessWorks 6 AppSlice performance metrics.
- "BW Processes" on page 337: The displays in this View present BusinessWorks 6 process performance metrics.
- "BW5 Engines" on page 346: The displays in this View present BusinessWorks 5.0 engine performance metrics.
- "BW5 Processes" on page 357: The displays in this View present BusinessWorks 5.0 process performance metrics.
- "BW5 Activities" on page 366: The displays in this View present BusinessWorks 5.0 activity performance metrics.
- "BW5 Servers" on page 374: The displays in this View present BusinessWorks 5.0 server performance metrics.

BW Applications

These displays present process performance data for your BusinessWorks applications and AppSpaces across BusinessWorks Domains. Process metrics are totaled by application. Use these displays to monitor critical alerts for all your BusinessWorks applications, and investigate those alerts in lower-level displays. Displays in this View are:

- "BW All Applications Heatmap" on page 304: A color-coded heatmap view of selected application performance metrics.
- "BW All Applications Table" on page 307: A tabular view of all available application performance data in this BusinessWorks View.
- "BW Single Application Summary" on page 310: Current and historical metrics for a single application.

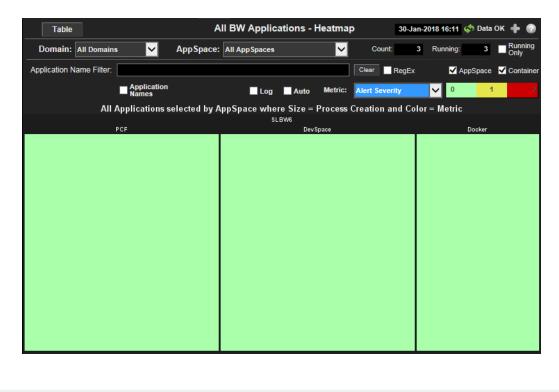
BW All Applications Heatmap

View the most critical BusinessWorks application alert states pertaining to process creation and execution for all nodes on which the applications are deployed. Use this display to quickly identify applications with critical alerts.

Each rectangle in the heatmap represents an application. The rectangle color indicates the most critical alert state associated with the application. The rectangle size represents process creation across applications; a larger size is a larger value.

Choose a domain and AppSpace from the drop-down menus. Choose a different metric to display from the **Metric** drop-down menu. Enter a string in the **Application Name Filter** field to limit data shown in the display. Use the **Application Names** check-box ✓ to include or exclude labels in the heatmap. Mouse over a rectangle to see additional metrics. By default, this display shows **Alert Severity**.

Drill-down and investigate an application by clicking a rectangle in the heatmap to view details in the "BW Single Application Summary" display.



Title Bar (possible features are):	🕼 Data OK Data connection state. Red indicates the Data
🗧 🛧 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
🔶 Open an instance of this display in a new window.	data source is connected.
 Open the online help page for this display. Menu , 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.	Open the Alert Views - RTView Alerts Table display.

Filter By: The display might include these filtering options:

Domain:	Select the domain for which you want to view data in the display.	
AppSpace	Select the Ap	oSpace for which you want to view data in the display.
Application Name Filter		
	Clear	Clears the Application Name Filter entries from the display.
RegEx	egEx Toggles the Application Name Filter to accept Regular Expressions for For example, if your application name is AppNameOne and this option wa on, you could enter "Name" (without using "*"to display the application in heatmap).	
AppSpace	When selecte	d, those AppNodes deployed in an AppSpace display in the heatmap.
Container		

Application	Check to include labels in the heatmap.
Names	

Fields and Data:

Count:	The total number of AppSpaces currently shown in the display.
Running	The total number of AppSpaces currently running in the display.
Running Only	Select to show only running applications in the display.
Log	Select to enable a logarithmic scale. Use Log Scale to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a

data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. **Log Scale** makes data on both scales visible by applying logarithmic values rather than actual values to the data.

Auto Select to enable auto-scaling. When auto-scaling is activated, the color gradient bar's maximum range displays the highest value. NOTE: Some metrics auto-scale automatically, even when **Auto** is not selected.

Metric Choose a metric to view in the display.

Alert Severity	The maximum level of alerts in the heatmap rectangle. Values range from 0 - 2 , as indicated in the color gradient • • • • bar, where 2 is the highest Alert Severity: • Red indicates that one or more metrics exceeded their ALARM LEVEL threshold. • Yellow indicates that one or more metrics exceeded their
	 WARNING LEVEL threshold. Green indicates that no metrics have exceeded their alert thresholds.
Alert Count	The total number of critical and warning alerts in the heatmap rectangle. The color gradient $\boxed{\bullet}$ but 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.
Active Count	The total number of active processes in the heatmap rectangle. The color gradient • • • • • • • • • •
Completed Count	The total number of completed processes in the heatmap rectangle. The color gradient • • • • • • • • • • • • • • • • • • •
Suspended Count	The total number of suspended processes in the heatmap rectangle. The color gradient • • • • • • • • • • • • • • • • • • •
Failed Count	The total number of failed processes in the heatmap rectangle. The color gradient because bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.

- **Created / sec** The number of processes created per second in the heatmap rectangle. The color gradient **bar**, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
- **Suspended / sec** The number of suspended processes per second in the heatmap rectangle. The color gradient **bar**, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
- **Failed / sec** The number of failed processes per second in the heatmap rectangle. The color gradient **bar**, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
- **Exec Time /** sec The process execution time per second in the heatmap rectangle. The color gradient **bar**, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
- **Most Recent Exec Time** The execution time for the most recently executed process in the heatmap rectangle. The color gradient **bar**, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
- Average Exec Time The average execution time for all processes in the heatmap rectangle, calculated by dividing the delta execution time for the interval by the delta completed, or the number of process instances that completed in the interval. The color gradient is a bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
- Average Elapsed Time Time Time The average elapsed time for all processes in the heatmap rectangle, calculated by dividing the delta elapsed time for the interval by the delta completed, or the number of process instances that completed in the interval. The color gradient is that completed by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.

BW All Applications Table

View BusinessWorks data shown in the "BW All Applications Heatmap", and additional details, in a tabular format.

Each row in the table is an application. Choose a domain and AppSpace from the drop-down menus. Click a column header to sort column data in numerical or alphabetical order. Enter a string in the **Application Name Filter** field to limit data shown in the display.

Drill-down and investigate by clicking a row to view details for the selected application in the "BW Single Application Summary" display.

🗲 Heatma	p			All BW Applica	tions - Ta	ble	16-Nov-2	017 13:41 < D	ata OK 🔶 🕜
Domain:	All Domains	~	AppSpace:	All App Spaces		Cour	nt: 6	Running:	6 Running Only
Application N	lame Filter:					Clear	RegEx	🖌 Appspa	ce 🗹 Containe
Domain 🗉	AppSpace≋		Name	E	Alert ≡ Level	Alert ≡ Count	State	Deployment	AppSource
	DevSpace			BookStore.application	(*)		Running	Appspace	
	Docker			st.BookStore.applic	()		Running	Container	
	PCF			st.BookStore.applic	()		Running	Container	
				st.BookStore.applic	<u> </u>		Running	Container	
				st.BookStore.applic	()		Running	Container	
standalone	standalone-c	tibco.bwce.s	ample.binding.re	st.BookStore.applic:	()		Running	Container	
<									>

Title Bar (possible features are):	🕼 Data OK Data connection state. Red indicates the Data
🗲 🔺 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Filter By: The display might include these filtering options:

Domain:	Choose a dom	ain to show data for in the display.	
AppSpace	Choose an Ap	pSpace to show data for in the display.	
Application Name Filter	Enter a string (all or part of a application name) to filter the data shown in the display. If you enter part of an application name, you must enter "*" before and/or after the string. For example, if you have an application named AppNameOne, you could filter using *Name*, *NameOne, or AppName*.		
	Clear	Clears the Application Name Filter entries from the display.	
RegEx	filtering. For e option was tog	pplication Name Filter to accept Regular Expressions for example, if your application name is AppNameOne and this ggled on, you could enter "Name" (without using "*"to display n in the table).	
AppSpace	When selected table.	d, those AppNodes deployed in an AppSpace display in the	
Container	When selected	d, those AppNodes deployed in a container display in the table.	

Fields and Data:

Count:	The total number of applications in the AppSpace.
Running	The total number of applications currently running in the AppSpace.
Running Only	Select to show only running applications in the display.

Table: Each row in the table is a different application.

Domain	The domain in which the application resides.
AppSpace	The AppSpace in which the application resides.
Name	The name of the application.
Alert Level	The most critical alert state for alerts in the row: Red indicates that one or more metrics exceeded their ALARM LEVEL threshold. Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.
	Green indicates that no metrics have exceeded their alert thresholds. The table much exceeding the table to fee the exceeded their alert thresholds.
Alert Count	The total number of active alerts for the application.
State	The current status of the application. Valid values are Running and Stopped.
AppNodes	The total number of AppNodes associated with the application.
Active Processes	The number of currently active application processes.
Suspended Processes	The number of suspended application processes.
Failed Processes	The number of failed application processes.
Completed Processes	The number of completed application processes.
Created /sec	The number of application processes created per second.
Suspended / sec	The number of application process suspensions per second.
Failed /sec	The number of application process failures per second.
Exec Time/ sec	The number of processes executed per second.
Recent Exec Time	The number of seconds for the most recently executed process.
Average Exec Time	The average number of seconds for all processes to execute.
Version	The application version.
Module	The application module.
Shared Module	The shared module, if any.
Time Stamp	The date and time the row data was last updated.

Source Name of RTView Data Server sending this data (or localhost).

Expired When checked, data has not been received from this host in the specified amount of time.

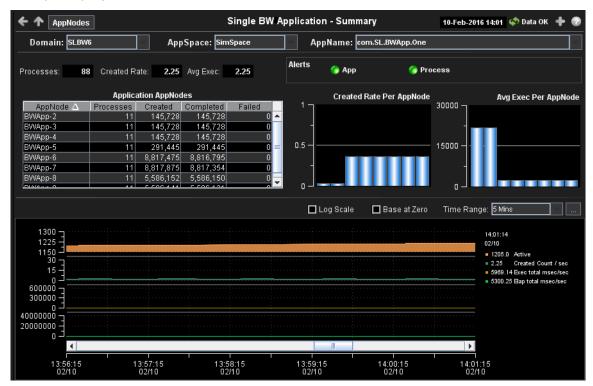
BW Single Application Summary

View current and historical metrics for a single BusinessWorks application across multiple nodes. Use this display to investigate performance issues of application AppNodes within an AppSpace. Use this display to view all available data for each AppNode by Domain and AppSpace.

This display includes a list of AppNodes with their host names and memory metrics, bar graphs per AppNode for process creation and execution, and trend graphs of process creation and execution metrics.

The summary display also shows the AppNodes of the deployment and process metrics totaled by AppNode. This is useful to see the deployment and load balancing of the Application in current and historical time.

Choose a domain, AppSpace and Application from the drop-down menus. Drill-down and investigate by clicking an AppNode in the table to view details in the "BW Single AppNode Summary" display.



Title Bar (possible features are):	🔯 Data OK Data connection state. Red indicates the Data
🗲 🕂 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	▲ Open the Alert Views - RTView Alerts Table display.

Filter By:

The display might include these filtering options:

Domain:	Select the domain for which you want to view data in the display.
AppSpace	Choose the AppSpace for which you want to view data in the display.
AppName:	Choose the AppName for which you want to view data in the display.

Fields and Data:

Processes:	The number of processes currently running for the selected application.
Created Rate:	The number of processes created per second for the selected application.

Avg Exec: The average number of seconds for processes to execute for the selected application.

Alerts

Indicates the greatest severity level and the number of open **App** and **Process** alerts for the selected application. Values range from **0** to **2**, where **2** is the greatest Severity:

• One or more alerts exceeded their ALARM LEVEL threshold.

One or more alerts exceeded their WARNING LEVEL threshold.

No alert thresholds have been exceeded.

Click on the alert indicator to display a table listing the current alerts for the selected application. Click the **Close** button (for the current alerts table) to close the table.

Domain:	SLBW6	✓	AppSpa	Ce: DevSpace	~	AppNam	e: tibco.bw.sa	mple.binding.rest.	BookStore.application	
Processes:	0	Created Rate:	0 Av <u>c</u>	g Exec: 0	Ale	erts	🙆 App 🔫	🍘 Proc	ess	
					Cui	rent Alerts ┥				Close
Time	1	ID =	Alert Name	1	Alert	Index	1	Alert Text	Package.	Category Sour
	Page	0 of 0	H						No	items to display
0.0					_	_				under the training of the state
							og Scale	Base at Zero	Time Range: 5 Mir	ns 🔽
							og Scale	Base at Zero	Time Range: 5 Mir	
							og Scale	Base at Zero	Time Range: 5 Mir	Active
							og Scale	Base at Zero	Time Range: 5 Mir	Active Created Count /
							og Scale	Base at Zero	Time Range: 5 Mir	Active Created Count / Exec total msec,
							og Scale	Base at Zero	Time Range: 5 Mir	Active Created Count /
							og Scale	Base at Zero	Time Range: 5 Mir	Active Created Count / Exec total msec,
							og Scale 	Base at Zero	Time Range: 5 Mir	Active Created Count / Exec total msec
[] [] [] [] []5:30 13	16:00	13:16:30	13:17:00	13:17:30	13:18:00	13:18:30	og Scale		Time Range: 5 Mir	Active Created Count / Exec total msec Elap total msec/

Application Appnodes Table

Each row in the table is a different AppNode. Column values describe processes for the selected application on that AppNode. Click a row to view AppNode details in the "BW Single AppNode Summary" display.

AppNode	The name of the AppNode.
Processes	The number of processes currently running on the AppNode.
Created	The total number of processes created on the AppNode.
Completed	The total number of completed processes on the AppNode.
Failed	The total number of failed processes on the AppNode.

Created Rate Per AppNode Bar Graph

The bar graph shows the current process creation rate per AppNode. Click to drill-down and investigate in the "BW Single AppSlice Summary" display.

AvgExec Per AppNode Bar Graph

The bar graph shows the current average process execution rate per AppNode for the selected application. Click to drill-down and investigate in the "BW Single AppSlice Summary" display.

Trend Graphs

Traces the sum of process metrics across all processes in all slices of the selected application.

Active Traces the number of currently active application processes.

Created Traces the number of created application processes.

- **Exec total** Traces the rate at which the application is accumulating process execution time, in milliseconds per second.
- **Elap total** Traces the rate at which the application accumulates process elapsed time, in milliseconds per second.
- **Log Scale** Select to enable a logarithmic scale. Use **Log Scale** to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. **Log Scale** makes data on both scales visible by applying logarithmic values rather than actual values to the data.

Base at Select to use zero (**0**) as the Y axis minimum for all graph traces. **Zero**

Time
RangeSelect 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 \square \square to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** dropdown menu.

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

BW Containers

These displays present process performance data for your BusinessWorks containers across BusinessWorks Domains. Process metrics are totaled by container. Use these displays to monitor critical alerts for all your BusinessWorks containers, and investigate those alerts in lower-level displays. Displays in this View are:

- "All Containers Heatmap" on page 313: A color-coded heatmap view of selected container performance metrics.
- "All Containers Table" on page 316: A tabular view of all available container performance data in this BusinessWorks View.
- "Single Container Summary" on page 319: Current and historical metrics for a single container.

All Containers Heatmap

View the most critical BusinessWorks container alert states pertaining to process creation and execution for all nodes on which the containers are deployed. Use this display to quickly identify containers with critical alerts.

Each rectangle in the heatmap represents a container. The rectangle color indicates the most critical alert state associated with the container. The rectangle size represents process creation across containers; a larger size is a larger value.

Choose a domain and AppSpace from the drop-down menus containing the containers for which you want to view metrics. By default, this display shows the heatmap based on the **Alert Severity** metric, but you can select a different metric from the **Metric** drop-down menu to view the heatmap based on the selected metric. To view data shown for a specific container(s) in the display, enter a string in the **Container Name Filter** field. Use the **Container Names** check-box is to include or exclude labels in the heatmap. You can mouse over a rectangle to see additional metrics.

Drill-down and investigate a container by clicking a rectangle in the heatmap, which opens the details for the selected container in the "Single Container Summary" display.

Table	All	BW Containers - Heatmap	30-Jan-2018 16:21 💠 Data OK 💠 🕜
Domain: standalone	✓	C:\Users\m\Documents\W	orkspace\RTView\rtvem_docs_fmplatform\bwmon\BWN
Application Name Filter:			Ciear RegEx
	Container Names	Log Auto Metric:	Alert Severity 0 1 2
All		tainer where Size = Process standalone .sample.binding.rest.BookStore.applicati	

Title Bar (possible features are):	🕼 Data OK Data connection state. Red indicates the Data
 Open the previous and upper display. Open an instance of this display in a new window. 	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 online help page for this display. Menu , 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.	Open the Alert Views - RTView Alerts Table display.

Filter By:

The display might include these filtering options:

Domain: Select the domain for which you want to view data in the display.

Application Name Filter Hendrication (all or part of an application name) to filter the data shown in the display. If you enter part of a application name, you must enter "*" before and/or after the string. For example, if you have an application named AppNameOne, you could filter using *Name*, *NameOne, or AppName*. You can also enable the **RegEx** toggle to just enter a portion of the application name.

		Clear Clears the Application Name Filter entries from the display.	
	RegEx	For example,	pplication Name Filter to accept Regular Expressions for filtering. if your application name is AppNameOne and this option was toggled enter "Name" (without using "*"to display the application in the
	Container Names	Check to inclu	de container name labels in the heatmap.
Field	is and Data:		
	Count:	The total num	ber of containers currently shown in the display.
	Running	The total number of containers currently running in the display.	
	Running Select to show only running containers in the display. Only		v only running containers in the display.
	Log	Select to enable a logarithmic scale. Use Log Scale to see usage correlation data with a wide range of values. For example, if a minority of your data is scale of tens, and a majority of your data is on a scale of thousands, the min your data is typically not visible in non-log scale graphs. Log Scale makes both scales visible by applying logarithmic values rather than actual values data.	
	Auto	bar's maximu	ble auto-scaling. When auto-scaling is activated, the color gradient m range displays the highest value. NOTE: Some metrics auto-scale even when Auto is not selected.
	Metric	Choose a met	ric to view in the display.
		Alert Severity	The maximum level of alerts in the heatmap rectangle. Values range from 0 - 2 , as indicated in the color gradient 1 - 1 bar, where 2 is the highest Alert Severity:
			Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.
			Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.
			Green indicates that no metrics have exceeded their alert thresholds.
rectangle. The color gradient built bar, populate current heatmap, shows the value/color mapping. The values in the gradient bar range from 0 to the maxim alerts in the heatmap. The middle value in the gradient		The total number of critical and warning alerts in the heatmap rectangle. The color gradient $\begin{tabular}{ c c c c } \hline \begin{tabular}{ c c c c } \hline \begin{tabular}{ c c c c } \hline \begin{tabular}{ c c } \hline tabular$	
		Active Count The total number of active processes in the heatmap rectar color gradient bar, populated by the current heat shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts heatmap. The middle value in the gradient bar indicates the count.	
	Completed CountThe total number of completed processes in the heatmap r The color gradient 		The total number of completed processes in the heatmap rectangle. The color gradient • • • • • • • • • • • • • • • • • • •
			The total number of suspended processes in the heatmap rectangle. The color gradient bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.

Failed Count	The total number of failed processes in the heatmap rectangle. The color gradient exactly bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
Created / sec	The number of processes created per second in the heatmap rectangle. The color gradient • • • • • • • • • •
Suspended / sec	The number of suspended processes per second in the heatmap rectangle. The color gradient \bullet below bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
Failed / sec	The number of failed processes per second in the heatmap rectangle. The color gradient \bullet as \bullet bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
Exec Time / sec	The process execution time per second in the heatmap rectangle. The color gradient ••••••••••••••••••••••••••••••••••••
Most Recent Exec Time	The execution time for the most recently executed process in the heatmap rectangle. The color gradient \bullet and \bullet bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
Average Exec Time	The average execution time for all processes in the heatmap rectangle, calculated by dividing the delta execution time for the interval by the delta completed, or the number of process instances that completed in the interval. The color gradient and the second second
Average Elapsed Time	The average elapsed time for all processes in the heatmap rectangle, calculated by dividing the delta elapsed time for the interval by the delta completed, or the number of process instances that completed in the interval. The color gradient populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.

All Containers Table

This display provides a view of the most critical BusinessWorks container alert states pertaining to process creation and execution for all nodes on which the containers are deployed in a tabular format. Use this display to quickly identify containers with critical alerts. Each row in the table is a container in the selected domain.

Select a domain from the drop-down menu to view associated containers and, optionally, enter a string in the **Container Name Filter** field to further limit the list of containers shown in the display. You can click a column header to sort column data in numerical or alphabetical order. To view additional details for a specific container, drill-down and investigate by clicking the row in the table for the desired container, which opens the "Single Container Summary" display.

Heatmap	All BW Containers - Table	30-Jan-2018 16:36 🚸 Data OK 💠 🌔
Domain: standalone		Count: 3 Running: 3 Runnir Only
Container Name Filter: tibco		Clear VRegEx
Name	E Alert E Alert E State E Level Count	Active Processes Container ■ Module ■
bco.bwce.sample.binding.rest.BookStore.application	Contraction Running	0 standalone-1 tibco.bwce.sa
bco.bwce.sample.binding.rest.BookStore.application	Contraction Running	0 standalone-a₄tibco.bwce.sa
bco.bwce.sample.binding.rest.BookStore.application	C Running	0 standalone-e(tibco.bwce.sa

Title Bar (possible features are):	of Data OK Data connection state. Red indicates the Data
 Open the previous and upper display. 	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Filter By: The display might include these filtering options:

Domain:	Choose a domain to show data	a for in the display.
Container Name Filter	Enter a string (all or part of a container name) to filter the data show display. If you enter part of an container name, you must enter "*" l and/or after the string. For example, if you have a container named ContNameOne, you could filter using *Name*, *NameOne, or ContN	
	Clear Clears the Con	tainer Name Filter entries from the display.
filtering. For example, if your appl		Filter to accept Regular Expressions for application name is ContNameOne and this uld enter "Name" (without using "*"to display
Fields and Data:		
Count:	The total number of containers	s listed in the table.

Running The total number of containers that are currently running.

Running Only Select to show only running containers in the display.

Table:

Each row in the table is a different application.

Name	The name of the container.
Alert Level	 The most critical alert state for alerts in the row: Red indicates that one or more metrics exceeded their ALARM LEVEL threshold. Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold. Green indicates that no metrics have exceeded their alert thresholds.
Alert Count	The total number of active alerts in the container.
State	The current status of the application. Valid values are Running and Stopped.
Active Processes	The number of currently active processes in the container.
Container	The name of the container.
Module	The name of the container module.
Version	The version of the container.
Average Exec Time	The average number of seconds for all processes to execute.
Completed Processes	The number of completed processes in the container.
Expired	When checked, data has not been received from this host in the specified amount of time.
Failed Processes	The number of failed processes in the container.
Recent Exec Time	The number of seconds for the most recently executed process.
Created /sec	The number of processes created per second in the container.
Failed /sec	The number of process failures per second in the container.
Suspended / sec	The number of process suspensions per second in the container.
Exec Time/ sec	The number of processes executed per second in the container.
Suspended Processes	The number of suspended application processes in the container.
Time Stamp	The date and time the row data was last updated.
Source	Name of RTView Data Server sending this data (or localhost).

Single Container Summary





Filter By:

The display might include these filtering options:

- **Domain:** Select the domain for which you want to view data in the display.
- **Container** Choose the container for which you want to view data in the display.

Fields and Data:

Processes:	The number of processes currently running on the selected container.
Created Rate:	The number of processes created per second on the selected container.
Avg Exec:	The average number of seconds for processes to execute on the selected container.

Alerts

Indicates the greatest severity level and the number of open **AppNode** and **Process** alerts for the selected container. Values range from **0** to **2**, where **2** is the greatest Severity:

- One or more alerts exceeded their ALARM LEVEL threshold.
- One or more alerts exceeded their WARNING LEVEL threshold.

No alert thresholds have been exceeded.

Click on the alert indicator to display a table listing the current alerts for the selected container. Click the **Close** button (for the current alerts table) to close the table.

Domain:		~	Cor	ntainer: [~			
Processes:	0	Created Rate	0	Avg Exe	c: 0	Alerts	🏀 AppN	lode		Process
					Current Al	erts			b	Clos
Time	ш	ID =	Alert Nan	ne		Alert Index		Ξ	Ale	rt Text
<										>
۲										>
<					Log Scale	Base at Zer	o Time	Range:	5 Mins	
<					Log Scale	■ Base at Zer	o Time	Range:		✓ .
					Log Scale	Base at Zei	o Time	Range:	A	. ctive
					Log Scale	Base at Zer	o Time	Range:		ctive reated Count / s
					Log Scale	Base at Zer	o Time	Range:		ctive reated Count / s xec total msec/s
					Log Scale	Base at Zer	o Time	Range:		✓ .
					Log Scale	Base at Zee	o Time	Range:		ctive reated Count / s xec total msec/s
		13:38:		13:39		Base at Zee	o Time			ctive reated Count / s xec total msec/s

Application The name of the application running on the container. Name

AppNode Information

CPU %	The percentage of CPU used by the AppNode.
Used %	The percentage of memory used by the AppNode.
Free MB	The amount of free memory, in megabytes.
Total MB	The total amount of used and free memory, in megabytes.

Created Rate Bar Graph

The bar graph shows the current process creation rate per AppNode. Click to drill-down and investigate in the "BW Single AppSlice Summary" display.

AvgExec Bar Graph

The bar graph shows the current average process execution rate per AppNode for the selected application. Click to drill-down and investigate in the "BW Single AppSlice Summary" display.

Trend Graphs

Traces the sum of process metrics across all processes in all slices of the selected container.

Active	Traces the number of currently active application processes on the container.
Created Count / sec	Traces the number of created application processes on the container.
Exec total msec/sec	Traces the rate at which the application is accumulating process execution time, in milliseconds per second, on the container.

Elap total Traces the rate at which the application accumulates process elapsed time, in milliseconds per second, on the container.

- **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 \square to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** dropdown menu.

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

BW AppNodes

These displays present internal JVM memory and host CPU utilization for BusinessWorks AppNodes and their resources. This is useful because the AppNode performance is dependent on both internal and external factors and they sometimes interact. Displays in this View are:

- "BW All AppNodes Heatmap" on page 321: A color-coded heatmap view of utilization metrics.
- "BW All AppNodes Table" on page 324: A tabular view of all available utilization data in this BusinessWorks View.
- "BW Single AppNode Summary" on page 326: Current and historical metrics for a single AppNode.

BW All AppNodes Heatmap

View the most critical JVM memory and host resource utilization for BusinessWorks AppNodes. Use this display to quickly identify AppNodes with critical alerts.

Each rectangle in the heatmap represents an AppNode. The rectangle color indicates the most critical alert state associated with the AppNode. The rectangle size represents the maximum memory used in the rectangle; a larger size is a larger value.

Choose a domain and AppSpace from the drop-down menus. Choose a different metric to display from the **Metric** drop-down menu. Enter a string in the **AppNode Name Filter** field to limit data shown in the display. Use the **AppNode Names** check-box ✓ to include or exclude labels in the heatmap. Mouse over a rectangle to see additional metrics. By default, this display shows **Alert Severity**. Drill-down and investigate by clicking a rectangle in the heatmap to view details for the selected application in the "BW Single AppNode Summary" display.

← ↑ Table		All BW AppNodes - He	atmap	16-Nov-2017 13:5	5 < Data OK 💠 🕝
Domain: All Domains	🗸 App Spa	Ce: All AppSpaces	Count	t: 8	
AppNode Name Filter:			Clear	RegEx 🗸	Appspace 🗹 Container
	AppNode Names	Log Auto	Alert Seve	rity 🔽 🛛	1 2
	AppNodes selected	by AppSpace where Size = M	emory Size and	Color = Metric	
	SLBW6		one of the second	standalone	
Docker		DevSpace	standalone-359f10d9-o	bc8-4f0b-8b21-8d96db	standalone-9f7f2690-f5e6-44a
docker-1	docker-2	devnode	standalone-359f10d9-	cbc8-4f0b-8b21-8d96db	standalone-9f7f2690-f5e6-44a
		PCF			
		pcf			
docker-	3				
doner					
			standalon	e-c953bae7-834b-4527-8	8080-1fd185beb07f
				e-c953bae7-834b-4527-0	

Title Bar (possible features are):	🧔 Data OK Data connection state. Red indicates the Data
🗲 🔺 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	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.
AppSpace	Choose an AppSpace to show data for in the display.
Count:	The total number of AppNodes in the AppSpace.

AppNode Name Filter	Enter a string to limit data shown in the display.				
	Clear	Clears the Application Name Filter entries from the display.			
RegEx	Toggles th	ne Search Text field to accept Regular Expressions for filtering.			
AppSpace	When sele	ected, those AppNodes deployed in an AppSpace display in the heatmap.			
Container	When sele	ected, those AppNodes deployed in a container display in the heatmap.			
AppNode Names	Check to i	nclude labels in the heatmap.			
Log	data with scale of te of your da	enable a logarithmic scale. Use Log Scale to see usage correlations for a wide range of values. For example, if a minority of your data is on a ens, and a majority of your data is on a scale of thousands, the minority that is typically not visible in non-log scale graphs. Log Scale makes oth scales visible by applying logarithmic values rather than actual the data.			
Auto	bar's maxi	enable auto-scaling. When auto-scaling is activated, the color gradient imum range displays the highest value. NOTE: Some metrics auto-scale ally, even when Auto is not selected.			
Metric	Choose a	metric to view in the display.			
	Alert Severity	 The maximum level of alerts in the heatmap rectangle. Values range from 0 - 2, as indicated in the color gradient bar, where 2 is the highest Alert Severity: Red indicates that one or more metrics exceeded their ALARM LEVEL threshold. Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold. Green indicates that no metrics have exceeded their alert thresholds. 			
	Alert Count	The total number of critical and warning alerts in the heatmap rectangle. The color gradient ber, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average alert count.			
	CPU Used%	The percent (%) CPU used in the heatmap rectangle. The color gradient \bullet and \bullet bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.			
	Memory Used%	The percent (%) memory used in the heatmap rectangle. The color gradient $\begin{tabular}{ c c c c } \hline \begin{tabular}{lllllllllllllllllllllllllllllllllll$			
	Active Process es	The number of currently active processes in the heatmap rectangle. The color gradient \bullet and \bullet bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.			

Created Process es	The number of processes created in the heatmap rectangle. The color gradient bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
Created /sec	The number of processes created per second in the heatmap rectangle. The color gradient $\$ bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.

BW All AppNodes Table

View BusinessWorks data shown in the "BW All AppNodes Heatmap" display, and additional details, in a tabular format. Use this display to view all available data for each AppNode by Domain and AppSpace.

Each row in the table is an AppNode. Choose a domain and AppSpace from the drop-down menus. Click a column header to sort column data in numerical or alphabetical order. Enter a string in the **Application Name Filter** field to limit data shown in the display.

Drill-down and investigate by clicking a row to view details for the selected AppNode in the "BW Single AppNode Summary" display.

🗲 🛧 🛛 Hea	atmap			All BW Ap	pNodes - Tab	ole 1	6-Nov-2017 14	:13 🗳 Data O	< 🕂 🖗
Domain:	All Domains	✓ I	AppSpace:	All App Spaces		Count:	8		
AppNod	e Name Filter:					Clear	RegEx	Appspace	Contain
Domain 🗉	AppSpace≋	AppNode =	Alert Level	≡ Alert ≡ Count	State	= Host =	Deployment	Process ≡ Count	Activ Threa
SLBW6	DevSpace	devnode	(*)		ACTIVE	qawin5(SLBW6)	Appspace	2	
SLBW6	Docker	docker-1	()		ACTIVE	ol7-20-1(SLBW6)	Container	2	
SLBW6	Docker	docker-2	(*)		ACTIVE	ol7-20-2(SLBW6)		2	
LBW6	Docker	docker-3	(*)		ACTIVE	ol7-20-3(SLBW6)			
	PCF	pcf	(*)		ACTIVE	slhost44(SLBW6)	Container	2	
		standalone-359f	(*)		ACTIVE	ol7-20-4	Container	2	
andalone	standalone-9	standalone-9f7f2	(*)		ACTIVE	ol7-20-5	Container	2	
landalone	standalone-c	standalone-c953	<u>(</u>)		ACTIVE	ol7-20-6	Container	2	
<									>

Title Bar (possible features are):	🐼 Data OK Data connection state. Red indicates the Data
🔶 🛧 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	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.				
AppSpace	Choose an	AppSpace to show data for in the display.			
Count:	The total r	number of rows in the table.			
AppNode Name Filter	Enter a str	ring to limit data shown in the display.			
	Clear	Clears the Application Name Filter entries from the display.			
RegEx	Toggles th	e Search Text field to accept Regular Expressions for filtering.			
AppSpace	When sele AppNodes	cted, those AppNodes deployed in an AppSpace display in the table.			
Container	When sele AppNodes	cted, those AppNodes deployed in a container display in the table.			
Count:	The total r	number of rows in the table.			

Table:Column values describe the AppNode.

Domain	The domain in which the AppNode resides.
AppSpace	The AppSpace in which the AppNode resides.
AppNode	The name of the AppNode.
Alert Level	 The most critical alert state for alerts in the row: Red indicates that one or more metrics exceeded their ALARM LEVEL threshold. Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold. Green indicates that no metrics have exceeded their alert thresholds.
Alert Count	The total number of active alerts for the AppNode.
Host	The host on which the AppNode resides.
Process Count	The number of processes running.
Active Threads	The number of currently active threads.
Total Memory	The total amount of used and free memory, in megabytes.
Used Memory	The amount of used memory, in megabytes.

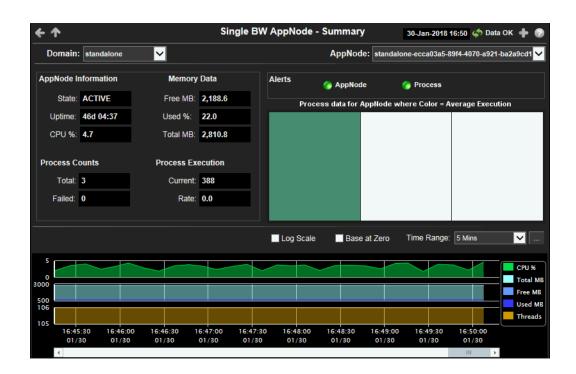
Free Memory	The amount of free memory, in megabytes.
Used Memory%	The percent (%) used memory.
Used CPU%	The percent (%) used CPU.
System Process ID	A unique string identifier for the process.
Up Since	The date and time the AppNode was last started.
Active Processes	The number of currently active processes.
Suspended Processes	The number of suspended application processes.
Failed Processes	The number of failed application processes.
Completed Processes	The number of completed application processes.
Created /sec	The number of application processes created per second.
Suspended / sec	The number of application processes suspended per second.
Failed /sec	The number of failed application processes per second.
Exec Time / sec	The number of application processes executed per second.
Recent Exec Time	The number of seconds for the most recently executed process.
Average Exec Time	The average number of seconds for all processes to execute.
Time Stamp	The date and time the row data was last updated.
Source	Name of RTView Data Server sending this data (or localhost).

BW Single AppNode Summary

View current and historical utilization and performance metrics for a single BusinessWorks AppNode. Use this display to investigate performance issues on an AppNode.

This display includes a heatmap showing most critical alerts pertaining to process execution, and trend graphs tracing CPU utilization and thread count.

Choose a domain, AppSpace and AppNode from the drop-down menus. Use the **Time-Range** to "zoom-in" or "zoom-out" on a specific time frame in the trend graph. Drill-down and investigate by clicking an AppNode in the table to view details in the "BW Single AppNode Summary" display.





Filter By:

The display might include these filtering options:

Domain:	Choose a domain to show data for in the display.
AppSpace	Choose an AppSpace to show data for in the display.
AppNode:	Choose an AppNode to show data for in the display.

Fields and Data:

AppNode Information	Uptime:	The number of days, hours and minutes since the AppNode started.
	CPU%	The percent (%) CPU used on the AppNode.
	Threads:	The number of currently active threads for the AppNode.
Memory Data	Free:	The amount of available memory on the AppNode.
	Used%	The percent (%) memory used on the AppNode.

	Total	The total amount of memory on the AppNode.
Process Counts	Total:	The number of currently active processes for the AppNode.
	Failed:	The number of failed processes for the AppNode.
Process Execution	Current	The number of processes executed by the AppNode.
	Rate:	The number of processes executed per second.
Alerts		ne greatest severity level and the number of open AppNode an erts for the selected AppNode, Values range from 0 to 2 , where

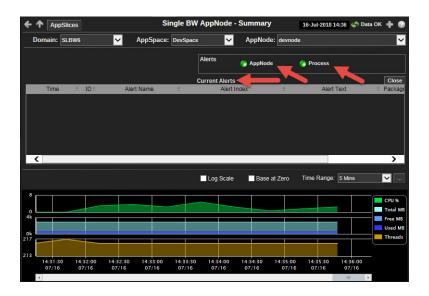
nd to 2, where 2 is elected AppNode. Values the greatest Severity:

One or more alerts exceeded their ALARM LEVEL threshold.

One or more alerts exceeded their WARNING LEVEL threshold.

No alert thresholds have been exceeded.

Click on the alert indicator to display a table listing the current alerts for the selected AppNode. Click the **Close** button (for the current alerts table) to close the table.



Heatmap

Each rectangle in the heatmap represents an AppSlice. The rectangle color indicates the most critical Average Exec Time alert state associated with the AppSlice. The rectangle size represents the maximum number of processes executed in the rectangle; a larger size is a larger value. Click a rectangle to drill-down and investigate in the "BW Single AppSlice Summary" display.

Trend Graphs

Traces the sum of process metrics across all processes for all applications on the AppNode. • **CPU%**: The percent (%) CPU used on the AppNode.

- Total MB: The amount of memory used.
- Free MB: The amount of available memory.
- Used MB: The amount of used memory.
- Threads: The number of threads.

- Log Scale Select to enable a logarithmic scale. Use Log Scale to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. Log Scale makes data on both scales visible by applying logarithmic values rather than actual values to the data.
- **Base at Zero** Select to use zero (**0**) as the Y axis minimum for all graph traces.
- **Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .



By default, the time range end point is the current time. To change the time range end point, click Calendar _____ and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd**, **YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

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

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

BW AppSlices

These displays present process metrics totaled by Application and AppNode for AppSlices. This is useful to see how the application is distributed and how each part of it is performing. The AppSlice is the part of an application running on a specific AppNode when the application is deployed to multiple AppNodes. Displays in this View are:

- "BW All AppSlices Heatmap" on page 329: A color-coded heatmap view of process creation and execution metrics.
- "BW All AppSlices Table" on page 332: A tabular view of all available data in this BusinessWorks View.
- "BW Single AppSlice Summary" on page 334: Current and historical metrics for a single AppSlice.

BW All AppSlices Heatmap

View the most critical performance metrics for BusinessWorks AppSlices. Use this display to quickly identify AppSlices with high process execution numbers.

Each rectangle in the heatmap represents an AppSlice. The rectangle color indicates the process execution numbers for the AppSlice. The rectangle size represents the number of processes created in the rectangle; a larger size is a larger value.

Choose a domain, AppSpace and AppNode from the drop-down menus. Choose a different metric to display from the **Metric** drop-down menu. Enter a string in the **Application Name Filter** field to limit data shown in the display. Use the **AppNode Names** and **Application Names** check-boxes ✓ to include or exclude labels in the heatmap. Mouse over a rectangle to see additional metrics. By default, this display shows **Active Count**. Drill-down and investigate by clicking a rectangle in the heatmap to view details for the selected application in the "BW Single AppSlice Summary" display.

← ↑ Table	All BW App	lication Slices - H	leatmap 30-Ja	n-2018 16:53 📢	Data OK 🕂 🕜
Domain: All Domains 🗸 🗸	AppSpace: All AppS	paces 🔽 Ap	opNode: All AppNodes		~
Application Name Filter: tibco		Clear	✓ RegEx Count: 8	Running:	8 Running Only
✓ AppNode Names	Application Names	Log Auto M	etric: Active Count	✔ 0	5 10
All Application Slices sele		d AppNode where \$ _{SLBW6}	Size = Process Creatio	on and Color	= Metric
docker-2	Docker docker-3	docker-1	pcf-1	PCF	pcf-2
doner-2	dooner-o	Cooker+1	port		pore
docker3-1					
	doc	ker3-2			
				pcf	

Title Bar (possible features are):	🕼 Data OK Data connection state. Red indicates the Data
 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. 	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.
6,047 The number of items currently in the display.	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.
AppSpace	Choose an AppSpace to show data for in the display.
AppNode:	Choose an AppNode to show data for in the display.
Fields and Data:	
Application Name Filter	Enter a string to limit data shown in the display.

	Clear	Clears the Application Name Filter entries from the display.
RegEx	Toggles the S	Search Text field to accept Regular Expressions for filtering.
Count	The number of	of AppNodes in the display.
Running	The total nun	nber of AppSpaces currently running in the display.
Running Only	Select to sho	w only running applications in the display.
AppNode Names	Check to inclu	ude labels in the heatmap.
Application Names	Check to inclu	ude labels in the heatmap.
Log	data with a w scale of tens, of your data i	ble a logarithmic scale. Use Log Scale to see usage correlations for vide range of values. For example, if a minority of your data is on a and a majority of your data is on a scale of thousands, the minority is typically not visible in non-log scale graphs. Log Scale makes scales visible by applying logarithmic values rather than actual data.
Auto	bar's maximu	ble auto-scaling. When auto-scaling is activated, the color gradient im range displays the highest value. NOTE: Some metrics auto- tically, even when Auto is not selected.
Metric	Choose a me	tric to view in the display.
	Active Count	The total number of active processes in the heatmap rectangle. The color gradient • • • • • • • • • • • • • • • • • • •
	Completed Count	The total number of completed processes in the heatmap rectangle. The color gradient \bullet \bullet bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
	Suspended Count	The total number of suspended processes in the heatmap rectangle. The color gradient \bullet \bullet bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
	Failed Count	The total number of failed processes in the heatmap rectangle. The color gradient • • • • • • • • • • • • • • • • • • •
	Created / sec	The number of processes created per second in the heatmap rectangle. The color gradient $\boxed{\bullet}$ bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
	Suspended / sec	The number of suspended processes per second in the heatmap rectangle. The color gradient bar bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.

Failed / sec	The number of failed processes per second in the heatmap rectangle. The color gradient bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
Exec Time / sec	The process execution time per second in the heatmap rectangle. The color gradient I and I bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from O to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
Most Recent Exec Time	The execution time for the most recently executed process in the heatmap rectangle. The color gradient $\underbrace{\bullet}$ bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
Average Exec Time	The average execution time for all processes in the heatmap rectangle, calculated by dividing the delta execution time for the interval by the delta completed, or the number of process instances that completed in the interval. The color gradient bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
Average Elapsed Time	The average elapsed time for all processes in the heatmap rectangle, calculated by dividing the delta elapsed time for the interval by the delta completed, or the number of process instances that completed in the interval. The color gradient • the bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.

BW All AppSlices Table

View BusinessWorks data shown in the "BW All AppSlices Heatmap", and additional details, in a tabular format.

Each row in the table is an AppSlice. Choose a domain (or **All Domains**), an AppSpace (or **All AppSpaces**) and an AppNode (or **All AppNodes**) from the drop-down menus. Click a column header to sort column data in numerical or alphabetical order. Enter a string in the **Application Name Filter** field to limit data shown in the display.

Drill-down and investigate by clicking a row to view details in the "BW Single AppSlice Summary" display.

🗲 🛧 🛛 Heatr	nap		All	BW Applicatio	n Slices	- Table	3	I-Jan-201	8 09:28 ¢) Dat	a OK 🛉	• •
Domain: A	II Domains	~	AppSpace:	All AppSpaces	✓ A	ppNode:	All AppNod	es				~
Application Na	me Filter:				Clear	RegEx	Count:	8 R	unning:	8		nning y
Domain =	AppSpace =	Appl	Node =		Na	ime			Version	1 E	State	=
LBW6	Docker	docker-1	t	ibco.bwce.sample.bi	nding.rest.	BookStore.	application	_	1	1.0 R	unning	
LBW6	Docker	docker-2	t	ibco.bwce.sample.bi	nding.rest.	BookStore.	application		1	1.0 R	unning	
BW6	Docker	docker-3	t	ibco.bwce.sample.bi	nding.rest.	BookStore.	application		1	1.0 R	unning	
_BW6	Docker	docker3-1		ibco.bwce.sample.bi							unning	
.BW6	Docker	docker3-2	t	ibco.bwce.sample.bi	nding.rest.	BookStore.	application		1	1.0 R	unning	_
.BW6	PCF	pcf	t	ibco.bwce.sample.bi	nding.rest.	BookStore.	application		1	1.0 R	unning	
BW6	PCF	pcf-1	t	ibco.bwce.sample.bi	nding.rest.	BookStore.	application		1	1.0 R	unning	_
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Title Bar (possible features are):	🔹 Data OK Data connection state. Red indicates the Data
Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
Open an instance of this display in a new window.	data source is connected. 23-Mar-2017 12:04 Current date and time. Incorrect time
 Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.	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.
AppSpace	Choose ar	AppSpace to show data for in the display.
AppNode	Choose ar	AppNode to show data for in the display.
Application Name Filter	Enter a st	ring to limit data shown in the display.
	Clear	Clears the Application Name Filter entries from the display.
RegEx	Toggles th filtering.	e Application Name Filter to accept Regular Expressions for
Fields and Data:		
Count:	The total r	number of rows in the table.
Running	The total r	number of applications currently running in the AppSpace.

Running Only Select to show only running applications in the display.

Table:

Each row in the table is a different AppNode.

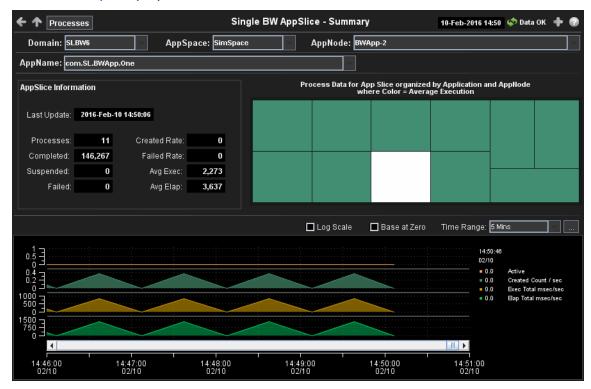
Domain	The domain in which the AppSpace resides.
AppSpace	The AppSpace the AppNode is associated with.
AppNode	The name of the selected AppNode.
Name	The name of the application.
Version	The application version.
State	The current status of the application. Valid values are Running and Stopped .
Module	The application module.
Shared Module	The shared module, if any.
Active Processes	The number of currently active application processes.
Suspended Processes	The number of suspended application processes.
Failed Processes	The number of failed application processes.
Completed Processes	The number of completed application processes.
Created /sec	The number of application processes created per second.
Suspended / sec	The number of application process suspensions per second.
Failed /sec	The number of application process failures per second.
Exec Time / sec	The number of processes executed per second.
Recent Exec Time /sec	The number of seconds for the most recently executed process.
Average Exec Time	The average number of seconds for all processes to execute.
Time Stamp	The date and time the row data was last updated.
Source	Name of RTView Data Server sending this data (or localhost).

BW Single AppSlice Summary

View current and historical utilization and performance metrics for a single BusinessWorks AppSlice. Use this display to investigate performance issues on an AppSlice level.

This display includes a heatmap showing the most critical process execution alerts for AppSlices on the selected application, and trend graphs tracing process execution times.

Choose a domain, AppSpace, AppNode and AppNode from the drop-down menus. Use the **Time-Range** to "zoom-in" or "zoom-out" on a specific time frame in the trend graph. Drilldown and investigate by clicking a process in the heatmap to view details in the "BW Single Process Summary" display.





Data OK 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.
AppSpace	Choose an AppSpace to show data for in the display.
AppNode:	Choose an AppNode to show data for in the display.
AppName:	Choose an AppName to show data for in the display.
Fields and Data:	

AppSlice Last Update: Information	The date and time the data was last updated.
--------------------------------------	--

Processes	The number of active processes.
Completed:	The total number of completed processes summed across all processes in one AppSlice of the application.
Suspended:	The total number of suspended processes
Failed:	The total number of failed processes
Created Rate:	The number of application processes created per second.
Failed Rate:	The number of failed application processes per second.
Avg Exec:	The average number of seconds for processes to execute.
Avg Elap:	The average amount of elapsed time for processes, in seconds.

Heatmap

Each rectangle in the heatmap represents one process in an AppSlice. The rectangle color indicates the most critical **Average Exec Time** alert state associated with the AppSlice. The rectangle size represents the processes execution time in the rectangle; a larger size is a larger value. Click a rectangle to drill-down and investigate in the "BW Single Process Summary" display.

Trend Graphs

Traces the sum across all processes in one AppSlice of the application.

- Active: Traces the number of active processes.
- Created Count: Traces the number of processes created.
- **Exec Total msec/sec**: Traces the rate at which the application accumulates process execution time, in milliseconds per second.
- **Elap Total msec/sec**: Traces the rate at which the application is accumulating process elapsed time, in milliseconds per second.
 - **Log Scale** Select to enable a logarithmic scale. Use **Log Scale** to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. **Log Scale** makes data on both scales visible by applying logarithmic values rather than actual values to the data.
 - **Base at Zero** Select to use zero (**0**) as the Y axis minimum for all graph traces.
 - **Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .

Select or Enter Date and Time:
Restore to Now
Ok Apply Cancel

By default, the time range end point is the current time. To change the time range end point, click Calendar _____ and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd**, **YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

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

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

BW Processes

These displays present performance data for BusinessWorks processes. Use these displays to verify that individual BusinessWorks processes are executing and using resources as expected. Displays in this View are:

- "BW All Processes Heatmap" on page 337: A color-coded heatmap view of selected process performance metrics.
- "BW All Processes Table" on page 340: A tabular view of all available process performance data in this BusinessWorks View.
- "BW Single Process Summary" on page 343: Current and historical metrics for a single process.

BW All Processes Heatmap

View the most critical BusinessWorks alerts pertaining to process creation and execution. Use this display to quickly identify processes with critical alerts.

Each rectangle in the heatmap represents a process. The rectangle color indicates the most critical alert state associated with the processes (the rectangle size is uniform for all processes.)

Choose a domain, applications, AppNode and AppSpace from the drop-down menus. Choose a different metric to display from the **Metric** drop-down menu. Enter a string in the **Process Name Filter** field to limit data shown in the display. Use the **Application Names** and **Process Names** check-boxes ✓ to include or exclude labels in the heatmap. Mouse over a rectangle to see additional metrics. By default, this display shows **Alert Severity**.

Drill-down and investigate by clicking a rectangle in the heatmap to view details in the "BW Single Process Summary" display.

← ↑ Table			All BW Pr	ocesss - l	Heatmap	o		10-Feb-2016	15:01	< Data OK	+	0
Domain: SLBW6	~	AppSpace: Si	mSpace	- Ap	pNode: B	WApp-2						
AppName: com.SL.BW	App.One				~	Count:	11					
Process Name Filter:						Clear	🔲 RegEx					
	Application Names	Process Names		🗖 Log	🔲 Auto	Metric:	Alert Se	verity 💎	0	1		
	All Process	ses selected by	AppSpace and	SLBW6	and App	lication v	vhere C	olor = Metric				
				SimSpace								

Title Bar (possible features are):	🔯 Data OK Data connection state. Red indicates the Data
🗧 🏠 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. 	data source is connected. 23-Mar-2017 12:04 Current date and time. Incorrect time
 Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.	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.						
	AppSpace	Choose an AppSpace to show data for in the display.						
	AppNode:	Choose an AppNode to show data for in the display.						
	AppName	Choose an Ap	Choose an AppName to show data for in the display.					
	Count:	The total num	ber of processes currently shown in the display.					
Field	is and Data:							
	Process Name Filter	Enter a string to limit data shown in the display.						
		Clear	Clears the Processes Name Filter entries from the display.					
	RegEx	Toggles the ${f P}$	rocesses Name Filter to accept Regular Expressions for filtering.					
	Application Names	Check to include labels in the heatmap. Check to include labels in the heatmap.						
	Process Names							
	Log	Select to enable a logarithmic scale. Use Log Scale to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. Log Scale makes data on both scales visible by applying logarithmic values rather than actual values to the data.						
	Auto	Select to enable auto-scaling. When auto-scaling is activated, the color gradier bar's maximum range displays the highest value. NOTE: Some metrics auto-scale automatically, even when Auto is not selected.						
	Metric	Choose a metric to view in the display.						
		Alert Severity	 The maximum level of alerts in the heatmap rectangle. Values range from 0 - 2, as indicated in the color gradient star, where 2 is the highest Alert Severity: Red indicates that one or more metrics exceeded their ALARM LEVEL threshold. Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold. Green indicates that no metrics have exceeded their alert thresholds. 					

- Alert Count The total number of critical and warning alerts in the heatmap rectangle. The color gradient bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average alert count.
- **Completed Count** The total number of completed processes in the heatmap rectangle. The color gradient • ²⁵ bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
- **Suspended Count** The total number of suspended processes in the heatmap rectangle. The color gradient <u>stars</u> bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
- - **Created / sec** The number of processes created per second in the heatmap rectangle. The color gradient • ¹⁵ bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
- **Suspended** / sec The number of suspended processes per second in the heatmap rectangle. The color gradient bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
- **Failed / sec** The number of failed processes per second in the heatmap rectangle. The color gradient ¹⁴ bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
- **Exec Time /** sec The process execution time per second in the heatmap rectangle. The color gradient bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.

Average Exec Time	The average execution time for all processes in the heatmap rectangle, calculated by dividing the delta execution time for the interval by the delta completed, or the number of process instances that completed in the interval. The color gradient bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
Most Recent Elapsed Time	The elapsed time for the most recent process in the heatmap rectangle. The color gradient \bullet \bullet bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
Average Elapsed Time	The average elapsed time for all processes in the heatmap rectangle, calculated by dividing the delta elapsed time for the interval by the delta completed, or the number of process instances that completed in the interval. The color gradient bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.

BW All Processes Table

View BusinessWorks data shown in the "BW All Applications Heatmap", and additional details, in a tabular format.

Each row in the table is a process. Choose a domain, applications, AppNode and AppSpace from the drop-down menus. Click a column header to sort column data in numerical or alphabetical order. Enter a string in the **Process Name Filter** field to limit data shown in the display.

Drill-down and investigate by clicking a row to view details for the selected process in the "BW Single Process Summary" display

← ↑ He	atmap		All BW Pr	ocesses - Table	10-Feb-2016 15:06 < Data OK 🚽	F 🕐
Domain: SLBW6			AppSpace: SimSpace	AppNode: BWApp-2		~
AppName	: com.SL.BWA	ipp.One		Count: 11		
Process	Name Filter: [Clear 🗖 RegEx		
Domain	AppSpace	AppNode	Application Name	Process Name	Alert Aler Level Cour	
SLBW6	SimSpace	BVVApp-2	com.SL.BWApp.One	process02.process		
SLBW6	SimSpace	BVVApp-2	com.SL.BWApp.One	process01.process	(*)	
SLBW6	SimSpace	BWApp-2	com.SL.BWApp.One	process06.process		
SLBW6	SimSpace	BWApp-2	com.SL.BWApp.One	process00.process	()	
SLBW6	SimSpace	BWApp-2	com.SL.BWApp.One	process07.process		
SLBW6	SimSpace	BWApp-2	com.SL.BWApp.One	main.process	(
SLBW6	SimSpace	BWApp-2	com.SL.BWApp.One	process04.process		
SLBW6	SimSpace	BWApp-2	com.SL.BWApp.One	process03.process	(
SLBW6	SimSpace	BWApp-2	com.SL.BWApp.One	process05.process		
SLBW6	SimSpace	BWApp-2	com.SL.BWApp.One	process08.process	6	
SLBW6	SimSpace	BWApp-2	com.SL.BWApp.One	process09.process		
4						•

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Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the			
 Open an instance of this display in a new window. Open the online help page for this display. 	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.			
Menu , Table open commonly accessed displays.				
6,047 The number of items currently in the display.	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.						
	AppSpace	Choose an AppSpace to show data for in the display.						
	AppNode:	Choose an AppNode to show data for in the display.						
	AppName	Choose an App	oName to show data for in the display.					
Field	is and Data:							
	Count:	The total num	ber of processes in the AppSpace.					
	Process Name Filter	Enter a string	Enter a string to limit data shown in the display.					
		Clear	Clears the Application Name Filter entries from the display.					
	RegEx	Toggles the A filtering.	pplication Name Filter to accept Regular Expressions for					
Tabl Each		is a different Ap	pSlice. Column values are associated with the process.					
	Domain	The domain in which the process resides.						
	AppSpace	The AppSpace in which the process resides.						
	AppNode							
	Application Name							
	Process Name							
 Red indicative threshold. Yellow ind threshold. 		 Red indicat threshold. Yellow indic threshold. 	cal alert state for alerts in the row: es that one or more metrics exceeded their ALARM LEVEL cates that one or more metrics exceeded their WARNING LEVEL cates that no metrics have exceeded their alert thresholds.					
	Alert Count	t The total number of active alerts for the process.						
	Total Exec TimeTotal execution time (in milliseconds) for all successfully completed proc instances.							
	Delta Exec Time	Execution time accumulated during the current polling period.						

Exec Time/ sec	Delta execution time per second.
Recent Exec Time	Execution time (in milliseconds) of the most recently completed process instance.
Total Elapsed Time	Total elapsed time (in milliseconds) for all successfully completed process instances.
Delta Elapsed Time	Elapsed time accumulated during the current polling period.
Elapsed Time/sec	Delta elapsed time per second.
Recent Elapsed Time	Elapsed clock time (in milliseconds) of the most recently completed process instance.
Active	The number of currently active processes
Created	The number of processes created.
Suspended	The number of process suspensions.
Failed	The number of process failures.
Completed	The number of completed processes.
Delta Active	The number of active processes since the last data update.
Active/sec	The number of active processes per second.
Delta Created	The number of created processes since the last data update.
Created/sec	The number of created processes per second.
Delta Suspended	The number of suspended processes since the last data update.
Suspended/ sec	The number of suspended processes per second.
Delta Completed	The number of completed processes since the last data update.
Completed/ sec	The number of completed processes per second.
Delta Failed	The number of failed processes since the last data update.
Failed/sec	The number of failed processes per second.
Min Exec Time	Execution time (in milliseconds) of the process instance that has completed in the shortest amount of execution time.
Max Exec Time	Execution time (in milliseconds) of the process instance that has completed in the longest amount of execution time.
Average Exec Time	Average execution time (in milliseconds) for all successfully completed process instances.
Min Elapsed Time	Elapsed clock time (in milliseconds) of the process instance that has completed in the shortest amount of elapsed time.
Max Elapsed Time	Elapsed clock time (in milliseconds) of the process instance that has completed in the longest amount of elapsed time.

Average Elapsed Time	Average elapsed clock time (in milliseconds) for all successfully completed process instances.
Count Since Reset	The number of times the process has executed since statistics were reset.
Main Process	The name of the main process.
Application Version	The application version.
Module Name	The application module.
Module Version	The module version.
Time Stamp	The date and time the row data was last updated.
Source	Name of RTView Data Server sending this data (or localhost).

BW Single Process Summary

View current and historical execution metrics for a single BusinessWorks process. Use this display to investigate performance issues for a process.

This display includes trend graphs tracing process and activity execution counts and times.

Choose a domain, application, AppNode and AppSpace from the drop-down menus. Use the **Time-Range** to "zoom-in" or "zoom-out" on a specific time frame in the trend graph.



Title Bar (possible features are):	🐼 Data OK Data connection state. Red indicates the Data
🗲 👖 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

	Domain:	Choose a do	omain to show data for in the display.						
	AppSpace	Choose an /	AppSpace to show data for in the display.						
	AppNode:	Choose an <i>i</i>	Choose an AppNode to show data for in the display.						
	AppName	Choose an a	Choose an application to show data for in the display.						
	Process	Choose a pr	rocess to show data for in the display.						
Fiel	ds and Data:								
	Activity Count:	The number	r of activities defined for the process.						
	Main Process:	The name o	of the main process.						
	Active	using the H about proce displays the	active instances for this process definition. This number is calculated awk method named GetProcesses. This method returns information ass instances that are active at the time of update. The value here a current total count of all active instances discovered for this process the trend below displays the same value over time.						
	Active/sec	The number	r of currently active application processes per second.						
	Created	Total	The number of process instances created for this process definition.						
		Current	The number of process instances created this update cycle.						
		Rate	The number of process instances created per second.						
	Completed	Total	The number of process instances completed for this process definition.						
		Current	The number of process instances completed this update cycle.						
		Rate	The number of process instances completed per second.						
	Errors	Total	The number of errors accumulated by all process instances.						
		Current	The number of errors accumulated this update cycle.						
		Rate	The number of errors accumulated per second.						
	Execution	Min	The shortest execution time of any process instance, in milliseconds.						
		Max	The longest execution time of any process instance, in milliseconds.						

	Average	The average execution time for all completed process instances, in milliseconds.
	Current	The amount of time accumulated this update cycle.
	Rate	The amount of time accumulated per second.
Elapsed	Min	The shortest elapsed time of any process instance, in milliseconds.
	Max	The longest elapsed time of any process instance, in milliseconds.
	Average	The average elapsed time for all completed process instances, in milliseconds.
	Current	The amount of elapsed time accumulated this update cycle.
	Rate	The amount of elapsed time accumulated per second.

Trend Graphs

Traces application process and activity metrics for the selected process.

- Active Count: Traces the number of currently active processes.
- Created Count: Traces the number of created processes.
- **Process Elapsed Time/sec**: Traces the rate at which the application is accumulating process elapsed time, in milliseconds per second.
- **Process Exec Time/sec**: Traces the rate at which the application is accumulating process execution time, in milliseconds per second.
- All Activities Exec Count/sec: Traces the number of executed activities per second.
- All Activities Exec Time/sec: Traces the amount of execution time for executed activities per second.
 - **Log Scale** Select to enable a logarithmic scale. Use **Log Scale** to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. **Log Scale** makes data on both scales visible by applying logarithmic values rather than actual values to the data.
 - **Base at Zero** Select to use zero (**0**) as the Y axis minimum for all graph traces.
 - **Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar \square .



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 **I D** to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** dropdown menu.

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

BW5 Engines

These displays present performance metrics for BW5 Engines. Displays in this View are:

- "All Engines Heatmap" on page 346:Performance metrics of CPU and memory utilization for all BW Engines.
- "All Engines Table" on page 349: Available metrics from the Hawk microagent for each BW Engine.
- "All Engines Grid" on page 352: Displays the main health metrics and a single trend graph per engine, summarizing the status of each BW Engine.
- "Single Engine Summary" on page 354: Detailed performance metrics and alert status for a single BW Engine.

All Engines Heatmap

Quick view of BW5 Engines status for the selected **Filter** and **Server**. Each rectangle in the heatmap represents an engine. Rectangle size represents Max Heap Size and the color represents the most severe value in the heatmap rectangle is shown for the selected Metric. By default, the maximum **Alert Severity** is shown:

Values range from **0** - **2**, as indicated in the color gradient **bar**, where **2** is the highest Alert Severity:

- Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.
- Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.
- Green indicates that no metrics have exceeded their alert thresholds.

Mouseover to see the following performance metrics:

- Server: Server agent name.
- **Engine**: Engine name.
- Max Heap MB: Maximum heap allocated to this engine for the JVM.
- **Status**: ACTIVE, STOPPED or LIMITED.
- **Expired**: When checked, data has not been received from this host in the specified amount of time.
- Alert Count: Number of current alerts
- **CPU Used %**: Percent of server CPU used by engine.
- Memory Used %: Percentage of allocated memory currently consumed by this engine from within the JVM. Equal to the value of: (100*UsedBytes) divided by MaxBytes. NOTE: Percent used is Long.
- Created Processes: The total number of processes created.
- **Created / sec**: The number of processes created per second.
- **Running Processes**: The number of currently running processes.
- Active: The number of currently active processes.
- **Completed**: The total number of completed processes.
- **Aborted**: The total number of aborted processes.
- Error Count: The total number of errors.

Click on a node to drill down to the "Single Engine Summary" display to look at number of processes running, threads, history of memory utilization and other performance metrics for a specific engine. Mouse-over nodes to view details about engine performance and status.

1	Table	Grid			All	BW Engines - I	Heatmap				12-Ap	r-2016 11:	14 👳	Data OK	+ 0
Filter:	No Filter		▼ S	Server:	SLHOST6(domain6)	•				Count:	6	Active:	5		ctive Only
V Eng Nan	ine nes						C Log	C Auto	Metric:	Alert Sev	erity	•	0	1	2
	All Engines selected by Filter and Server where Size = Max Heap Size and Color = Metric														
	da	mainclhost6.B	WEnair	ne.Process	Space Archive	SLHOST6(don do	nain6) mainslhost6.l	BWAnn-2.P	rocs		4	omainslhos	t6.BWApp	4.Procs	
		domain	slhost6.	Server Engine Max H Status Expire Max S Alert C CPU U Memo CPU U Memo CPU U Memo CPU C CPU C C CPU C C CPU C C CPU C C CPU C C CPU C C CPU C C C C C C C C C C C C C C C C C C C	: SLHOST6(domain6) : domainsilhost6.BWApp- eap MB: 128.0 : ACTIVE di false everity: 2 Sount: 3 sed %: 0.0 ry Used %: 9.0 df Processes: 0 df sec: 0.0 ng Processes: 0 : 0 eted: 0	-1.Procs	mainsihost6.					fornainstho			

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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. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

- Choose a filter to show data for in the display. By default, the **Filter:** drop-down menu only contains the **No Filter** option. To create your own filtering options, see **Creating Customized Filters** in the User's Guide. Filter:
- Choose a server to show data for in the display. Server:
- The total number of engines in the display. Count:
- Number of engines currently active. Active
- If selected, only engines with a status of ACTIVE are displayed. Otherwise, if deselected, all engines for the given Filter/Server selection are displayed. Active Only
- Select this check box to display the names of the engines above their respective Engine rectangles in the heatmap. Names

Log	data with a w scale of tens, of your data is	ble a logarithmic scale. Use Log Scale to see usage correlations for ide range of values. For example, if a minority of your data is on a and a majority of your data is on a scale of thousands, the minority s typically not visible in non-log scale graphs. Log Scale makes data s visible by applying logarithmic values rather than actual values to					
Auto	Select to enable auto-scaling. When auto-scaling is activated, the color gradient bar's maximum range displays the highest value. NOTE: Some metrics auto-scale automatically, even when Auto is not selected.						
Metric	Choose a met	ric to view in the display.					
	Alert Severity	The maximum level of alerts in the heatmap rectangle. Values range from 0 - 2 , as indicated in the color gradient 1 bar, where 2 is the highest Alert Severity:					
		Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.					
		Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.					
		Green indicates that no metrics have exceeded their alert thresholds.					
	Alert Count	The total number of critical and warning alerts in the heatmap rectangle. The color gradient \bullet below bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average alert count.					
	CPU Used%	The percent (%) CPU used in the heatmap rectangle. The color gradient \bullet bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.					
	Memory Used%	The percent (%) memory used in the heatmap rectangle. The color gradient \bullet bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.					
	Active Processes	The number of currently active processes in the heatmap rectangle. The color gradient \bullet \bullet bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.					
	Running Processes	The number of currently running processes in the heatmap rectangle. The color gradient \bullet \bullet \bullet bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.					
	Created Processes	The number of created processes in the heatmap rectangle. The color gradient \bullet \bullet bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.					

Created/ sec	The number of created processes in the heatmap rectangle, per second. The color gradient \bullet \bullet bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
Error Count	The total number of errors in the heatmap rectangle. The color gradient or the bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average alert count.

All Engines Table

Each row in the table is an engine. Metrics are made available by the Hawk microagent for the engine (for details, refer to documentation for TIBCO ActiveMatrix Business Works Administration, Appendix A: TIBCO Hawk Microagent Methods). Click on an row to drill down to the "Single Engine Summary" display.

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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. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Filter By: The display might include these filtering options:

Choose a filter to show data for in the display. By default, the **Filter:** drop-down menu only contains the **No Filter** option. To create your own filtering options, see **Creating Customized Filters** in the User's Guide. Filter:

	Server:	Choose a server to show data for in the display.
	Count	Number of engines currently being displayed.
	Active	Number of engines currently active.
	Active Only	If selected, only engines with a status of ACTIVE are displayed. Otherwise, if deselected, all engines for the given Filter/Server selection are displayed.
	Engine Name Filter	Enter all or part of engine name to view specific engines. NOTE: Wild card characters are supported.
		Clear Removes Engine Name Filter and all engines for the given Filter/ Server selection are displayed.
	RegEx	If selected, the specified Engine Name Filter will be interpreted as a full Regular Expression rather than a simple wildcard.
Tabl	e:	
	BW Engine	BW Engine name.
	Server	Server agent name.
	Expired	When checked, data has not been received from this host in the specified amount of time.
	Alert Level	The most critical alert state for alerts in the row:
		Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.
		 Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.
		Green indicates that no metrics have exceeded their alert thresholds.
	Alert Count	Number of current alerts
	State	Engine status: ACTIVE, STOPPED, LIMITED, etc. (See All Servers Grid).
	Uptime	Uptime in milliseconds since the engine was started.
	CPU %	Percent of server CPU used by engine.
	Active Processes	Number of active processes calculated each update period using data returned by the Hawk method GetProcesses.
		Note: This column will display NaN or Not Available for any engine whose status is STOPPED.
	Running Processes	Number of running processes.
	Threads	Number of threads used by the engine.
	Memory Used%	Percentage of allocated memory currently consumed by this engine from within the JVM. Equal to the value of: (100*UsedBytes) divided by MaxBytes. NOTE: Percent used is Long.
	Max Heap Size	Maximum heap allocated to this engine for the JVM.
	Total Bytes	Maximum heap memory this JVM has used.
	Used Bytes	Total bytes of memory within the JVM currently used by the engine. Equal to value of: MaxBytes minus FreeBytes.
	Free Bytes	Amount of available memory from within the JVM.
	Mem Usage KBytes	Server memory in KB used by engine.

Errors	Total number of errors since the engine was started.
Delta Errors	Current number of new errors.
Errors/sec	Error rate per second.
Created Processes	The total number of processes that were created.
Completed Processes	The total number of processes that were completed.
Aborted Processes	The total number of processes that were aborted.
Process ID	Process ID of engine as recognized by the server.
Micro Agent Instance	Unique ID of the microagent reporting the metrics.
Deployment	Name of Deployment.
Domain	Name of Domain.
BW Version	The TIBCO BusinessWorks version currently in use on the server.
Source	Name of RTView Data Server sending this data (or localhost).
Time Stamp	Time of last update.
Process Name	Name of the BW Engine process on the server. Note: This information is not displayed in the table but is present in "raw" cache data.
Host	Host name of server. Note: This information is not displayed in the table but is present in "raw" cache data.
Adapter Name	Name of adapter. Note: This information is not displayed in the table but is present in "raw" cache data.
Instance ID	Instance ID name of the engine. Note: This information is not displayed in the table but is present in "raw" cache data.
Version	Engine project version number. Note: This information is not displayed in the table but is present in "raw" cache data.

All Engines Grid

Displays the main health metrics and a single trend graph per engine, summarizing the status of each BW5 Engine. Click on an engine icon to drill down to the "Single Engine Summary" display.

← ↑ Heatmap Table		All BW Engines - Grid		02-Feb-20	016 11:37	< Data	а ОК 🕂 🕜
Filter: No Filter Se	Server: SLHOST16(sl_amx	✓	Count:	9 A	ctive:	9	Active Only
				Tim	e Range:	5 Mins	~
Insurance_Claims_Claim_Status CPU Usage %: 0.0	ACTIVE	□00 00 					^
	otal Processes: 1	MEM					
Error Rate: 0.0 Activ	tive Processes: 0	11:33:00 11:35:30 11:38:00					
Insurance_Claims_Past_Claims	ACTIVE	10 					
CPU Usage %: 0.0		40 ····································					
	otal Processes: 1						
Error Rate: 0.0 Activ	tive Processes: 0	1:33:00 11:35:30 11:38:00					
Insurance_Claims_Patient_Diagnosis		10 0					
CPU Usage %: 0.0	ACTIVE						
Mem Usage %: 13.0 To	otal Processes: 1	4					
Error Rate: 0.0 Activ	tive Processes: 0	0/ Procs 11:33:00 11:35:30 11:38:00					
Insurance_Claims_Patient_Info		10 0 cpu					
CPU Usage %: 0.0	ACTIVE	40					
Mem Usage %: 13.0 To	otal Processes: 1	4					
Error Rate: 0.0 Activ	tive Processes: 0	0J PROCS 11:33:00 11:35:30 11:38:00					
Shipping_Cost_Estimator_Delivery_Stat		10 0 ceu					
CPU Usage %: 0.0	ACTIVE	401					
Mem Usage %: 13.0 To	otal Processes: 1	4 ·····					
E Data: 0.0							

Title Bar (possible features are):	Data OK Data connection state. Red indicates the Data
🗧 🛧 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Filter:	Choose a filter to show data for in the display. By default, the Filter: drop- down menu only contains the No Filter option. To create your own filtering options, see Creating Customized Filters in the User's Guide.
Server:	Choose a server to show data for in the display.
Count	Number of engines currently being displayed.
Active	Number of engines currently active.
Active Only	Toggle this setting to display active servers or all servers.
Time Range	Choose a time range. Also sets range for the Single Engine Summary display. Options are: All Data, 2 Mins, 5 Mins, 20 Mins, 1 Hour, 2 Hours, 4 Hours, 8 Hours, 24 Hours, 2 Days and 7 Days.

Field	s and Data			
	Engine Name	Name of	the engine.	
	Status	• ACTI	the current state of the engine: I VE Indicates the BW microagent is providing live data and the ne is assumed active.	
		• SUSI	PENDED This state is reported by the BW microagent.	
		• STA	NDBY This state is reported by the BW microagent.	
		• STO	PPING This state is reported by the BW microagent.	
		• STOI	PPED This state is reported by the BW microagent.	
			TED Live data has been received from TIBCO, but deployment data the custom RTView microagent has not been received.	
	 EXPIRED Indicates the server associated with the engine is unavailable or stopped sending data. 			
	CPU Usage%	Percent c	f server CPU in use.	
	Mem Usage%	Available	physical memory (MB) remaining.	
	Error Rate	Number	of errors accumulated per second.	
	Total Processes	Number	of process definitions for this engine.	
	Active Processes	Number	of process instances currently active.	
	Trend Graphs Traces data for t	he server.		
		CPU	Traces percent of server CPU in use.	
		МЕМ	Traces available physical memory remaining.	

PROCS Traces total number of active processes.

Single Engine Summary

Several views show historical and current performance metrics for a single engine, including the number of processes running, threads, history of memory utilization, and trend graphs of memory utilization. In this display, when an engine is **Stopped** the engine name is appended with **(X)**, the background color is light red and Uptime is zero.

← ↑ Processes	Sing	gle BW Engine - Sun	imary	02-Feb-2016 11:42 < Data OK 💠 🕜
Filter: No Filter V Server: SLHOST	F6(domain6)	Engine: domainslhost	BWApp-1.Procs	✓
Engine Information	Alerts 🍙 Engine (0)) 🛛 🍊 Process (0)	🍊 Activity (0)	
Status: ACTIVE Uptime: 0d 11:3	7	Pr	ocesses organized by Server/Engine where g(Creation Count) and Color = Average Executio	
CPU %: 0.2 Memory % 10.0		Size = l	g(Creation Count) and Color = Average Executio	on la constant de la
Threads: 8 Max Heap MB: 128.0				
Error Counts Process Counts			Server: SLHOST6(domain6)	
Total: 0 Total: 11			Engine: domainslhost6.BWA Process: process01.process AverageExecution: 0	pp-1.Procs
Current: 0.00 Running: 0			Created: 0	
Current, 0.00 Running, 0			© ⊕	
			Log Scale Base at Zero	Time Range: 5 Mins 🗸
0.2				
				Max Heap MB
0				Cur Heap MB
				Running Procs
0				
0	11:39:00 11:39:30	11:40:00 11:40	30 11:41:00 11:41:30	11:42:00 11:42:30
02/02 02/02 02/02	02/02 02/02	02/02 02/	2 02/02 02/02	02/02 02/02
4				
Title Bar (possible features are	a).	A Der	OK Data association state	Ded indicates the Date
The bar (possible leatures are	-/-	· · · · · · · · · · · · · · · · · · ·	OK Data connection state s not receiving data or the	
🗧 🛧 Open the previous an	nd upper display.		g data from the Data Serve	
Open an instance of this d		d = 1 =	urce is connected.	
			2017 12:04 Current date and	time. Incorrect time
Open the online help page		might i	dicate the Monitor stopped	
	commonly accessed	and gre	en Data OK icon is a strong	
displays.		current	and valid.	
6,047 The number of items	currently in the disp	lay. 👔 Op	en the Alert Views - RTVi	ew Alerts Table display.

Note: Clicking the **Processes** button in the Title Bar takes you to the "All Processes Heatmap". Clicking the **JVM** button, which is automatically enabled when a JMX connection is defined for the engine, takes you to the **JVM CPU/Mem Summary** display. See **Enable Monitoring Via JMX** for more information on enabling a JMX connection.

Filter By:

- Filter: Choose a filter to show data for in the display. By default, the Filter: drop-down menu only contains the **No Filter** option. To create your own filtering options, see **Creating Customized Filters** in the User's Guide.
- Server: Choose a server to show data for in the display.
- **Engine:** Choose an engine to show data for in the display. An engine is not running when the engine name is appended with **(X)**.

Fields and Data

Engine Information

Status	ACTIVE	The BW microagent is providing live data and the engine is assumed active.	
	SUSPENDED	This state is reported by the BW microagent.	
	STANDBY	This state is reported by the BW microagent.	
	STOPPING	This state is reported by the BW microagent.	
	STOPPED	This state is reported by the BW microagent.	
	LIMITED	Live data has been received from TIBCO, but deployment data from the custom RTView MicroAgent has not been received.	
	EXPIRED	The associated server for the engine is currently in an EXPIRED state and is unavailable or stopped sending data.	
Uptime	Days hours and	minutes since the engine was started.	
CPU%	Percent of serve	er CPU used by engine.	
Memory %	Available physical memory remaining (in MB).		
Threads	Number of threa	ads used by this engine	
Max Heap MB	Maximum heap	allocated to this engine for the JVM.	

Error Counts

Total	Total errors accumulated by this engine.
-------	--

Number of errors accumulated this update cycle. Current

Process Counts

A BW Engine runs processes by creating instances of process definitions and making them active. A given process instance has a lifetime during which it Total may be suspended, swapped, queued, etc. until it is either completed or aborted. The Total value is calculated using the Hawk method named

GetProcessDefinitions that returns statistics about the instances of each process definition including cumulative counts of completed, aborted, suspended, etc.

Total number of running process instances. This number is calculated using the Hawk method named GetProcessCount. It is displayed in the Monitor Engines Table as RunningProcesses. The trend below displays the same value Running over time as Running Procs.

Alerts

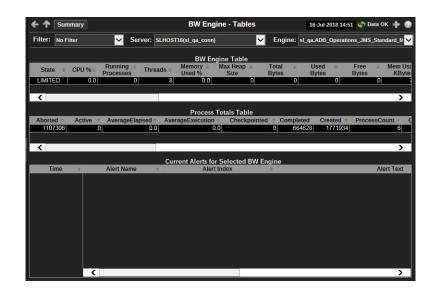
Indicates the greatest severity level and the number of open **Engine**, **Process**, and **Activity** alerts for the selected engine. Values range from **0** to **2**, where **2** is the greatest Severity:

One or more alerts exceeded their ALARM LEVEL threshold.

One or more alerts exceeded their WARNING LEVEL threshold.

No alert thresholds have been exceeded.

Click on the alert indicator to display the **BW Engine - Tables** display, which contains a table listing the current alerts for the selected engine.



Engine

Number of engine alerts and the most critical alert state for the engine:

Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.

 Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.

Green indicates that no metrics have exceeded their alert thresholds.

Process
 Number of process alerts and the most critical alert state for the engine:
 Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.

Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.

Green indicates that no metrics have exceeded their alert thresholds.

Activity Number of activity alerts and the most critical alert state for the engine:

Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.

Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.

Green indicates that no metrics have exceeded their alert thresholds.

Heatmap

Shows processes organized by Server/Engine where Size = Creation Count and Color = Average Execution. Click on a node to drill down to a specific engine.

Trend Graphs

Log 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 Select to use zero (**0**) as the Y axis minimum for all graph traces. **Zero**

Time
RangeSelect 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

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

BW5 Processes

These displays present performance metrics for BW5 processes. Displays in this View are:

- "All Processes Heatmap" on page 357: Displays process execution metrics for all BW Engines.
- "All Processes Table" on page 361: Each row in the table displays all available metrics from the Hawk microagent for a process.
- "Single Process Summary" on page 364: Several views show historical and current metrics for a single process, including average execution times and execution counts.

All Processes Heatmap

Summary view of processes can show the execution times for all processes on all engines or you can filter to look at specific servers or engines. Each rectangle (node) in the heatmap represents a process. Move your mouse over a node to display current metrics. Click on a node to drill-down to the "Single Process Summary" display to view specific metrics about process behavior over a specified period of time and determine which activity in the process may be causing the bottleneck.

An engine is not running when the engine name is appended with **(X)**.

Mouse-over any node to display the current values for the metric selected from the **Metric** drop-down menu.

← ↑ Table		All BW Processes - Heatmap		29-Jan-2016	10:51 < Data OK 💠 💮
Filter: No Filter	Server: SLHOST6(domain6)	Engine: domainslhost6.BWApp-	1.Procs		~
Engine Process Process	sses 11 Running: 0		🔲 Log 📃 Auto Metri	ič: Alert Severity 🗸 🗸	0 1 2
	All Proce	esses selected by Filter/Server/Engine where	e Color = Metric		
		SLHOST6(domain6) domainsIhost6.BWApp-1.Procs			
process02.process	process06.process		process04.process	process05.process	process08.process
process01.process	process00.process	main.process	process03.process		
				process05).process

Title Bar (possible features are):	🔹 Data OK Data connection state. Red indicates the Data
Open the previous and upper display.	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 an instance of this display in a new window. Open the online help page for this display. 	23-Mar-2017 12:04 Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time
Menu , Table open commonly accessed displays.	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.	Open the Alert Views - RTView Alerts Table display.

Filter:	Choose a filter to show data for in the display. By default, the Filter: drop-down menu only contains the No Filter option. To create your own filtering options, see Creating Customized Filters in the User's Guide.
Server:	Choose a server to show data for in the display.
Engine:	Choose an engine to show data for in the display. An engine is not running when the engine name is appended with (X) .
Engine Names	Select this check box to display the names of the engines above their respective rectangles in the heatmap.
Process Names	Select this check box to display the names of the processes above their respective rectangles in the heatmap.
Processes	The total number of processes in the display.
Running	Number of processes currently running.

Select to enable a logarithmic scale. Use Log Scale to see usage correlations for Log 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 to enable auto-scaling. When auto-scaling is activated, the color gradient Auto bar's maximum range displays the highest value. NOTE: Some metrics auto-scale automatically, even when Auto is not selected. Metric Choose a metric to view in the display. The maximum level of alerts in the heatmap rectangle. Values range Alert from **0** - **2**, as indicated in the color gradient Severity bar, where **2** is the highest Alert Severity: Red indicates that one or more metrics exceeded their ALARM LEVEL threshold. Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold. Green indicates that no metrics have exceeded their alert thresholds. The total number of critical and warning alerts in the heatmap Alert Count rectangle. The color gradient **bar** 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. The total number of completed processes in the heatmap rectangle. Completed The color gradient **example color** bar, populated by the current heatmap, shows the value/color mapping. The numerical values in Count the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count. The total number of active processes in the heatmap rectangle. The Active color gradient **example** bar, populated by the current heatmap, Count shows the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count. The total number of aborted processes in the heatmap rectangle. Aborted The color gradient **and the value** bar, populated by the current heatmap, shows the value/color mapping. The numerical values in Count the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count. The total number of suspended processes in the heatmap rectangle. Suspended The color gradient **and the second se** Count heatmap. The middle value in the gradient bar indicates the average count. The number of processes executed per second in the heatmap Exec Time / rectangle. The color gradient bar house 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 sec alerts in the heatmap. The middle value in the gradient bar indicates the average count. The number of processes created per second in the heatmap Created / rectangle. The color gradient bar, populated by the rectangle. The color gradient **bar**, populated by the current heatmap, shows the value/color mapping. The numerical Sec values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.

Aborted / sec	The number of aborted processes per second in the heatmap rectangle. The color gradient bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
Suspended / sec	The number of suspended processes per second in the heatmap rectangle. The color gradient bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
Most Recent Exec Time	The execution time for the most recently executed process in the heatmap rectangle. The color gradient executed bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
Average Exec Time	The average execution time for all processes in the heatmap rectangle, calculated by dividing the delta execution time for the interval by the delta completed, or the number of process instances that completed in the interval. The color gradient exactly bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
Most Recent Elapsed Time	The elapsed time for the most recently executed process in the heatmap rectangle. The color gradient <u>solution</u> bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
Average Elapsed Time	The average elapsed time for all processes in the heatmap rectangle, calculated by dividing the delta elapsed time for the interval by the delta completed, or the number of process instances that completed in the interval. The color gradient end bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.

All Processes Table

Select a server and engine from the drop-down menus. Each row in the table is a different engine. The table displays all metrics available from the Hawk microagent for an engine. (Refer to documentation for TIBCO ActiveMatrix Business Works Administration, see Appendix A: TIBCO Hawk Microagent Methods).

← ↑	Heatmap		All BW Processes	s - Table		29-Jan-2016 09:1	4 < Data OK 💠 🌘
Filter:	No Filter 🗸 🗸	Server: SLHOST6(domain6)	Engine: domains	Ihost6.BWApp-1.Procs			<u>`</u>
	BW Engine	E Server	BW Process	Expired Expired	∎ Alert ∎ Count	Time Since : Last Update	Total : Exec Time Ex
domainsl	host6.BWApp-1.Procs	SLHOST6(domain6)	main.process		2	0	0
domainsl	host6.BWApp-1.Procs	SLHOST6(domain6)	process00.process		0	0	0
	host6.BWApp-1.Procs	SLHOST6(domain6)	process01.process		0	0	0
domainsl	host6.BWApp-1.Procs	SLHOST6(domain6)	process02.process		0	0	0
domainsl	host6.BWApp-1.Procs	SLHOST6(domain6)	process03.process		0	0	0
domainsl	host6.BWApp-1.Procs	SLHOST6(domain6)	process04.process		0	0	0
domainsl	host6.BWApp-1.Procs	SLHOST6(domain6)	process05.process		0	0	0
domainsl	host6.BWApp-1.Procs	SLHOST6(domain6)	process06.process	_	0	0	0
domainsl	host6.BWApp-1.Procs	SLHOST6(domain6)	process07.process		0	0	0
domainsl	host6.BWApp-1.Procs	SLHOST6(domain6)	process08.process		0	0	0
domainsl	host6.BWApp-1.Procs	SLHOST6(domain6)	process09.process		0	0	0
<							`

Click on a row in the table to drill down to the "Single Engine Summary" display.

Title Bar (possible features are):	🕼 Data OK Data connection state. Red indicates the Data
 Open the previous and upper display. Open an instance of this display in a new window. 	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 online help page for this display. Menu , 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.	Open the Alert Views - RTView Alerts Table display.

Filter By: The display might include these filtering options:

Filter:	Choose a filter to show data for in the display. By default, the Filter: drop- down menu only contains the No Filter option. To create your own filtering options, see Create Customized Filters for more information.
Server:	Choose a server to show data for in the display.
Engine:	Choose an engine to show data for in the display. An engine is not running when the engine name is appended with (X) .
Table:	
BW Engine	BW Engine name.

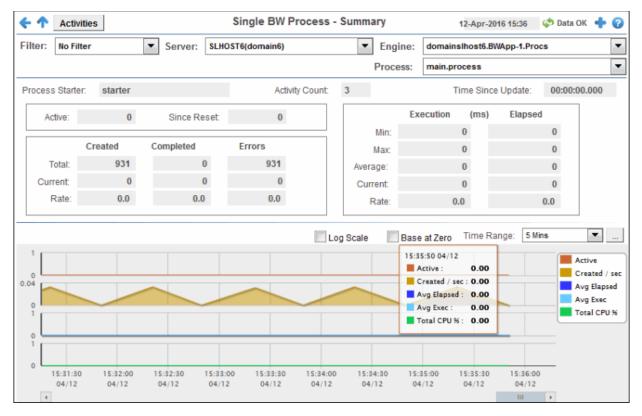
Server agent name. Server

BW Process	The name of the process.
Expired	When checked, data has not been received from this host in the specified amount of time.
Alert Level	 The most critical alert state for alerts in the row: Red indicates that one or more metrics exceeded their ALARM LEVEL threshold. Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold. Green indicates that no metrics have exceeded their alert thresholds.
Alert Count	Number of current alerts
Active	Number of active processes.
Total CPU	Total CPU usage in percent.
Created/sec	Change in Created per second.
Completed/sec	Change in Completed per second.
Delta Created	Change in Created this update.
Delta Completed	Change in Completed this update.
Created	Number of process instances created for this process definition.
Completed	Number of process instances successfully completed.
Total Exec Time	Total execution time (in milliseconds) for all successfully completed process instances.
Delta Exec Time	Execution time accumulated during the current polling period.
Exec Time/sec	Delta execution time per second.
Min Exec Time	Execution time (in milliseconds) of the process instance that has completed in the shortest amount of execution time.
Max Exec Time	Execution time (in milliseconds) of the process instance that has completed in the longest amount of execution time.
Average Exec Time	Average execution time (in milliseconds) for all successfully completed process instances.
Recent Exec Time	Execution time (in milliseconds) of the most recently completed process instance.
Total Elapsed Time	Total elapsed time (in milliseconds) for all successfully completed process instances.
Delta Elapsed Time	Elapsed time accumulated during the current polling period.
Elapsed Time/ sec	Delta elapsed time per second.
Min Elapsed Time	Elapsed clock time (in milliseconds) of the process instance that has completed in the shortest amount of elapsed time.
Max Elapsed Time	Elapsed clock time (in milliseconds) of the process instance that has completed in the longest amount of elapsed time.
Average Elapsed Time	Average elapsed clock time (in milliseconds) for all successfully completed process instances.

Recent Elapsed Time	Elapsed clock time (in milliseconds) of the most recently completed process instance.
Aborted	Number of times process instances have been aborted.
Delta Aborted	Change in Aborted this update.
Aborted/sec	Change in Aborted per second.
Queued	Number of times process instances have been queued for execution.
Delta Queued	Change in Queued this update.
Queued/sec	Change in Queued per second.
Suspended	Number of times process instances have been suspended.
Delta Suspended	Change in Suspended this update.
Suspended/sec	Change in Suspended per second.
Checkpointed	Number of times process instances have executed a checkpoint.
Delta Checkpointed	Change in Checkpointed this update.
Checkpointed/ sec	Change in Checkpointed per second.
Swapped	Number of times process instances have been swapped to disk.
Delta Swapped	Change in Swapped this update.
Swapped/sec	Change in Swapped per second.
Time Since Last Update	Time since the last update.
Domain	Name of TIBCO Domain.
Starter	Name of the process starter for the process.
MicroAgent Instance	Unique ID of the microagent reporting the metrics.
CountSince Reset	Number of process instances that have completed since the last reset of the statistics.
Source	Name of RTView Data Server sending this data (or localhost).
Time Stamp	Time of last update.

Single Process Summary

Detailed performance metrics and alert status for a single BW process. Select a server, engine and process from the drop-down menus. The background color of the display is red when the selected engine is stopped.



Title Bar (possible features are):	🐼 Data OK Data connection state. Red indicates the Data
🗲 🕂 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
🔶 Open an instance of this display in a new window.	data source is connected.
 Open the online help page for this display. Menu , 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.	Open the Alert Views - RTView Alerts Table display.

Filter By:

- Filter: Choose a filter to show data for in the display. By default, the Filter: drop-down menu only contains the **No Filter** option. To create your own filtering options, see **Creating Customized Filters** in the User's Guide.
- **Server:** Choose a server to see metrics for.
- **Engine:** Choose a server to see metrics for. An engine is not running when the engine name is appended with **(X)**.
- **Process:** Choose a process to see metrics for.

Process Starter	Name of the process starter for the process.
Activity Count	Number of activities defined for this process.
Time Since Update	Time since the last update to file of statistics.
Active	Number of active instances for this process definition. This number is calculated using the Hawk method named GetProcesses. This method returns information about process instances that are active at the time of update. The value here displays the current total count of all active instances discovered for this process definition. The trend below displays the same value over time.
Since Reset	Number of activity executions that have completed since the last reset of the statistics. This is the number retrieved from the Hawk method named GetProcessDefinition which returns ExecutionCountSinceReset.

Execution Counts

Most recent execution counts for this process.

Created	Total	Number of process instances created for this process definition.
	Current	Number of process instances created this update cycle.
	Rate	Number of process instances created per second.
Completed	Total	Number of process instances successfully completed.
	Current	Number of process instances successfully completed this update cycle.
	Rate	Number of process instances successfully completed per second.
Errors	Total	Number of errors accumulated by all process instances.
	Current	Number of errors accumulated this update cycle.
	Rate	Number of errors accumulated per second.

Execution (ms) Elapsed

Execution and elapsed times in milliseconds for this process.

Min	Shortest time of any process instance.

- **Max** Longest time of any process instance.
- **Average** Average time across all successfully completed process instances.
- **Current** Time accumulated this update cycle.
- **Rate** Time accumulated per second.

Trend Graphs

- Active: Traces the number of currently active processes.
- Created / sec: Traces the number of created processes per second.
- **Avg Elapsed:** Traces the average number of elapsed processes. This value is calculated by dividing the delta elapsed time for the interval by the delta completed, or the number of process instances that completed in the interval.
- **Avg Exec**: Traces the average number of executed processes. This value is calculated by dividing the delta executed time for the interval by the delta completed, or the number of process instances that completed in the interval.
- Total CPU %: Traces CPU utilization by processes, in percent.

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

Base at Select to use zero (**0**) as the Y axis minimum for all graph traces.

Time
RangeSelect 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 <a>.



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 \square to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** dropdown menu.

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

BW5 Activities

Zero

These displays present performance metrics for BW5 activities. Displays in this View are:

- "All Activities Heatmap" on page 366: Displays execution performance metrics for all BW activities.
- "All Activities Table" on page 369: Each row in the table displays all available metrics from the Hawk microagent for an activity.
- "Single Activity Summary" on page 372: Historical and current performance metrics for a single activity, including average execution times and execution counts.

All Activities Heatmap

Summary view of activities shows the execution times for all activities on all engines, or you can filter to look at specific servers, engines or processes. An engine is not running when the engine name is appended with **(X)**.

Move your mouse over a node to display current metrics. Click on a node to drill down to the "Single Activity Summary" display to view specific metrics about activity behavior over a specified period of time.

(Table						All	ll BW Activities - Heatmap				29-Jan-2016 10:55	< Data OK	+ 0
Filter:	No Filter 🔽	Server:	SLHOS	6T6(domai	in6)		~	Engine: domains/host6.BWApp-1.F	Procs					~
		OK:	2	Error:	1	Dead: 0		Process: main.process						~
Engi Nam	ne ■ Process ☑ Activity es ■ Names ☑ Names							l	Log Auto	Metric:	Alert Severity	✓ 0	1	
		A	ll activ	ities sele	ected I	oy Filter∕Sei	rver/E	ngine/Process where Size = Exe	ecution Count a	nd Color	= Metric			
								SLHOST6(domain6) domainsIhost6.BWApp-1.Procs						
								domainsinoste.Bwapp-1.Procs main.process						
	starte	r						start				BWApp.csv		

Title Bar (possible features are):	🔯 Data OK Data connection state. Red indicates the Data
 Open the previous and upper display. 	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
Open an instance of this display in a new window.	data source is connected.
 Open the online help page for this display. Menu , 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.	Open the Alert Views - RTView Alerts Table display.

Filter:	Choose a filter to show data for in the display. By default, the Filter: drop- down menu only contains the No Filter option. To create your own filtering options, see Creating Customized Filters in the User's Guide.
Server:	Choose a server to show data for in the display.
Engine:	Choose an engine to show data for in the display. An engine is not running when the engine name is appended with (X) .
Process	Select from the menu to view activities running on a specific process or all processes.
ОК	Number of activities that reported their Last Return Code as OK .
Error	Number of activities that reported their Last Return Code as Error .
Dead	Number of activities that reported their Last Return Code as Dead .
Engine Names	Select this check box to display the names of the engines above their respective rectangles in the heatmap.

Process Names		check box to display the names of the processes above their rectangles in the heatmap.				
Activity Names	Select this check box to display the names of the activities above their respective rectangles in the heatmap.					
Log	Select to enable a logarithmic scale. Use Log Scale to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. Log Scale makes data on both scales visible by applying logarithmic values rather than actual values to the data.					
Auto	gradient ba	nable auto-scaling. When auto-scaling is activated, the color ar's maximum range displays the highest value. NOTE: Some to-scale automatically, even when Auto is not selected.				
Metric	Choose a r	netric to view in the display.				
	Alert Severity	The maximum level of alerts in the heatmap rectangle. Values range from 0 - 2 , as indicated in the color gradient 1 - 1 bar, where 2 is the highest Alert Severity:				
		Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.				
		Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.				
		Green indicates that no metrics have exceeded their alert thresholds.				
	Alert Count	The total number of critical and warning alerts in the heatmap rectangle. The color gradient $\begin{tabular}{ c c c c } \hline \begin{tabular}{ c c c c } bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average alert count.$				
	Exec Count	The total number of executed processes in the heatmap rectangle. The color gradient bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.				
	Error Count	The total number of errors in the heatmap rectangle. The color gradient $\begin{tabular}{c} \begin{tabular}{c} \end{tabular}$ bar populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.				
	Exec Time / sec	The number of processes executed per second in the heatmap rectangle. The color gradient because bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.				
	Errors / sec	The number of errors per second in the heatmap rectangle. The color gradient and the bar , populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.				

Most Recent Exec Time	The execution time for the most recently executed process in the heatmap rectangle. The color gradient be a bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
Max Exec Time	The maximum execution time for executed processes in the heatmap rectangle. The color gradient a bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.

All Activities Table

Select a server, engine and process from the drop-down menus. Each row in the table displays all metrics available from the Hawk microagent for an activity. (Refer to documentation for TIBCO ActiveMatrix Business Works Administration, see Appendix A: TIBCO Hawk Microagent Methods).

Click on a row in the table to drill down to the "Single Activity Summary" display to view specific metrics about activity behavior over a specified period of time.

When the background/foreground color of a row changes color, the associated engine for the activity is currently in an EXPIRED state. An engine is EXPIRED when the associated server is unavailable or stopped sending data.

An EXPIRED activity and the associated engine are deleted from displays when the associated server exceeds its specified threshold. Processes associated with the engine are also deleted from displays.

			All BW Activities - Table			05	160-2010 12.50	< Data OK	ዞ 🕜	
Filter: No Filter	Server: SLHOST6(domain6)	~	Engine: domainsIhost6.BWApp-1.Procs							
			Process: main.process						~	
BW Engine	Server	BW Process	Activity	Expired	Alert Level	Time Since Last Update	Last Ret. Code	Execution Time	Delt	
omainslhost6.BWApp-1.Procs	SLHOST6(domain6)	main.process	starter		()	9,469		61		
Iomainslhost6.BWApp-1.Procs	SLHOST6(domain6)	main.process	start		٠	9,469		387		
Iomainslhost6.BWApp-1.Procs	SLHOST6(domain6)	main.process	BWApp.csv		(*)	9,469	ERROR	16	6	

Title Bar (possible features are):	🐼 Data OK Data connection state. Red indicates the Data
🗧 个 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
💠 Open an instance of this display in a new window.	data source is connected.
 Open the online help page for this display. Menu , 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
6,047 The number of items currently in the display.	current and valid. <u>M</u> Open the Alert Views - RTView Alerts Table display.

	Filter:	Choose a filter to show data for in the display. By default, the Filter: drop-down menu only contains the No Filter option. To create your own filtering options, see Creating Customized Filters in the User's Guide.								
	Server:	Choose a server to show data for in the display.								
	Engine:	Select from the menu to view activities running on a specific engine or all engines. An engine is not running when the engine name is appended with (X) .								
	Process:	Select from the menu to view activities running on a specific process or all processes.								
Tabl	e:									
	BW Engine	Name of BW Engine.								
	Server	Name of Server agent.								
	BW Process	Name of the BW engine Process on the Server.								
	Activity	Name of activity.								
	Expired	When checked, data has not been received from this host in the specified amount of time.								
	Alert Level	The most critical alert state for alerts in the row: Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.								
		Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.								
		 Green indicates that no metrics have exceeded their alert thresholds. 								
	Time Since Last Update	Time since the last update.								
	Last Ret(urn) Code	Status code (OK DEAD ERROR) returned by most recent execution of this activity.								
	Execution Time	Time (in milliseconds) used by all executions of this activity. NOTE: This does not include wait time for Sleep, Call Process, and Wait For activities.								
	Delta Exec(ution) Time	Execution time accumulated this update cycle.								
	Exec(ution) Time / sec	Execution time accumulated per second.								

Min Exec(ution) Time	Time (in milliseconds) of the activity that has the shortest execution time.
Max Exec(ution) Time	Time (in milliseconds) of the activity that has the longest execution time.
Elapsed Time	Elapsed clock time (in milliseconds) used by all executions of this activity. NOTE: This does not include wait time for Sleep, Call Process, and Wait For activities.
Delta Elapsed Time	Change in ElapsedTime this update.
Elapsed Time/sec	Change in ElapsedTime per second.
Min Elapsed Time	Elapsed clock time (in milliseconds) of the activity that has the shortest execution time.
Max Elapsed Time	Elapsed clock time (in milliseconds) of the activity that has the longest execution time.
Executions	Number of times the activity has been executed.
Delta Exec(ution)	Change in ExecutionCount this update.
Executions/sec	Change in ExecutionCount per second.
Errors	Total number of executions of the activity that have returned an error.
Errors Delta Errors	
	error.
Delta Errors	error. Change in ErrorCount this update.
Delta Errors Errors/sec	error. Change in ErrorCount this update. Change in ErrorCount per second.
Delta Errors Errors/sec Domain	error. Change in ErrorCount this update. Change in ErrorCount per second. Name of TIBCO Domain.
Delta Errors Errors/sec Domain ActivityClass	error. Change in ErrorCount this update. Change in ErrorCount per second. Name of TIBCO Domain. Name of the class that implements the activity.
Delta Errors Errors/sec Domain ActivityClass CalledProcessDefs	error. Change in ErrorCount this update. Change in ErrorCount per second. Name of TIBCO Domain. Name of the class that implements the activity. A comma-separated list of definitions called by this activity.
Delta Errors Errors/sec Domain ActivityClass CalledProcessDefs	error. Change in ErrorCount this update. Change in ErrorCount per second. Name of TIBCO Domain. Name of the class that implements the activity. A comma-separated list of definitions called by this activity. • true Tracing is enabled for this activity.
Delta Errors Errors/sec Domain ActivityClass CalledProcessDefs Tracing	error. Change in ErrorCount this update. Change in ErrorCount per second. Name of TIBCO Domain. Name of the class that implements the activity. A comma-separated list of definitions called by this activity. • true Tracing is enabled for this activity. • false Tracing is disabled for this activity.
Delta Errors Errors/sec Domain ActivityClass CalledProcessDefs Tracing MicroAgentInstance ExecutionCountSince	 error. Change in ErrorCount this update. Change in ErrorCount per second. Name of TIBCO Domain. Name of the class that implements the activity. A comma-separated list of definitions called by this activity. true Tracing is enabled for this activity. false Tracing is disabled for this activity. Unique ID of the microagent reporting the metrics. Number of times the activity has been executed since the last reset

Single Activity Summary

Detailed performance metrics and alert status for a single BW activity. In this display, when an engine associated with the activity is **Stopped** the engine name is appended with **(X)** and the background color is light red.





Filter By:

Filter:	Choose a filter to show data for in the display. By default, the Filter: drop-down menu only contains the No Filter option. To create your own filtering options, see Creating Customized Filters in the User's Guide.
Server:	Select from the menu to view processes running on a specific server.
Engine:	Select from the menu to view processes running on a specific engine. An engine is not running when the engine name is appended with (X) .
Process:	Select from the menu to view summary details for a specific process.
Activity	Select from the menu to view summary details for a specific activity.
Class	Name of the activity class.
Last Return Code	Last return code reported from this activity.

Time Since	Time	since	the	last	update.
Update					

Execution Counts

Most recent execution counts for this activity.

Total	Number of times the activity has been executed.
Since Reset	Number of times the activity has been executed since the last Hawk reset of the statistics.
Current	Change in ExecutionCount this update.
Rate	Change in Execution Count per second.

Error Counts

Most recent error counts for this activity.

Total	Number of errors accumulated by all activities.
Average	Average number of errors accumulated by all activities.
Current	Number of errors accumulated this update cycle.
Rate	Number of errors accumulated per second.

Execution (ms) Elapsed

Execution and elapsed times in milliseconds for this activity.

Min	Shortest time of any activity instance.
Max	Longest time of any activity instance.

Average Average time across all successfully completed activity instance.

Current Time accumulated this update cycle.

Rate Time accumulated per second.

Trend Graphs

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

Base at Select to use zero (**0**) as the Y axis minimum for all graph traces. **Zero**

Time
RangeSelect 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 \square to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** dropdown menu.

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

BW5 Servers

These displays present performance data for your BusinessWorks system. Displays in this View are:

- "All Servers Heatmap" on page 374
- "All Servers Table" on page 377
- "All Servers Grid" on page 378
- "Single Server Summary" on page 380
- "Server Processes" on page 382
- "Single Server Process Summary" on page 383

All Servers Heatmap

Quick view of BW Servers status determined by selected Filter, organized by Connection (host) and where color equals the selected Metric. Each rectangle (node) in the heatmap represents a server.

Click on a node to drill down to the "Single Server Summary" display and view metrics for a particular server. Mouse-over any node to display the current values for the metric selected from the Metric drop-down menu.

(Table	Grid				All BV	N Servers	s - Heatma	ıp				28-Jan-201	6 11:42	< Data OF	+ 📀
Filter:	No Filter		~	Server Count: 7					Log	Auto M	etric:	Alert Severity Alert Count	/	0	1	2
		SLHOST22(sI_	Statu Expire Max S Alert CPU U V Mer Free I Deplo Active	r: SLHOST22(sl_qa_c s: ACTIVE ed: false Gewarty: 2 Count: 1 Jsed %: 0.00 mory Used %: 0.00 Memory (MB): 5,248, yed Engines: 27 a Engines: 1		e rs organize d		ction whe	e Color = Metr		T5(doma	CPU Used % V Memory Us Free Memory Deployed En Active Engine	gines	SLI	40ST16(si_qa	conn)
		SLHOST17(s	il_amx)			SLHOST16(sl_am	או)			SLHC	ST21(de	ev)				

Title Bar (possible features are):	State OK Data connection state. Red indicates the Data
🗲 👖 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Filter:	Choose a filter to limit data shown in the display. By default, the Filter: drop- down menu only contains the No Filter option. To create your own filtering options, see Creating Customized Filters in the User's Guide.
Server Count:	The total number of servers in the display.
Log	Select to enable a logarithmic scale. Use Log Scale to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. Log Scale makes data on both scales visible by applying logarithmic values rather than actual values to the data.
Auto	Select to enable auto-scaling. When auto-scaling is activated, the color gradient bar's maximum range displays the highest value. NOTE: Some metrics auto-scale automatically, even when Auto is not selected.
Metric	Choose a metric to view in the display.

Alert Severity	The maximum level of alerts in the heatmap rectangle. Values range from 0 - 2 , as indicated in the color gradient bar , where 2 is the highest Alert Severity:
	Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.
	Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.
	Green indicates that no metrics have exceeded their alert thresholds.
Alert Count	The total number of critical and warning alerts in the heatmap rectangle. The color gradient \mathbf{D} bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average alert count.
CPU Used%	The percent (%) CPU used in the heatmap rectangle. The color gradient \bullet and \bullet bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
V(irtual) Memory Used%	The percent (%) virtual memory used in the heatmap rectangle. The color gradient because bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
Free Memory	The amount of free memory in the heatmap rectangle, in megabytes. The color gradient bar , populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
Deployed Engines	The number of deployed engines in the heatmap rectangle. The color gradient B bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from O to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
Active Engines	The number of active engines in the heatmap rectangle. The color gradient • • • • • • • • • • • • • • • • • • •

All Servers Table

This table provides a list view of utilization metrics for all BW servers (represented in the All Servers Heatmap). Each row in the table contains data for a particular server. Click a column header to sort column data in numerical or alphabetical order. Click on a table row to drill down to the "Single Server Summary" display and view metrics for that particular server.

• I	Heatmap Grid				All	BW Servers -	Table			28-Jan-2016 1	11:48 < Data OK 🔶 🕴
Filter:	No Filter 🔽										
	Server	Expired:	Alert Level	E State =	CPU ≡ Usage (%)	Free = Memory (MB)	V. Memory = Usage (%)	BW ⊪ Version	Deployed = Engines	Active Engines Source	Time Sta
	16(sl_amx)		6	ACTIVE	5.95		18.97		9	9 localhost	01/28/16 11:48:30
	16(sl_qa_conn)	V	0	EXPIRED	10.74	916.28	19.01	v5.10	0	0 localhost	01/28/16 11:30:04
	17(sl_amx)		()	ACTIVE	0.69	3,323.74	2.20		9	9 localhost	01/28/16 11:48:21
	21(dev)			ACTIVE	4.00	2,446.26	20.80		0	0 localhost	01/28/16 11:48:49
	22(sl_qa_conn)		()	ACTIVE	0.00	5,249.51	0.00	v5.10	27	1 localhost	01/28/16 11:48:31
	5(domain5)		<u> </u>	ACTIVE	17.33	1,763.04	0.71	v5.7	5	0 localhost	01/28/16 11:48:29
HOST	6(domain6)		6	ACTIVE	3.52	915.39	1.68	v5.7	6	5 localhost	01/28/16 11:48:21

Title Bar (possible features are):	🔯 Data OK Data connection state. Red indicates the Data
🗲 🛧 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
Open an instance of this display in a new window.	data source is connected.
Open the online help page for this display. Menu 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.	Open the Alert Views - RTView Alerts Table display.

Filter By:

The display might include these filtering options:

Filter:	Choose a filter to show data for in the display. By default, the Filter: drop-down
	menu only contains the No Filter option. To create your own filtering options,
	see Creating Customized Filters in the User's Guide.

Table:

- Server Name of Server Agent.
- **Expired** When checked, data has not been received from this host in the specified amount of time.

Alert Level	 The most critical alert state for alerts in the row: Red indicates that one or more metrics exceeded their ALARM LEVEL threshold. Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold. Green indicates that no metrics have exceeded their alert thresholds.
State	The current status of the application. Valid values are Running and Stopped .
CPU Usage (%)	Percent of server CPU in use.
Free Memory (MB)	Available physical memory (MB) remaining.
V. Memory Usage (%)	Percent of virtual memory used.
BW Version	The TIBCO BusinessWorks version currently in use on the server.
Deployed Engines	Total number of engines deployed on the server.
Active Engines	Number of engines currently active.
Source	Name of RTView Data Server sending this data (or localhost).
Time Stamp	Time this data was retrieved.

All Servers Grid

This grid provides a list view of utilization metrics for all BW servers (represented in the All Servers Heatmap). Track and view in parallel the general performance of all BW servers. Click on a node to drill down to the "Single Server Summary" display and view detailed metrics for that particular server.

Heatmap Table	2	All BW Servers - Grid	28-Jan-2016 13:50 🗳 Data OK 💠
Filter: No Filter	~		
			Time Range: 5 Mins
LHOST16(sl_amx)		20.0 0.0	
CPU Usage %: 8.4	ACTIVE	1,000.0	
Free Memory: 930 MB	Deployed Engines: 9	40.0	
irtual Mem Used %: 18.8	Active Engines: 9	0.0J 13:48:15 13:48:45 13:51:15	
.HOST16(sl_qa_conn)		20.0 0.0	
CPU Usage %: 10.7	EXPIRED	1,000.0	
Free Memory: 916 MB	Deployed Engines: 0	40.0 ₁	
rtual Mem Used %: 19.0	Active Engines: 0	0.0J VMEM 13:48:15 13:48:46 13:51:15	
.HOST17(sl_amx)		10.0	
CPU Usage %: 0.8	ACTIVE	5,000.0	
Free Memory: 3,321 MB	Deployed Engines: 9	40.0	
rtual Mem Used %: 2.2	Active Engines: 9	0.0J VMEM 13:48:15 13:48:45 13:51:15	
HOST21(dev)		10.0 0.0	
CPU Usage %: 3.2	ACTIVE	4,000.0	
Free Memory: 2,375 MB	Deployed Engines: 0	40.0	
rtual Mem Used %: 20.1	Active Engines: 0	0.0J	
HOST22(sl_qa_conn)		10.0 0.0	
CPU Usage %: 0.0	ACTIVE		
Free Memory: 5,244 MB	Deployed Engines: 27	40.0	
idual Mam Lload % - 0.0	Antivo Enginent 4		

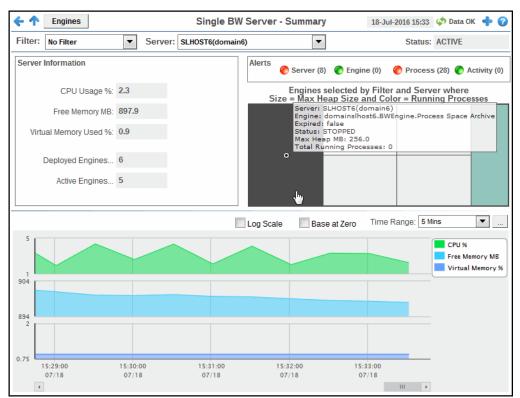
Title Bar (possible features are):	🐼 Data OK Data connection state. Red indicates the Data
Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
Open an instance of this display in a new window.	data source is connected. 23-Mar-2017 12:04 Current date and time. Incorrect time
 Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.	Open the Alert Views - RTView Alerts Table display.

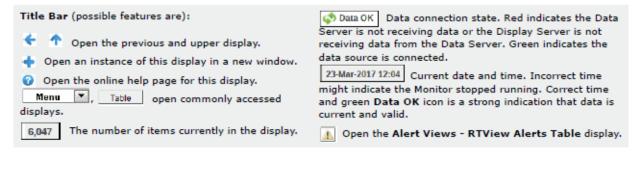
Filter By: The display might include these filtering options:

	Filter:	down menu only con	ow data for in the display. By default, the Filter: drop- tains the No Filter option. To create your own filtering g Customized Filters in the User's Guide.
	Time Range		to show data for in the display. Options are: All Data, 2 ins, 1 Hour, 2 Hours, 4 Hours, 8 Hours, 24 Hours, 2
Field	ls and Data		
	Server Name	Name of the server.	
	CPU Usage%	Percent of server CP	U in use.
	Free Memory	Available physical m	emory (MB) remaining.
	Virtual Mem Used%	Percent of virtual me	emory used.
	State	Server status: ACTI	/E or EXPIRED.
	Deployed Engines	Total number of engi	nes deployed on the server.
	Active Engines	Number of engines of	currently active.
	Trend Graphs	Shows data for the s	server.
		CPU	Traces percent of server CPU in use.
		MEM	Traces available physical memory remaining.
		VMEM	Traces the percent of virtual memory used.

Single Server Summary

Detailed performance metrics and alert status for a single BW server. Click on any alert indicator to drill down to the **BW Server - Tables** display to view current alerts for the selected server.





Filter By:

The display might include these filtering options:

Filter: Choose a filter to show data for in the display. By default, the Filter: drop-down menu only contains the **No Filter** option. To create your own filtering options, see **Creating Customized Filters** in the User's Guide.

- Server: Choose a server to see metrics for.
- **Status** Server status: ACTIVE or EXPIRED.

Server Information

CPU Usage Percent of server CPU in use. Values are traced in trend graph (below). (%)

Free Memory (MB)	Available physical memory remaining (in MB). Values are traced in trend graph (below).
V. Memory Usage (%)	Percent of virtual memory used. Values are traced in trend graph (below).
Deployed Engines	Number of engines currently active. Click to drill-down to details for deployed and active engines in the "All Engines Table" on page 349 display.
Active Engines	Shows data for the server. Click to drill-down to details for active engines in the "All Engines Table" on page 349 display.

Alerts

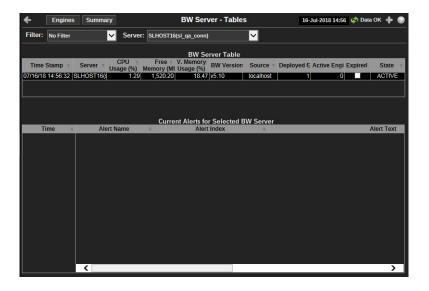
Indicates the greatest severity level and the number of open **Server**, **Engine**, **Process**, and **Activity** alerts for the selected server. Values range from **0** to **2**, where **2** is the greatest Severity:

One or more alerts exceeded their ALARM LEVEL threshold.

One or more alerts exceeded their WARNING LEVEL threshold.

No alert thresholds have been exceeded.

Click on the alert indicator to display the **BW Server - Tables** display, which contains a table listing the current alerts for the selected engine.



Heatmap

Engines selected by Filter and Server, where the heatmap rectangle size = Max Heap Size and the heatmap rectangle color = Running Processes. Dark green is the highest value for the metric shown). Click on a node to drill down to a specific engine:

Red indicates that the engine is expired.

Gray indicates that the engine is stopped.

Trend Graphs

Traces CPU %, Free Memory MB and Virtual Memory %.

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 Select to use zero (**0**) as the Y axis minimum for all graph traces. **Zero**

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

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

Server Processes

Detailed information about operating system processes of a single BW Server. The heatmap shows server processes selected by Filter and Server, where the rectangle size equals memory usage and the rectangle color equals CPU percent usage.

NOTE: By default, this display is not enabled. For details, see Enable BW Servers.

← ↑ Engines	Server Process	es s	0-Feb-2016 14:08 🭕	🔊 Data OK + 😨
Filter: No Filter	Server: slapm(slapm)			
	Server Processes selected by Filte Size - Mem Usage and C	r and Server where dor – CPU %		
			1	
				<u> </u>
		- Process Men Usa	of HDytes: 45,612	
		OPU % 0		

Title Bar (possible features are):	🐼 Data OK Data connection state. Red indicates the Data
Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Filter By: The display might include these filtering options:

- Choose a filter to show data for in the display. By default, the **Filter:** drop-down menu only contains the **No Filter** option. To create your own filtering options, see **Creating Customized Filters** in the User's Guide. Filter:
- Choose a server to see metrics for. Server:

Single Server Process - Summary

Detailed information about a single operating system process running on a single BW Server. NOTE: By default, this display is not enabled. For details, see Enable BW Servers.



Title Bar (possible features are):	🐼 Data OK Data connection state. Red indicates the Data
🔶 🛧 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Filter By:

The display might include these filtering options:

- **Filter:** Choose a filter to show data for in the display. By default, the **Filter:** drop-down menu only contains the **No Filter** option. To create your own filtering options, see **Creating Customized Filters** in the User's Guide.
- **Server:** Choose a server to see metrics for.
- **Process:** Choose a server process.
- **PID:** Choose a server PID.
- Time
RangeSelect 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 \square to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

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

CHAPTER 8 Solution Package for TIBCO Enterprise Message Service™

The Monitor takes the time and guesswork out of monitoring and troubleshooting TIBCO® Enterprise Messaging System[™] deployments, providing a centralized view of both real-time and historical performance metrics across numerous EMS Servers.

The Monitor enables TIBCO users to continually assess and analyze the health and performance of their EMS infrastructure, gain early warning of issues with historical context, and effectively plan for capacity of their EMS Servers. It does so by aggregating and analyzing key performance metrics across all servers, topics, queues, consumers and producers, and presents the results, in real time, through meaningful dashboards as data is collected.

Users also benefit from pre-defined rules and alerts that pin-point critical areas to monitor in most EMS environments and allow for customization of thresholds to let users fine-tune when alert events should be activated.

The Monitor also contains alert management features so that the life cycle of an alert event can be managed to proper resolution. All of these features allow you to know exactly what is going on at any given point, analyze the historical trends of the key metrics, and respond to issues before they can degrade service levels in high-volume, high-transaction environments.

This chapter describes how to configure, deploy, read and use the EMS Monitor displays, and also describes other optional features specific to EMS Monitor. This chapter includes the following:

This section includes:

- "Configuration Parameters You Need" on page 385
- "Configure Data Collection" on page 386
- "Additional Configurations" on page 394
- "Troubleshoot" on page 399
- "Upgrading the Monitor" on page 401
- "EMS Monitor Views/Displays" on page 411
- "TIBCO Spotfire Reports" on page 498

Configuration Parameters You Need

To configure the Solution Package for EMS make a note of the following values:

- PackageName=emsmon
- ServerDirectory=emsmon
- AlertPrefix=Ems

Configure Data Collection

This section describes how to collect data from the EMS Servers you want to monitor. This part of the EMS Monitor configuration is required.

You define the EMS Servers you want to monitor using the **RTView Configuration Application**. By default, the EMS Servers that are routed to by the EMS Servers defined in the RTView Configuration Application are auto-discovered and subsequently monitored. These instructions give you the option to turn off auto-discovery, which is on by default.

Note: For changes made in the RTView Configuration Application to take place, you must restart your data server after making and saving your changes.

At this point you have:

Verified your system requirements.

To configure data collection:

- 1. Navigate to the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO Enterprise Message Service > CONNECTIONS tab.
- **2.** On the **CONNECTIONS** tab, provide the correct full path to the directory containing the TIBCO Enterprise Message Service jar files in the **Classpath** field.

RTView Server - TIBCO Enterprise Message Service Monitor							
TIBCO Enterprise Message Service							
CONNECTIONS DATA COLLECTION DATA STORAGE							
Classpath (Required) Directory Containing TIBCO EMS Jars. This is required to connect to TIBCO Enterprise Message Service.							
ex. /libcolems/8.2/lb or c:tibcolems/8.2/lb. Always endose environment variables in %, ex. %MY_ENV_VAR%							
Connections							
To begin adding Connections, click ;							

3. Click the 🕐 icon.

The **Add Connection** dialog displays.

EMSMON-LOCAL - TIBCO Enterp	orise Message Service Monitor *	:
TIBCO Enterprise Message Servi	ce *	
CONNECTIONS	DATA COLLECTION	DATA STORAGE
Classpath (Required)	Add Connection	
ex. //ibcolems/6.2/lib or or:/ibcolems/6.2/lib. Always enclose en	URL*	
	ex: top://myhost:7222 or top://myotherhost:7222.top://myoth Username	herhost2:7222
Connections To begi	Password	
	* Indicates required field	O
	SAVE CANCEL	

4. Specify the connection information and click **Save** where:

URL: Enter the complete URL for the EMS Server. A comma-separated list of URLs is used to designate fault tolerant server pairs.

Username: The username is used when creating the connection to the EMS Server. This field is optional.

Password: This password is used when creating the connection to the EMS Server. This field is optional. By default, the password entered is hidden. Click the \odot icon to view the password text.

5. Repeat steps 3-4 for each EMS Server to be monitored.

Note: By default, servers that are routed to by the servers defined in this file are automatically discovered (you have the option to turn off auto-discovery in subsequent steps).

6. By default, collecting connections, producers, consumers, queues, and topics data is disabled. To enable collecting connections, producers, consumers, queues, and topics data, navigate to the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO Enterprise Message Service > DATA COLLECTION tab > Metric Selection section and enable the metrics for which you want to collect data.

EMSMON-LOCAL - TIBCO EMS Monitor				
3CO Enterprise Message Service*				
CONNECTIONS	DATA COLLECTION	DATA STORAGE		
ex. Nboolems/8 2/lib or c'tiboolems/8 2/lib. Always enclose environment v Vetric Selection Relet which metrics to collect. Any metrics not listed are automatically collect				
Connections				
Consumers				
Producers				
Queues				
Topics				
Maximum Metric C 2000				

7. When enabling topics and queues, if you want to limit specific topics and queues monitored (rather than monitoring all topics and queues for all defined and auto-discovered servers), click the Select option, specify the queues and topics that you want to monitor in the associated text entry box, and click Add. Repeat the process for each queue/topic you want to monitor.

EMSMON-LOCAL - TIBCO EMS	S Monitor	
CO Enterprise Message Service	*	
CONNECTIONS	DATA COLLECTION	DATA STORAGE
Producers		
Queues		
O All		
Select:		
Queue Name Add		
Topics		
O All		
Select:		
Topic Name Add		
Maximum Metric C		
2000		

Newly added queues and topics are listed beneath the text entry field. Click the \mathbf{x} next to the queue/topic to remove the queue/topic.

EMSMON-LOCAL - TIBCO EMS	S Monitor	:
TIBCO Enterprise Message Service*	•	
CONNECTIONS	DATA COLLECTION	DATA STORAGE
Producers		
Queues		
O All		
Select:		
Queue Name Add		
× queue1		
Topics		
O All		
Select:		
Topic Name Add		
¥ topic1	_	
Maximum Metric C		

 Enabling EMS Queues and EMS Topics might cause performance issues due to the potentially large number of associated destinations, hence, the collection of metric data has been limited to 2000 rows per Data Server by default. To modify this limit, click the Maximum Metric Count Per Server field and enter the desired limit.

CONNECTIONS		DATA COLLECTION			DATA STORAGE	
Maximum Metric C	-					
Poll Rates et the rate in seconds at whi Connection	Consumer	Producer	Queue	Server	Торіс	
60	60	60	30	15	30	
Aetric Filters	ch the specified regex patterns.					
CONTROLIVIT						

9. If you want to modify the default values for the update rates for various server-related caches, you can update the default polling rates in RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO Enterprise Message Service > DATA COLLECTION > Poll Rates.

Connection, Consumer, and Producer Caches

Update the polling rates for the Connection, Producer, and Consumer fields to modify the default polling values for the EmsProducers, EmsConsumers, and EmsConnections caches:

CO Enterpri	se Message Serv	lice			
CONN	ECTIONS	C	ATA COLLECTION		DATA STORAGE
Poll Rates Set the rate in seconds at wh	ich to collect metric data.				
Connection	Consumer	Producer	Queue	Server	Topic
	atch the specified regex patterns.	60	30	15	30
Metric Filters		60	30	15	30
Metric Filters	atch the specified regex patterns.	60	30	15	30
Metric Filters Io not collect metrics that ma Connection	atch the specified regex patterns.	60	30	15	30
Matric Filters to not collect metrics that mit Connection ^(?I^\(admin\\@) Consumer	atch the specified regex patterns.	60			
Matric Filters to not collect metrics that mit Connection ^(?I^\(admin\\@) Consumer	atch the specified regex patterns.				

Queues and Topics Caches

Update the polling rate for the **Queue** and **Topic** fields to modify the default polling rates for the EmsQueues and EmsTopics caches:

	OCAL - TIBCO I					
CO Enterpri	se Message Serv	ice*				
CONN	ECTIONS	D	ATA COLLECTION		DATA STORAGE	
Poll Rates Set the rate in seconds at wh	ich to collect metric data.					
Connection	Consumer	Producer	Queue	Server	Topic	
60	60	60	30	15	30	
o not collect metrics that ma	atch the specified regex patterns.					
o not collect metrics that ma Connection ^(?!^\\[admin\\@)						
o not collect metrics that ma Connection ^(?!^\\[admin\\@) Consumer	1	.]^EMSGMS\\.]^AMX_SV\	._hawki\ ^_local\			
o not collect metrics that mit Connection ^(?!^\\[admin\\@) Consumer ^(?!^\\\$\$y\$_ ^\\\$	1	./^EMSGMS\\./^AMX_SV1	1. ^_HAWKI\ ^_LOCALI	L_HAWKIL ^TMPILEMS		
to not collect metrics that mit Connection ^(?I^\\(admin\\@) Consumer ^(?I^\\\$Sy\$\\. ^\\\$ Destination) TMPI\\$_ ^AMX_MGMT\\	. ^EMSGMS\\. ^AMX_SV\ . ^EMSGMS\\. ^AMX_SV\				
Connection ^(?!^\\[admin\\@) Consumer ^(?!^\\\$sys\\. ^\\\$ Destination) TMPI\\$_ ^AMX_MGMT\\					

Server-Related Caches

Update the polling rate for the **Server** field to modify the default polling rate for the EmsServerInfo, EmsAdmStats, EmsBridges, EmsDurables, EmsRoutes, EmsFTServerTable, EmsListenPorts, EmsServerRouteTable, EmsServerTable, EmsUsers, and EmsDestinations caches:

LINOMON-L	OCAL - TIBCO I	EMS Monitor				:
3CO Enterpri	se Message Serv	ice*				
CON	ECTIONS	C	ATA COLLECTION		DATA STORAGE	
Poll Rates Set the rate in seconds at wh	ich to collect metric data.					
Connection	Consumer	Producer	Queue	Server	Topic	
60	60	60	30	15	30	
	atch the specified regex patterns.					
Connection						
^(?!^\\[admin\\@)						
^(?!^\\[admin\\@) Consumer		. ^EMSGMS\\. ^AMX_SV		_HAWK\\\ ^TMP\\\EMS)		_
^(?!^\\[admin\\@) Consumer		. ^EMSGMS\\. ^AMX_SV	II. ^_HAWKII. ^_LOCALII.	_HAWK\\ ^TMP\\EMS)		-
^(?!^\\[admin\\@) Consumer ^(?!^\\\$sys\\. ^\\\$ Destination	TMP\\\$\\.]^AMX_MGMT\\		IL[^_HAWKIL]^_LOCALIL			-
^(?!^\\[admin\\@) Consumer ^(?!^\\\$sys\\. ^\\\$ Destination	TMP\\\$\\.]^AMX_MGMT\\					-

Note: When modifying your update rates, you should take your system architecture and number of elements per cache into account and ensure that you are not changing your update rates to values that might negatively impact system performance.

10. Even when enabled, some Connection, Consumer, Destination, Producer, Queue, and Topic metrics are not collected by default. To modify the defaults, navigate to the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO Enterprise Message Service > DATA COLLECTION > Metric Filters section.

EMSMON-LOCAL - TIBCO EMS	S Monitor	
3CO Enterprise Message Service	*	
CONNECTIONS	DATA COLLECTION	DATA STORAGE
Metric Filters Do not collect metrics that match the specified regex patterns.		
Connection		
^(?!^\\[admin\\@)		
Consumer		
		EMS)
Destination		
	ISGMS_ ^AMX_SV_ ^_HAWK_ ^_LOCAL\\HAWK_ ^TMP\\.	EMS)
Producer		
^(?!^\\\$sys\\. ^\\\$TMP\\\$\\. ^AMX_MGMT\\. ^EN	/ISGMS\\. ^AMX_SV\\. ^_HAWK\\. ^_LOCAL\\HAWK\\. ^TMP\\.	EMS)
Queue		
^(?!^\\\$sys\\. ^\\\$TMP\\\$\\. ^AMX_MGMT\\. ^EN	//////////////////////////////////////	EMS)
Topic		

Each metric has a default regex pattern defined preventing metrics with the defined patterns from being collected. To edit the default:

a. Click on the desired field.

The **Copy default text to clipboard** link displays beneath the line.

Metric Filters Do not collect metrics that match the specified regex patterns
Connection
\'(?!^\\[admin\\@)
Copy default text to clipboard

b. Click the **Copy default text to clipboard** link to copy the text, click on the field, and paste (Ctrl-v) the text into the line.

c. Edit the regex pattern as desired.

11.If you want to turn off the auto-discovery of servers found via route definitions, navigate to RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO Enterprise Message Service > DATA COLLECTION tab > Connection Discovery and deselect the Discover Servers Via Route option.

CONNECTIONS	DATA COLLECTION	DATA STORAGE
oducer	DAIA COLLECTION	DAIAGIORAGE
?!^\\\$sys\\. ^\\\$TMP\\\$\\. ^AMX_MGMT\\. ^	EMSGMS\\. ^AMX_SV\\. ^_HAWK\\. ^_LOCAL\\HAWK\	\ ^TMP\\.EMS)
ieue		
?!^\\\$sys\\. ^\\\$TMP\\\$\\. ^AMX_MGMT\\. ^	'EMSGMS\\. ^AMX_SV\\. ^_HAWK\\. ^_LOCAL\\HAWK\	\. ^TMP\\.EMS)
pic 21^\\\$svs\\ 1^\\\$TMP\\\$\\ 1^AMX_MGMT\\ 1^	'EMSGMS\\. ^AMX_SV\\. ^_HAWK\\. ^_LOCAL\\HAWK\	
nnection Discovery		
nnection Discovery Routes to enable automatic discovery of and connect	ion to EMS Servers. Disable to connect only to the EMS Servers listed in	the Connections tab.
	ion to EMS Servers. Disable to connect only to the EMS Servers listed in	the Connections tab.
Routes to enable automatic discovery of and connect	ion to EMS Servers. Disable to connect only to the EMS Servers listed in	
Routes to enable automatic discovery of and connect Discover Servers Via Route	ion to EMS Servers. Disable to connect only to the EMS Servers listed in	
Routes to enable automatic discovery of and connect Discover Servers Via Route		

12.Optionally enter the Username and Password in the Connection Credentials section. The defined Username and Password will be used for all connections defined on the Connections tab when a user name and password are not defined. This user name and password will also be used when making topic and queue browser connections. You can edit the Username field by clicking in the field and entering the desired user name. You can enter the password by clicking on Set Password button, which opens the Connections Credentials Password dialog, and entering the desired password. By default, the password entered is hidden. Click the o icon to view the password text.

CONNECTIONS	DATA COLLECTION	DATA STORAGE
(?!^\\\$\$y\$\\. ^\\\$TMP\\\$\\. ^AMX_MGMT\\.	^EMSGMS\\. ^AMX_SV\\. ^_HAWK\\. ^_LOCAL\\HAWK\	l.phimp(l.ems)
lueue		
\(?!^\\\$sys\\. ^\\\$TMP\\\$\\. ^AMX_MGMT\\.	^EMSGMS\\. ^AMX_SV\\. ^_HAWK\\. ^_LOCAL\\HAWK\	\. ^TMP\\.EMS)
opic		
	I^EMSGMSIL ^AMX_SVIL ^_HAWKIL ^_LOCALIL_HAWKI	L ^TMP\\EMS)
(?!^\\\$sys_ ^\\\$TMP\\\$_ ^AMX_MGMT\\	$\label{eq:linear} $$ Constant Connect only to the EMS Servers listed in the EMS Servers listed$	

Additional Configurations

This section describes the additional optional EMS Monitor configurations:

"Configuring Historical Data"

Configuring Historical Data

You can specify the number of history rows to store in memory, the compaction rules, the duration before metrics are expired and deleted, and the different types of metrics that you want the Historian to store in the **Data Storage** tab in the RTView Configuration Application.

Note: For changes made in the RTView Configuration Application to take place, you must restart your data server after making and saving your changes.

This section contains the following:

- "Defining the Storage of EMSMON In Memory History"
- "Defining Compaction Rules for EMSMON"
- "Defining Expiration and Deletion Duration for EMSMON Metrics"
- "Enabling/Disabling Storage of EMSMON Historical Data"
- "Defining a Prefix for All History Table Names for EMSMON Metrics"

Defining the Storage of EMSMON In Memory History

You can modify the maximum number of history rows to store in memory in the Data Storage tab. The **History Rows** property defines the maximum number of rows to store for the EmsAdmStats, EmsQueuesExt, EmsServerInfo, EmsTopicsExt, EmsProducers, EmsConsumers, EmsRoutes, and EmsDurables caches. The **History Rows Large** property defines the maximum number of rows to store for the EmsQueues, EmsQueueTotalsByServer, EmsTopics, and EmsTopicTotalsByServer caches. The default setting for **History Rows** is 50,000 and the default setting for **History Rows Large** is 200,000. To update the default settings:

- 1. Navigate to the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO Enterprise Message Service > DATA STORAGE tab.
- 2. In the Size region, click the **History Rows** and **History Rows Large** fields and specify the desired number of rows.

≡ EMSMON-LOCAL - TIBCO EMS	Monitor		:
TIBCO Enterprise Message Service*			
CONNECTIONS	DATA COLLECTION	DATA STORAGE	
Size Set the number of history rows to keep in memory. History Rows 50000 Compaction Set the concastor rules for history. The Condense Interval and Condense Ra	History Rows Large		
Condense Interval	Condense Raw Time	Compaction Rules	
60	1200	1h - ;1d 5m ;2w 15m	
Duration Set the number of seconds between data updates before metrics are expired of Expire Time 45	r deleted. Delete Time 3600		

Defining Compaction Rules for EMSMON

Data compaction, essentially, is taking large quantities of data and condensing it using a defined rule so that you store a reasonably sized sample of data instead of all of your data, thus preventing you from potentially overloading your database. The available fields are:

- Condense Interval -- The time interval at which the cache history is condensed for the following caches: EmsAdmStats, EmsCompdestTotals, EmsQueues, EmsQueueTotalsByServer, EmsQueuesExt, EmsServerInfo, EmsProducers, EmsConsumers, EmsRoutes, EmsDurables, EmsConnections, EmsRouteCountsByServer, EmsServerInfoExt, EmsTopics, EmsTopicTotalsByServer, and EmsTopicsExt. The default is 60 seconds.
- Condense Raw Time -- The time span of raw data kept in the cache history table for the following caches: EmsAdmStats, EmsCompdestTotals, EmsQueues, EmsQueueTotalsByServer, EmsQueuesExt, EmsServerInfo, EmsProducers, EmsConsumers, EmsRoutes, EmsDurables, EmsConnections, EmsRouteCountsByServer, EmsServerInfoExt, EmsTopics, EmsTopicTotalsByServer, and EmsTopicsExt. The default is 1200 seconds.
- Compaction Rules -- This field defines the rules used to condense your historical data in the database for the following caches: EmsAdmStats, EmsCompdestTotals, EmsQueues, EmsQueueTotalsByServer, EmsQueuesExt, EmsServerInfo, EmsProducers, EmsConsumers, EmsRoutes, EmsDurables, EmsFTServerTable, EmsServerRouteTable, EmsServerTable, EmsConnections, EmsTopics, EmsTopicTotalsByServer, EmsTopicsExt, EmsRouteCountsByServer, and EmsServerInfoExt. By default, the columns kept in history will be aggregated by averaging rows with the following rule 1h -;1d 5m;2w 15m, which means the data from 1 hour will not be aggregated (1h rule), the data over a period of 1 day will be aggregated every 5 minutes (1d 5m rule), and the data over a period of 2 weeks old will be aggregated every 15 minutes (2w 15m rule).
- 1. Navigate to the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO Enterprise Message Service > DATA STORAGE tab.

2. In the Compaction region, click the Condense Interval, Condense Raw Time, and Compaction Rules fields and specify the desired settings.

Note: When you click in the **Compaction Rules** field, the **Copy default text to clipboard** link appears, which allows you copy the default text (that appears in the field) and paste it into the field. This allows you to easily edit the string rather than creating the string from scratch.

EMSMON-LOCAL -	TIBCO EMS Monit	tor			
CO Enterprise Mess	age Service*				
CONNECTIONS		DATA COLLECTION		DATA STORAGE	
Compaction Set the compaction rules for history. The Conder	ise Interval and Condense Raw Time are i	in seconds.			
60	Conder 1200	nse Raw Time	Compaction Rules 1h - ;1d 5m ;2w 15	im	
Duration Set the number of seconds between data update Expire Time	is before metrics are expired or deleted.	Time			
Set the number of seconds between data update					
Per the number of seconds between data update Expire Time 45	Delete				
Set the number of seconds between data update Expire Time	- Delete 3600			Default	

Defining Expiration and Deletion Duration for EMSMON Metrics

The data for each metric is stored in a specific cache and, when the data is not updated in a certain period of time, that data will either be marked as expired or, if it has been an extended period of time, it will be deleted from the cache altogether. By default, metric data will be set to expired when the data in the cache has not been updated within 45 seconds. Also, by default, if the data has not been updated in the cache within 3600 seconds, it will be removed from the cache. The **Expire Time** field applies to the following cache: EmsCompdestTotals. The **Delete Time** field applies to the following caches: EmsJmsAdminMetrics, EmsQueues, EmsQueueTotalsByServer, EmsQueueInActivityTime, EmsQueueStt, EmsQueueOutActivityTime, EmsBridges, EmsProducers, EmsConsumers, EmsDurables,

EmsDestinations, EmsUsers, EmsTopicsExt, and EmsTopicOutActivityTime. To modify these defaults:

- 1. Navigate to the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO Enterprise Message Service > DATA STORAGE tab.
- 2. In the **Duration** region, click the **Expire Time** and **Delete Time** fields and specify the desired settings.

≡ EMSMON-LOCAL - TIBCO EMS	6 Monitor	:
TIBCO Enterprise Message Service*	:	
CONNECTIONS	DATA COLLECTION	DATA STORAGE
Duration Set the number of seconds between data updates before metrics are expire	d or deleted.	-
Expire Time	Delete Time	
45	3600	
History Storage Select metrics the Historian will store in the history database. Metrics that an	e not listed do not support storing history.	
Admin Statistics		Default
Connections		
Consumers		
Ourables		
Producers		Default

Enabling/Disabling Storage of EMSMON Historical Data

The History Storage section allows you to select which metrics you want the Historian to store in the history database. By default, historical EMS Connections, Producers, and Consumers data is not saved to the database. All other metrics are saved by default. To enable the collection of historical data, perform the following steps:

- 1. Navigate to the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO Enterprise Message Service > DATA STORAGE tab.
- 2. In the **History Storage** region, select the toggles for the various metrics that you want to collect. Blue is enabled, gray is disabled.

≡ EMSMON-LOCAL - TIBCO EMS	S Monitor	:
TIBCO Enterprise Message Service	*	
CONNECTIONS	DATA COLLECTION	DATA STORAGE
History Storage Select metrics the Historian will store in the history database. Metrics that a	are not listed do not support storing history.	*
Admin Statistics		
Connections		
Consumers		Default
Durables		Default
Producers		Default
Queue Totals		Default
Queues		
Queues (Extended)		
Route Counts		Default

Defining a Prefix for All History Table Names for EMSMON Metrics

The **History Table Name Prefix** field allows you to define a prefix that will be added to the database table names so that the Monitor can differentiate history data between data servers when you have multiple data servers with corresponding Historians using the same solution package(s) and database. In this case, each Historian needs to save to a different table, otherwise the corresponding data server will load metrics from both Historians on startup. Once you have defined the **History Table Name Prefix**, you will need to create the corresponding tables in your database as follows:

- Locate the .sql template for your database under RTVAPM_HOME/emsmon/dbconfig and make a copy of it
- Add the value you entered for the History Table Name Prefix to the beginning of all table names in the copied .sql template
- Use the copied .sql template to create the tables in your database

To add the prefix:

- 1. Navigate to the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO Enterprise Message Service > DATA STORAGE tab.
- 2. Click on the **History Table Name Prefix** field and enter the desired prefix name.

≡ EMSMON-LOCAL - TIBCO EMS	Monitor	:
TIBCO Enterprise Message Service*		
CONNECTIONS	DATA COLLECTION	DATA STORAGE
Routes		Default
Server Info		
Server Info (Extended)		
Topic Totals		
Topics		
Topics (Extended)		
History Table Name Prefix Enter a value to prepend to the history table names for all metrics.		
Note that this requires a change to your history database schema.		

Troubleshoot

This section includes:

- "Log Files"
- "JAVA_HOME"
- Permissions"
- "Network/DNS"
- "Verify Data Received from Data Server"
- "Verify Port Assignments"

Log Files

When a Monitor component encounters an error, it outputs an error message to the console and/or to the corresponding log file. If you encounter issues, look for errors in the following log files:

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

which are located in the **RTViewEnterpriseMonitor/emsample/servers/emsmon/logs** directory.

Logging is enabled by default. If you encounter issues with log files, verify the **logs** directory exists in the **RTViewEnterpriseMonitor/emsample/servers/emsmon** directory.

JAVA_HOME

If the terminal window closes after executing the **start_rtv** command, verify that JAVA_HOME is set correctly.

Permissions

If there are permissions-related errors in the response from the **start_rtv** command, check ownership of the directory structure.

Network/DNS

If any log file shows reference to an invalid URL, check your system's hosts file and confirm with your Network Administrator whether your access to the remote system is being blocked.

Verify Data Received from Data Server

If you encounter problems collecting data, restart the Data Server, start the Monitor, and go to the **Admin** tab and select **Architecture> RTView Cache Tables** in the navigation tree. Select **EMSMON-LOCAL** from the **Data Server** drop down list, and search for all caches that start with "EMSMON." Make sure these caches are populated (the number of **Rows** and **Columns** in the table should be greater than 0). If not, there might be a problem with the connection to the Data Server.

Verify Port Assignments

If the display server or Historian fail to connect to the Data Server or they receive no data, verify the ports are assigned correctly in your properties files and restart the Data Server.

Upgrading the Monitor

This section describes the steps necessary to upgrade existing RTView EMS Monitor applications. It is organized by version. To upgrade your application, follow the steps for each version between the version you are upgrading from and the version to which you are upgrading.

- "Version 4.2"
- "Version 4.1"
- "Version 4.0"
- "Version 3.8"
- "Version 3.7"
- "Version 3.6"
- "Version 3.5"
- "Version 3.4"
- "Version 3.3"
- "Version 3.2"
- "Version 3.1"
- "Version 3.0"

Version 4.2

No upgrade steps required.

Version 4.1

No upgrade steps required.

Version 4.0

No upgrade steps required.

Version 3.8

No upgrade steps required.

Version 3.7

No upgrade steps required

Version 3.6

Sender/receiver deployments

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

 If the project properties files overwrite the sender.sl.rtview.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.rtview.sub=\$rtvAgentTarget:'localhost:3172'

would be changed to

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

 If the project properties file adds additional targets using the sender.sl.rtview.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.rtview.cache.config=pck_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.

Version 3.5

No upgrade steps required.

Version 3.4

No upgrade steps required.

Version 3.3

A missing index that prevented the correct storage of pending message count and pending message size in the **EmsDurables** cache and history has been fixed.

To upgrade, drop the **EMS_DURABLES_TABLE** from your RTVHISTORY database and recreate the table with the appropriate table creation SQL statement for your platform. These SQL statements are available in the **rtvapm\emsmon\dbconfig** directory.

Version 3.2

No upgrade steps required.

Version 3.1

No upgrade steps required.

Version 3.0

The types of several rate metrics were converted to real numbers to account for the loss of resolution when compaction (by averaging the metrics) occurred.

Follow the appropriate alter table SQL syntax to apply the change to your supported DB platforms (Oracle not needed).

DB2

ALTER TABLE "EMS_CONSUMERS" ALTER COLUMN "consumerByteRate" SET DATA TYPE DOUBLE; ALTER TABLE "EMS_CONSUMERS" ALTER COLUMN "consumerMessageRate" SET DATA TYPE DOUBLE;

ALTER TABLE "EMS_DURABLES"

ALTER COLUMN "pendingMessageCount" SET DATA TYPE DOUBLE;

ALTER TABLE "EMS_DURABLES"

ALTER COLUMN "pendingMessageSize" SET DATA TYPE DOUBLE;

ALTER TABLE "EMS_PRODUCERS"

ALTER COLUMN "producerByteRate" SET DATA TYPE DOUBLE;

ALTER TABLE "EMS_PRODUCERS"

ALTER COLUMN "producerMessageRate" SET DATA TYPE DOUBLE;

ALTER TABLE "EMS_QUEUETOTALS" ALTER COLUMN "inboundByteRate" SET DATA TYPE DOUBLE; ALTER TABLE "EMS_QUEUETOTALS" ALTER COLUMN "inboundMessageRate" SET DATA TYPE DOUBLE; ALTER TABLE "EMS_QUEUETOTALS" ALTER COLUMN "outboundByteRate" SET DATA TYPE DOUBLE; ALTER TABLE "EMS_QUEUETOTALS" ALTER COLUMN "outboundMessageRate" SET DATA TYPE DOUBLE; ALTER TABLE "EMS_QUEUETOTALS" ALTER COLUMN "outboundMessageRate" SET DATA TYPE DOUBLE; ALTER TABLE "EMS_QUEUETOTALS" ALTER TABLE "EMS_QUEUETOTALS" ALTER COLUMN "pendingMessageCount" SET DATA TYPE DOUBLE; ALTER TABLE "EMS_QUEUETOTALS" ALTER TABLE "EMS_QUEUETOTALS"

ALTER TABLE "EMS_QUEUES"

ALTER COLUMN "inboundByteRate" SET DATA TYPE DOUBLE; ALTER TABLE "EMS_QUEUES" ALTER COLUMN "inboundMessageRate" SET DATA TYPE DOUBLE;

- ALTER TABLE "EMS_QUEUES"
- ALTER COLUMN "outboundByteRate" SET DATA TYPE DOUBLE;
- ALTER TABLE "EMS_QUEUES"
- ALTER COLUMN "outboundMessageRate" SET DATA TYPE DOUBLE;
- ALTER TABLE "EMS_QUEUES"
- ALTER COLUMN "pendingMessageCount" SET DATA TYPE DOUBLE;
- ALTER TABLE "EMS_QUEUES"
- ALTER COLUMN "pendingMessageSize" SET DATA TYPE DOUBLE;
- ALTER TABLE "EMS_ROUTES"
- ALTER COLUMN "outboundByteRate" SET DATA TYPE DOUBLE;
- ALTER TABLE "EMS_ROUTES"
- ALTER COLUMN "outboundMessageRate" SET DATA TYPE DOUBLE;
- ALTER TABLE "EMS_ROUTES"
- ALTER COLUMN "inboundByteRate" SET DATA TYPE DOUBLE;
- ALTER TABLE "EMS_ROUTES"
- ALTER COLUMN "inboundMessageRate" SET DATA TYPE DOUBLE;

ALTER TABLE "EMS_SERVERINFO"

- ALTER COLUMN "inboundBytesRate" SET DATA TYPE DOUBLE;
- ALTER TABLE "EMS_SERVERINFO"
- ALTER COLUMN "inboundMessageRate" SET DATA TYPE DOUBLE;
- ALTER TABLE "EMS_SERVERINFO"
- ALTER COLUMN "outboundBytesRate" SET DATA TYPE DOUBLE;
- ALTER TABLE "EMS_SERVERINFO"
- ALTER COLUMN "outboundMessageRate" SET DATA TYPE DOUBLE;
- ALTER TABLE "EMS_SERVERINFO"
- ALTER COLUMN "pendingMessageCount" SET DATA TYPE DOUBLE;
- ALTER TABLE "EMS_SERVERINFO"
- ALTER COLUMN "pendingMessageSize" SET DATA TYPE DOUBLE;

ALTER TABLE "EMS_TOPICTOTALS"

ALTER COLUMN "inboundByteRate" SET DATA TYPE DOUBLE;

ALTER TABLE "EMS_TOPICTOTALS"

ALTER COLUMN "inboundMessageRate" SET DATA TYPE DOUBLE;

- ALTER TABLE "EMS_TOPICTOTALS"
- ALTER COLUMN "outboundByteRate" SET DATA TYPE DOUBLE;

ALTER TABLE "EMS_TOPICTOTALS"

ALTER COLUMN "outboundMessageRate" SET DATA TYPE DOUBLE;

ALTER TABLE "EMS_TOPICTOTALS"

ALTER COLUMN "pendingMessageCount" SET DATA TYPE DOUBLE;

ALTER TABLE "EMS_TOPICTOTALS"

ALTER COLUMN "pendingMessageSize" SET DATA TYPE DOUBLE;

ALTER TABLE "EMS_TOPICS"

ALTER COLUMN "inboundByteRate" SET DATA TYPE DOUBLE;

ALTER TABLE "EMS_TOPICS"

ALTER COLUMN "inboundMessageRate" SET DATA TYPE DOUBLE;

ALTER TABLE "EMS_TOPICS"

ALTER COLUMN "outboundByteRate" SET DATA TYPE DOUBLE;

ALTER TABLE "EMS_TOPICS"

ALTER COLUMN "outboundMessageRate" SET DATA TYPE DOUBLE;

ALTER TABLE "EMS_TOPICS"

ALTER COLUMN "pendingMessageCount" SET DATA TYPE DOUBLE;

ALTER TABLE "EMS_TOPICS"

ALTER COLUMN "pendingMessageSize" SET DATA TYPE DOUBLE;

SQL Server

ALTER TABLE [EMS_CONSUMERS] ALTER COLUMN [consumerByteRate] FLOAT ALTER TABLE [EMS_CONSUMERS] ALTER COLUMN [consumerMessageRate] FLOAT

ALTER TABLE [EMS_DURABLES] ALTER COLUMN [pendingMessageCount] FLOAT ALTER TABLE [EMS_DURABLES] ALTER COLUMN [pendingMessageSize] FLOAT

ALTER TABLE [EMS_PRODUCERS] ALTER COLUMN [producerByteRate] FLOAT ALTER TABLE [EMS_PRODUCERS] ALTER COLUMN [producerMessageRate] FLOAT

ALTER TABLE [EMS_QUEUETOTALS] ALTER COLUMN [inboundByteRate] FLOAT ALTER TABLE [EMS_QUEUETOTALS] ALTER COLUMN [inboundMessageRate] FLOAT ALTER TABLE [EMS_QUEUETOTALS] ALTER COLUMN [outboundByteRate] FLOAT ALTER TABLE [EMS_QUEUETOTALS] ALTER COLUMN [outboundMessageRate] FLOAT ALTER TABLE [EMS_QUEUETOTALS] ALTER COLUMN [pendingMessageCount] FLOAT ALTER TABLE [EMS_QUEUETOTALS] ALTER COLUMN [pendingMessageSize] FLOAT

ALTER TABLE [EMS_QUEUES] ALTER COLUMN [inboundByteRate] FLOAT ALTER TABLE [EMS_QUEUES] ALTER COLUMN [inboundMessageRate] FLOAT ALTER TABLE [EMS_QUEUES] ALTER COLUMN [outboundByteRate] FLOAT ALTER TABLE [EMS_QUEUES] ALTER COLUMN [outboundMessageRate] FLOAT ALTER TABLE [EMS_QUEUES] ALTER COLUMN [pendingMessageCount] FLOAT ALTER TABLE [EMS_QUEUES] ALTER COLUMN [pendingMessageSize] FLOAT

ALTER TABLE [EMS_ROUTES] ALTER COLUMN [outboundByteRate] FLOAT ALTER TABLE [EMS_ROUTES] ALTER COLUMN [outboundMessageRate] FLOAT ALTER TABLE [EMS_ROUTES] ALTER COLUMN [inboundByteRate] FLOAT ALTER TABLE [EMS_ROUTES] ALTER COLUMN [inboundMessageRate] FLOAT

ALTER TABLE [EMS_SERVERINFO] ALTER COLUMN [inboundBytesRate] FLOAT ALTER TABLE [EMS_SERVERINFO] ALTER COLUMN [inboundMessageRate] FLOAT ALTER TABLE [EMS_SERVERINFO] ALTER COLUMN [outboundBytesRate] FLOAT ALTER TABLE [EMS_SERVERINFO] ALTER COLUMN [outboundMessageRate] FLOAT ALTER TABLE [EMS_SERVERINFO] ALTER COLUMN [pendingMessageCount] FLOAT ALTER TABLE [EMS_SERVERINFO] ALTER COLUMN [pendingMessageSize] FLOAT

ALTER TABLE [EMS_TOPICTOTALS] ALTER COLUMN [inboundByteRate] FLOAT ALTER TABLE [EMS_TOPICTOTALS] ALTER COLUMN [inboundMessageRate] FLOAT ALTER TABLE [EMS_TOPICTOTALS] ALTER COLUMN [outboundByteRate] FLOAT ALTER TABLE [EMS_TOPICTOTALS] ALTER COLUMN [outboundMessageRate] FLOAT ALTER TABLE [EMS_TOPICTOTALS] ALTER TABLE [EMS_TOPICTOTALS] ALTER COLUMN [pendingMessageCount] FLOAT ALTER TABLE [EMS_TOPICTOTALS] ALTER TABLE [EMS_TOPICTOTALS]

ALTER TABLE [EMS_TOPICS] ALTER COLUMN [inboundByteRate] FLOAT ALTER TABLE [EMS_TOPICS] ALTER COLUMN [inboundMessageRate] FLOAT ALTER TABLE [EMS_TOPICS] ALTER COLUMN [outboundByteRate] FLOAT ALTER TABLE [EMS_TOPICS] ALTER COLUMN [outboundMessageRate] FLOAT ALTER TABLE [EMS_TOPICS] ALTER COLUMN [pendingMessageCount] FLOAT ALTER TABLE [EMS_TOPICS] ALTER TABLE [EMS_TOPICS] ALTER COLUMN [pendingMessageSize] FLOAT

MySQL

ALTER TABLE "EMS_CONSUMERS" MODIFY "consumerByteRate" DOUBLE , MODIFY "consumerMessageRate" DOUBLE ; ALTER TABLE "EMS_DURABLES" MODIFY "pendingMessageCount" DOUBLE,

MODIFY "pendingMessageSize" DOUBLE ;

ALTER TABLE "EMS_PRODUCERS" MODIFY "producerByteRate" DOUBLE, MODIFY "producerMessageRate" DOUBLE ;

ALTER TABLE "EMS QUEUETOTALS" MODIFY "inboundByteRate" DOUBLE , MODIFY "inboundMessageRate" DOUBLE , MODIFY "outboundByteRate" DOUBLE, MODIFY "outboundMessageRate" DOUBLE, MODIFY "pendingMessageCount" DOUBLE , MODIFY "pendingMessageSize" DOUBLE ;

ALTER TABLE "EMS QUEUES" MODIFY "inboundByteRate" DOUBLE, MODIFY "inboundMessageRate" DOUBLE, MODIFY "outboundByteRate" DOUBLE, MODIFY "outboundMessageRate" DOUBLE, MODIFY "pendingMessageCount" DOUBLE, MODIFY "pendingMessageSize" DOUBLE ;

ALTER TABLE "EMS_ROUTES"

MODIFY "outboundByteRate" DOUBLE, MODIFY "outboundMessageRate" DOUBLE, MODIFY "inboundByteRate" DOUBLE, MODIFY "inboundMessageRate" DOUBLE ;

ALTER TABLE "EMS_SERVERINFO" MODIFY "inboundBytesRate" DOUBLE , MODIFY "inboundMessageRate" DOUBLE, MODIFY "outboundBytesRate" DOUBLE, MODIFY "outboundMessageRate" DOUBLE, MODIFY "pendingMessageCount" DOUBLE , MODIFY "pendingMessageSize" DOUBLE;

ALTER TABLE "EMS_TOPICTOTALS" MODIFY "inboundByteRate" DOUBLE , MODIFY "inboundMessageRate" DOUBLE , MODIFY "outboundByteRate" DOUBLE , MODIFY "outboundMessageRate" DOUBLE , MODIFY "pendingMessageCount" DOUBLE , MODIFY "pendingMessageSize" DOUBLE ;

ALTER TABLE "EMS_TOPICS" MODIFY "inboundByteRate" DOUBLE , MODIFY "inboundMessageRate" DOUBLE , MODIFY "outboundByteRate" DOUBLE , MODIFY "outboundMessageRate" DOUBLE , MODIFY "pendingMessageCount" DOUBLE ,

SyBase

Altering the data type of columns in a Sybase table requires enabling the "select into" option for your database. Consult with your DB Admin on the correct procedure for your installation.

ALTER TABLE "EMS_CONSUMERS" MODIFY "consumerByteRate" FLOAT ALTER TABLE "EMS_CONSUMERS" MODIFY "consumerMessageRate" FLOAT

ALTER TABLE "EMS_DURABLES" MODIFY "pendingMessageCount" FLOAT ALTER TABLE "EMS_DURABLES" MODIFY "pendingMessageSize" FLOAT

ALTER TABLE "EMS_PRODUCERS" MODIFY "producerByteRate" FLOAT ALTER TABLE "EMS_PRODUCERS" MODIFY "producerMessageRate" FLOAT

ALTER TABLE "EMS_QUEUETOTALS" MODIFY "inboundByteRate" FLOAT ALTER TABLE "EMS_QUEUETOTALS" MODIFY "inboundMessageRate" FLOAT ALTER TABLE "EMS_QUEUETOTALS" MODIFY "outboundByteRate" FLOAT ALTER TABLE "EMS_QUEUETOTALS" MODIFY "outboundMessageRate" FLOAT ALTER TABLE "EMS_QUEUETOTALS" MODIFY "pendingMessageCount" FLOAT ALTER TABLE "EMS_QUEUETOTALS" MODIFY "pendingMessageSize" FLOAT

ALTER TABLE "EMS_QUEUES" MODIFY "inboundByteRate" FLOAT

ALTER TABLE "EMS_TOPICS" MODIFY "inboundByteRate" FLOAT ALTER TABLE "EMS_TOPICS" MODIFY "inboundMessageRate" FLOAT ALTER TABLE "EMS_TOPICS" MODIFY "outboundByteRate" FLOAT ALTER TABLE "EMS_TOPICS" MODIFY "outboundMessageRate" FLOAT ALTER TABLE "EMS_TOPICS" MODIFY "pendingMessageCount" FLOAT ALTER TABLE "EMS_TOPICS" MODIFY "pendingMessageSize" FLOAT

ALTER TABLE "EMS_TOPICTOTALS" MODIFY "inboundByteRate" FLOAT ALTER TABLE "EMS_TOPICTOTALS" MODIFY "inboundMessageRate" FLOAT ALTER TABLE "EMS_TOPICTOTALS" MODIFY "outboundByteRate" FLOAT ALTER TABLE "EMS_TOPICTOTALS" MODIFY "outboundMessageRate" FLOAT ALTER TABLE "EMS_TOPICTOTALS" MODIFY "pendingMessageCount" FLOAT ALTER TABLE "EMS_TOPICTOTALS" MODIFY "pendingMessageSize" FLOAT

ALTER TABLE "EMS_SERVERINFO" MODIFY "inboundBytesRate" FLOAT ALTER TABLE "EMS_SERVERINFO" MODIFY "inboundMessageRate" FLOAT ALTER TABLE "EMS_SERVERINFO" MODIFY "outboundBytesRate" FLOAT ALTER TABLE "EMS_SERVERINFO" MODIFY "outboundMessageRate" FLOAT ALTER TABLE "EMS_SERVERINFO" MODIFY "pendingMessageCount" FLOAT ALTER TABLE "EMS_SERVERINFO" MODIFY "pendingMessageSize" FLOAT

ALTER TABLE "EMS_ROUTES" MODIFY "outboundByteRate" FLOAT ALTER TABLE "EMS_ROUTES" MODIFY "outboundMessageRate" FLOAT ALTER TABLE "EMS_ROUTES" MODIFY "inboundByteRate" FLOAT ALTER TABLE "EMS_ROUTES" MODIFY "inboundMessageRate" FLOAT

ALTER TABLE "EMS_QUEUES" MODIFY "inboundMessageRate" FLOAT ALTER TABLE "EMS_QUEUES" MODIFY "outboundByteRate" FLOAT ALTER TABLE "EMS_QUEUES" MODIFY "outboundMessageRate" FLOAT ALTER TABLE "EMS_QUEUES" MODIFY "pendingMessageCount" FLOAT ALTER TABLE "EMS_QUEUES" MODIFY "pendingMessageSize" FLOAT

EMS Monitor Views/Displays

The following EMS Monitor Views (and their associated displays) can be found under **Components** tab **> Middleware > TIBCO EMS Messaging** once EMS Monitor is installed:

- "All EMS Servers"
- "Single EMS Server"
- "EMS Topics"
- "EMS Queues"
- "EMS Clients"

All EMS Servers

These displays present performance metrics and alert status for all EMS servers. The first three displays show different views of the same data:

- "All Servers Heatmap": Heatmap shows server and alert status for all EMS servers.
- "All Servers Table": Table shows all available utilization metrics for all EMS servers.
- "All Servers Grid": Grid enables you to see general performance of EMS servers in parallel. If you have few servers, this display is useful for verifying servers are active and generally performing as expected.
- "All Servers Topology": Topology of server routes and connections, as well as the status of active servers and standby servers that form a fault-tolerant pair.

All Servers Heatmap

View status and alerts of all EMS servers. Use the **Metric** drop-down menu to view the **Alert Severity**, **Alert Count**, **Connections**, **Pending Messages**, **Inbound Message Rate**, **Outbound Message Rate**, or **Message Memory Percent (%)**.

The heatmap is organized by host, each rectangle representing a server. The rectangle color indicates the most critical alert state. Click on a node to drill-down to the Single Server Summary display and view metrics for a particular server. Toggle between the commonly accessed **Table**, **Grid**, and **Heatmap** displays. Mouse-over rectangles to view more details about host performance and status.

🗲 Table	Grid	All E	EMS Serv	ers - Heatmap	0)1-Jul-2016 1(0:30 🗳 Data (ок 🔶 🕜
Server Count: 32	Active: 14		Total Msg	gs In / s: 277.0	Out / s: 2	268.0	Pending: 2	97,431
Show: 🖌 Inactive	Servers Sta	ndby Servers	Names	Log Auto Met	tric: Alert Se	everity 🗸	0 1	2
100 100 000 115		5 Servers organi 192.168.200.117		t / Server where C		ic 192.168.200.1	100	00 000 101
192.168.200.115	192.168.200.116	192.168.200.117	192.168	.200.118 192.168.	200.119	192.168.200.1	192.1	168.200.121
192.168.200.131	192.168.200.132	192.168.200.142	192.168	.200.153		192.168.200.1	171	
192	.168.200.172	192.168.200.17	192.168.200.34	192,168,200,68	SI	LHOST10	SLHOST21	TESTBED
							-	

 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. 	 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
displays.	current and valid.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Fields and Data

This display includes:

	Server Count	The total number of active, inactive, and standby EMS servers.				
	Active	The total number of currently active EMS servers.				
	Total Msgs In/	In/s	The total number of inbound messages, per second, from all producers and consumers on all EMS servers.			
	5	Out/s	The total number of outbound messages, per second, from all producers and consumers on all EMS servers.			
		Pending	The total number of pending messages waiting to be processed on all EMS servers. Click to open the "All Servers Table" display.			

- **Show** Select the type of servers for which to display data. By default, all active servers are displayed.
 - Inactive
ServersSelect to include servers that are not currently running.Inactive Serversare represented in dark red.
 - Standby
ServersSelect to include servers that are currently in Standby mode.
Standby Servers are represented in blue.
 - Names Select to display the names of servers on the hosts.
 - Log This option enables visualization on a logarithmic scale, and should be used when the range in your data is very broad. For example, if you have data that ranges from the tens to the thousands, then data in the range of tens will be neglected visually if you do not check this option. This option makes data on both extreme ranges visible by using the logarithmic of the values rather than the actual values.
 - Auto When checked, the values of the selected metric are auto-scaled to its highest defined value. When unchecked, the values of the selected metric display based on the threshold defined for the alert associated with the selected metric. Selecting Auto helps to visualize the range of the values currently present for the selected metric instead of the threshold of the alert that has been associated with the metric. All metrics that have not been associated in the heatmap defaults with alerts use a monochromatic color gradient bar (whites and greens). All metrics that have been associated in the heatmap defaults with alerts use a multi-chromatic color gradient bar (reds, yellows, white, and greens).
- **Metric** Select the metric driving the heatmap display. The default is Alert Severity. Each **Metric** has a color gradient bar that maps values to colors. The heatmap organizes the servers by host, where each rectangle represents a server. Mouse-over any rectangle to display the current values of the metrics for the Server. Click on a rectangle to drill-down to the associated "Single Server Summary" display for a detailed view of metrics for that particular server.
 - Alert Severity The maximum alert level in the item (index) associated with the rectangle. Values range from 0 to 2, as indicated in the color gradient bar severity.

2 -- Metrics that have exceeded their specified **ALARMLEVEL** threshold and have an Alert Severity value of **2** are shown in red. For a given rectangle, this indicates that one or more metrics have exceeded their alarm threshold.

1 -- Metrics that have exceeded their specified
 WARNINGLEVEL threshold and have an Alert Severity value of
 1 are shown in yellow. For a given rectangle, this indicates that one or more metrics have exceeded their warning threshold.

0 -- Metrics that have not exceeded either specified threshold have an Alert Severity value of **0** and are shown in green. For a given rectangle, this indicates that no metrics have exceeded a specified alert threshold.

Alert Count The total number of alarm and warning alerts in a given item (index) associated with the rectangle.

The color gradient bar **1** shows the range of the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the middle value of the range.

Connections	The total number of connections in a given item (index) associated with the rectangle. The color gradient bar shows the range of the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of connections in the heatmap. The middle value in the gradient bar indicates the middle value of the range. The Auto option does not impact this metric.
Pend	The total number of pending messages in a given item (index)
Messages	associated with the rectangle. The color gradient bar 1500 1500 1500 shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from 0 to the alert threshold of EmsServerPendingMsgsHigh , which is 3500 . The middle value in the gradient bar indicates the middle value of the range (the default is 1750).
	When Auto is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.
In Msg Rate	The total number of inbound messages in a given item (index) associated with the rectangle. The color gradient bar leave the shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from 0 to the alert threshold of EmsServerInMsgRateHigh , which is 40 . The middle value in the gradient bar indicates the middle value of the range (the default is 20).
	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.
Out Msg Rate	The total number of outbound messages in a given item (index) associated with the rectangle. The color gradient bar leave the range of the value/color mapping. By default, the numerical values in the gradient bar range from 0 to the alert threshold of EmsServerOutMsgRateHigh , which is 40 . The middle value in the gradient bar indicates the middle value of the range (the default is 20).
	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.
Mem Msg %	The percent (%) memory used by messages in a given item (index) associated with the rectangle. The color gradient bar default, the numerical values in the gradient bar range from 0 to the alert threshold of EmsServerMemUsedHigh , which is 40 . The middle value in the gradient bar indicates the middle value of the range (the default is 20).
	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 Servers Table

Investigate detailed utilization metrics for all EMS servers. The **All Servers Table** contains all metrics available for servers, including the number of current client connections. Each row in the table contains data for a particular server. Click a column header to sort column data in numerical or alphabetical order. Click on a table row to drill-down to the "Single Server Summary" display and view metrics for that particular server. Toggle between the commonly accessed **Table**, **Grid**, and **Heatmap** displays.

Server Count: 32 Active:	14 Total	Fotal Msgs In / s: 171.0 Out / s		211.0	Pending: 297,459	
Show: V Inactive Servers	Standby Servers					
URL	serverName	Host	Expired	Alert Level	state	versionli
tcp://192.168.200.115:7222	EMS-SERVER	192.168.200.115		Contraction	Active	6.0.0.8
tcp://192.168.200.116:7222	EMS-SERVER	192.168.200.116		l õ	Active	6.0.0.8
tcp://192.168.200.117:7222	EMS-SERVER	192.168.200.117		l õ	Active	6.1.0.6
tcp://192.168.200.118:7222	EMS-SERVER	192.168.200.118		l õ	Active	6.3.0.5
tcp://192.168.200.119:7222	EMS-SERVER	192.168.200.119		l õ	Active	6.3.0.5
tcp://192.168.200.120:7222	Unknown (tcp://192.168.200	192.168.200.120	L L	6		
tcp://192.168.200.121:7222	EMS-SERVER	192.168.200.121		()	Active	6.0.0.8
tcp://192.168.200.131:7222	TESTBED-1 (tcp://192.168.2	192.168.200.131	L L	6		
tcp://192.168.200.132:7222	TESTBED-2 (tcp://192.168.2	192.168.200.132		6		
tcp://192.168.200.142:7222	Unknown (tcp://192.168.200	192.168.200.142		6		
tcp://192.168.200.153:7222	EMS-SERVER-153	192.168.200.153			Active	8.2.2.3
tcp://192.168.200.171:6010	EMS-SLDEMOS2-6010	192.168.200.171		l õ	Active	6.0.0.8
tcp://192.168.200.171:6020	EMS-SLDEMOS2-6020	192.168.200.171		l õ	Active	6.0.0.8
tcp://192.168.200.171:6030	EMS-SLDEMOS2-6030	192.168.200.171		l õ	Active	6.0.0.8
tcp://192.168.200.172:8011	EMS-SLDEMOS3-8010	192.168.200.172		l 🙆	Active	6.0.0.8
tcp://192.168.200.172:8020	EMS-SLDEMOS3-8020	192.168.200.172		l õ	Active	6.0.0.8
tcp://192.168.200.172:8030	EMS-SLDEMOS3-8030	192.168.200.172		l 🙆	Active	6.0.0.8
tcp://192.168.200.172:8031	Unknown (tcp://192.168.200	192.168.200.172	V	6		
tcp://192.168.200.173:9010	EMS-SLDEMOS4-9010	192.168.200.173			Active	6.0.0.8
tcp://192.168.200.34:7222	TESTBED-34 (tcp://192.168	192.168.200.34	V	6	İ.	
tcp://192.168.200.68:7222	Unknown (tcp://192.168.200	192.168.200.68		6		
tcp://192.168.200.68:7224	Unknown (tcp://192.168.200	192.168.200.68	V	6		
tcp://SLHOST10:7010	Unknown (tcp://SLHOST10:7	. SLHOST10		6		
tcp://SLHOST10:7011	Unknown (tcp://SLHOST10:7	. SLHOST10	V	6		
tcp://SLHOST21:7222	EMS-SERVER-SLHOST21 (t	. SLHOST21		6		
tcp://TESTBED-3:7022	Unknown (tcp://TESTBED-3:	TESTBED-3		6		

Title Bar (possible features are):	on Data OK Data connection state. Red indicates the Data
Open the previous and upper display.	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 an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed 	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
displays.	current and valid.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Fields and Data

Server Count	The total number of active, represented in dark red. St	inactive and standby EMS servers. Inactive Servers are and by Servers are represented in blue.
Active	The total number of current	ly active EMS servers.
Total Msgs	In/s	The total number of inbound messages, per second, from all producers and consumers on all EMS servers.
	Out/s	The total number of outbound messages, per second, from all producers and consumers on all EMS servers.
	Pending	The total number of inbound and outbound messages waiting to be processed on all EMS servers.

Show Select the type of servers to display data for. By default, all active servers are displayed.

Inactive Servers	Select to include servers that are not processing requests in the table. Inactive Servers are represented in dark red.
Standby Servers	Select to include servers that are not currently running. Standby Servers are represented in blue.

- **Table**This table shows information for all EMS servers. Click on a table row to drill-down to
the "Single Server Summary" display and view metrics for that particular server.
 - Select to include servers that are currently in Standby URL mode. **Standby Servers** are represented in blue. serverName The name of the server. Host The name or IP address for the host server. Expired When checked, performance data has not been received within the time specified (in seconds) in the **Expire Time** field in the **Duration** region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO Enterprise Message Service > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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. The maximum alert level in the item (index) associated with the rectangle. Values range from 0 to 2, as indicated in the color gradient bar, where $\bf 2$ is the greatest Alert Alert Level Severity. -- One or more alerts have exceeded their specified ALARMLEVEL threshold, have an Alert Severity value of 2, and are shown in red. -- One or more alerts have exceeded their specified **WARNINGLEVEL** threshold, have an Alert Severity value of 1, and are shown in yellow. -- No alerts have exceeded an alert threshold, which have an Alert Severity value of **0**, and are shown in green. state The server status: Active -- The server is currently processing requests. **Inactive** -- The server is not currently processing requests. **Inactive Servers** are represented in dark red. Standby -- The server is functioning as a backup for a primary server. **Standby Servers** are represented in blue. versionInfo The TIBCO EMS software version currently running. faultTolerantURL The IP address and port number for the source (application, server, and so forth) associated with the alert. The amount of database space, in bytes, occupied by asyncDBsize asynchronous data on the server. backupName The name of the backup server assigned as the backup to this server. connectionCount The number of clients currently connected to the server. diskReadRate The speed at which the server reads disk data.

The speed at which the server writes data to disk.

diskWriteRate

durableCount	The number of durables on the server.
inboundBytesRate	The rate of inbound messages in bytes per second.
inboundMessageCount	The number of inbound messages received by the server since the server was started.
inboundMessageRate	The rate of inbound messages in number of messages per second.
MaxMessageMemory	The maximum amount of memory, in bytes, allocated for use by messages on the server.
messageMemory	The amount of memory, in bytes, currently used by messages on the server.
messageMemoryPct	The amount of memory, in percent, used by messages on the server.
messageMemoryPooled	The currently allocated pool size, in bytes, for messages.
outboundBytesRate	The rate of outbound messages in bytes per second.
outboundMessageCount	The number of outbound messages sent by the server since the server was started.
outboundMessageRate	The rate of outbound messages in number of messages per second.
pendingMessageCount	The number of currently pending messages on the server.
pendingMessageSize	The amount of space, in bytes, pending messages use on the server.
processId	The process ID of the EMS server.
queueCount	The number of message queues.
startTime	The date and time that the server was started.
syncDBSize	The amount of database space, in bytes, occupied by synchronous data on the server.
topicCount	The number of currently active topics on the server.
upTime	The amount of time, in milliseconds, since the server was started.
time_stamp	The date and time this row of data was last updated.

All Servers Grid

Track and view in parallel the general performance of all EMS servers. Click on a node to drilldown to the "Single Server Summary" display and view detailed metrics for that particular server.

🗲 Heatmap Table	EMS All Servers Grid	01-Jul-2016 10:44 💉 Data OK 💠 💡
Server Count: 32 Active: 14	Total Msgs In / s: 189.0	Out / s: 142.0 Pending: 297,468
Show: 🖌 Inactive Servers 🗌 Standby	/ Servers Sort By: Server Name	Descending Time Range: 5 Mins
EMS-SERVER	400,000 01 State: Active 100	= PEND
Uptime: 112d 21:31 Pend Msgs: 297,313	Out Rate: 0.0	■ OUT
EMS-SERVER URL: tcp://192.168.200.116:7222	State: Active 400	PEND IN OUT
Uptime: 346d 06:23 Pend Msgs: 15	Out Rate: 81.0	10:41:30 10:42:30 10:43:30 10:44:30
EMS-SERVER URL: tcp://192.168.200.117:7222 Uptime: 72d 03:55 Pend Msgs: 0	State: Active 100 In Rate: 5.0 100 Out Rate: 5.0 10:39:30 10:40:30	PEND N OUT 10:41:30 10:42:30 10:43:30
EMS-SERVER URL: tcp://192.168.200.118:7222 Uptime: 562d 00:33 Pend Msgs: 0	State: Active	PEND N OUT
EMS-SERVER URL: tcp://192.168.200.119:7222	State: Active 100	PEND IN OUT
Uptime: 861d 02:04 Pend Msgs: 0	Out Rate: 9.0	10:41:30 10:42:30 10:43:30 10:44:30
EMS-SERVER	200	PEND

Title Bar (possible features are):	🐼 Data OK Data connection state. Red indicates the Data
 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 	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
displays.	current and valid.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Fields and Data

- **Server** The total number of active, inactive and standby EMS servers. Inactive Servers are represented in dark red. Standby Servers are represented in blue.
- Active The total number of currently active EMS servers.

Total Msgs	In/s	The total number of inbound messages, per second, from all producers and consumers on all EMS servers.
	Out/s	The total number of outbound messages, per second, from all producers and consumers on all EMS servers.
	Pending	The total number of inbound and outbound messages waiting to be processed on all EMS servers. Click to open the "All Servers Table" display.
Show	Select the type displayed.	of servers to display data for. By default, all active servers are
	Inactive Servers	Select to include servers that are not processing requests in the table. Inactive Servers are represented in dark red.
	Standby Servers	Select to include servers that are not currently running. Standby Servers are represented in blue.
Sort By	Server Name	Select to organize the servers in the grid by server name.
	Server URL	Select to organize the servers in the grid by server URL.
Descending	When checked,	lists servers in the grid in descending order.
Time Range	Select a time ra Days , or displa	nge from the drop down menu varying from 2 Minutes to Last 7 y All Data .
Grid	Server Name	The name of the server.
	URL	The URL for the server.
	Uptime	The amount of time, in milliseconds, since the server was started.
	Pend Msgs	The number of currently pending messages on the server.
	State	The server status: Active The server is currently processing requests. Inactive The server is not currently processing requests. Inactive Servers are represented in dark red. Standby The server is functioning as a backup for a primary server. Standby Servers are represented in blue.
	In Rate	The rate of inbound messages in messages per second.
	Out Rate	The rate of outbound messages in messages per second.
	Trend Graphs	 Shows message data for the server. Pend Traces the total number of pending messages on the server. In Traces the rate of inbound messages in messages per second.
		Out Traces the rate of outbound messages in messages per second.

All Servers Topology

View a server topology map for all EMS servers. Click on a node to drill-down to the "Single Server Summary" display and view metrics for that particular server.

Route Table		EMS Server Topology	01-Jul-2016 10:52 💠 Data OK 🔶 ?
Show Inactive Servers	Standby Servers	Connected Routes Only	Show Metrics
		102166200116	
		10016E200117 7222	
		1001168700119 7222	
		102 He pro Life 7722	
		102162700153 1022162700153 1022162700153 1022162700153 1022162700153	
		Martines Belline Handardard Belline Handardard Belline	
		1021621021 0010(A) 	
		102102102100116 1222	
		1992148.200110 1222	

Title Bar (possible features are):	🔯 Data OK Data connection state. Red indicates the Data
🗲 🔺 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Note: Clicking the **Route Table** button displays the **EMS Server Route Table** window. See "EMS Server Route Table" for more information.

Fields and Data

Show The total number of active, inactive and standby EMS servers. Inactive Servers are represented in dark red. Standby Servers are represented in blue. Select to show servers that are not processing requests in the Inactive topology. Inactive Servers are represented in dark red. Servers Select to show servers that are not processing requests in the Standby topology. Standby Servers are represented in blue. Servers Connected Select to show only routes that have an active connection. **Routes Only** Show Available on desktop application deployments only. Shows the total input message rates, per second, on the top of each server icon and the total output Metrics message rate on the bottom of each server icon. Topology Routes are shown between the active server and the standby server, which form a fault-tolerant pair. Either of the servers in a fault-tolerant pair can become the active server or the standby server. Show Standby Servers and Show Inactive Servers enable you to include or exclude standby and inactive servers. **Inactive Servers** are represented in dark red. **Standby Servers** are represented in blue. By default, standby servers are included in the topology and inactive servers are not. Typically, it takes about 30 seconds for a server to appear in the display after startup. The active server in a fault-tolerant pair appears in green with the suffix (A) appended to its URL. The standby server appears in blue, with the suffix (S) appended to its URL. Their link is blue and labeled **FT**. If the active server fails: • the failed server becomes inactive, its suffix changes to (X!), and the node turns red with a red outline. the standby server becomes active, its suffix changes to $(\mathbf{A}!)$, and the node turns green with a red outline. the link between the two servers turns red. If the standby server fails: • the failed server becomes inactive, its suffix changes to (X!), and the node turns red with a red outline. • the active servers' suffix changes to (A!) and it is outlined in red. the link between the two servers turns red. If a failed server recovers: • the recovered server becomes the standby server, its suffix changes to (**S**), and the node turns blue with a grey outline. the active servers' suffix (A!) changes to (A), and the red node outline changes back to grey. the link between the two servers changes back to blue. Suffix **A** -- This is the active server and it is running. Definition A! -- This is the active server and it is running but its standby has failed. **S** -- This is the standby server and it is running. X! -- The server is inactive. **Node Color** -- This is the active server and it is running. Definition Blue -- This is the standby server and it is in standby mode. -- The server is inactive.

Link Color	Blue The two servers in the pair are running.
Definition	One of the servers in the pair is inactive.
Outline Color Definition	Grey The two servers in the pair are running. One of the servers in the pair is inactive. If the node color indicates this server is running, its pair is inactive.

EMS Server Route Table

Displays metrics for server routes on all servers. Inbound metrics, such as **inboundByteRate**, indicate an in route to the server. Outbound metrics, such as **outboundByteRate**, indicate an out route to the server.

remoteURL	remoteName	connected	stalled	inboundByteRate	inboundMessa
tcp://192.168.200.171:6020,tcp://192.168.200.1	EMS-SLDEMOS2-6020		0	0.0	
tcp://192.168.200.171:6020,tcp://192.168.200.1	EMS-SLDEMOS2-6020	6	0	0.0	
tcp://192.168.200.171:6030,tcp://192.168.200.1	EMS-SLDEMOS2-6030	e e e e e e e e e e e e e e e e e e e	0	0.0	
tcp://192.168.200.171:6030,tcp://192.168.200.1	EMS-SLDEMOS2-6030	i 🧑 i	0	0.0	
tcp://192.168.200.172:8020,tcp://192.168.200.1	EMS-SLDEMOS3-8020	i č	0	0.0	
tcp://192.168.200.172:8020,tcp://192.168.200.1	EMS-SLDEMOS3-8020	ě	0	0.0	
tcp://192.168.200.172:8020,tcp://192.168.200.1	EMS-SLDEMOS3-8020	i 🍝 i	0	0.0	
tcp://192.168.200.172:8020,tcp://192.168.200.1	EMS-SLDEMOS3-8020	i 🍝 i	0	0.0	
cp://192.168.200.172:8030.tcp://192.168.200.1	EMS-SLDEMOS3-8030	i 🍝 i	0	0.0	
tcp://192.168.200.172:8030,tcp://192.168.200.1	EMS-SLDEMOS3-8030	i 🍝 i	0	0.0	
cp://192.168.200.172:8030.tcp://192.168.200.1	EMS-SLDEMOS3-8030	i 🍝 i	0	0.0	
cp://192.168.200.172:8030.tcp://192.168.200.1	EMS-SLDEMOS3-8030	i 🍝 i	0	0.0	
cp://localhost:7022	EMS-SERVER2	i 🍝 i	0	0.0	
cp://localhost:7022	EMS-SERVER2	ŏ	0	0.0	
cp://localhost:7022	EMS-SERVER2	i 🎽 i	0	0.0	
tcp://localhost:7022	EMS-SERVER2	i 🎽 i	0	0.0	
tcp://localhost:7022	EMS-SERVER2	i 🎽 i	0	0.0	
cp://SLHOST10	EMS-SLDEMOS1-7010	🎽	0	0.0	
tcp://vmrh5-4	EMS-SLDEMOS2-6010	🎽	0	0.0	
tcp://vmrh5-4	EMS-SLDEMOS2-6010	🎽	0	0.0	

Title Bar (possible features are):	🕼 Data OK Data connection state. Red indicates the Data
🗲 🔺 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	👔 Open the Alert Views - RTView Alerts Table display.

Fields and Data

remoteURL	The remote URL of the server.
remoteName	The name of the server.
connected	The connection state of the server route.

	One or more routes for this server are disconnected.
	All routes for this server are connected.
	— There are no routes for this server.
stalled	Indicates whether the IO flow stalled on the route.
	A value of 0 (zero) = not stalled.
	A value of 1 = stalled.
inboundByteRate	The rate of inbound data in bytes, per second.
inboundMessageRate	The rate of inbound messages in number of messages per second.
inboundTotalBytes	The total number of inbound bytes.
inboundTotalMessages	The total number of inbound messages.
outboundByteRate	The rate of inbound data in bytes, per second.
outboundMessageRate	The rate of outbound messages in number of messages per second.
outboundTotalBytes	The total number of outbound bytes.
outboundTotalMessages	The total number of outbound messages.
zoneName	The name of the zone for the route.
zoneType	Indicates a multi-hop or one-hop route.
active	Indicates whether the server route is currently transferring data:
	1 = true (is transferring data)
	0 = false
inactive	Indicates whether the server route is not currently transferring data:
	1 = true (is not transferring data)
	0 = false
suspended	Indicates whether outbound messages to the route have been suspended:
	1 = true
	0 = false
remoteURLName	The IP address and name for the remote connection.

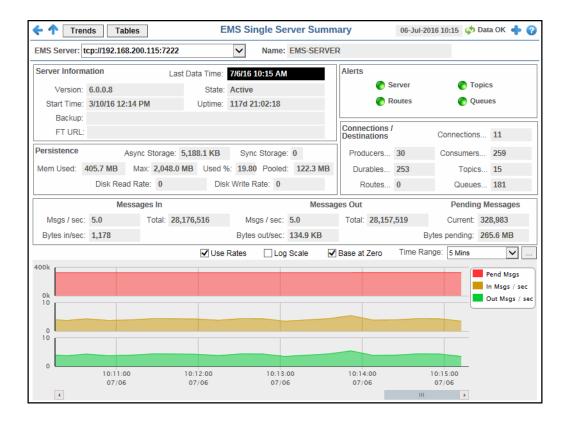
Single EMS Server

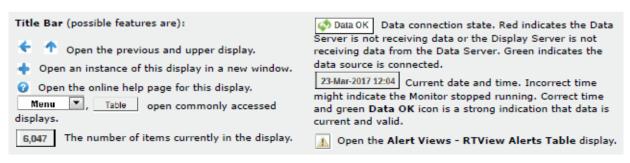
These displays present detailed performance metrics, alert status and connection information for a single EMS server.

- "Single Server Summary": Shows information for a single EMS server such as server connection details, the number of client connections, memory utilization, message performance metrics and alert status.
- "Single Server Trends": Trend graphs show utilization metrics for a single EMS server, such as the number of client connections, number of pending messages and in/out rate, and memory and disk utilization.
- "Single Server Tables": Tables show information about how the Monitor is connected to the EMS server, metrics queried from the server and alert details.

Single Server Summary

Track utilization and performance metrics for specific servers.





Fields and Data

ins display includes.			
EMS Server	Select the EMS Server for which you want to view data. The selection made here populates this display.		
Name	The name of the EMS Server selected from the EMS Server drop-down menu.		
Server Information	Version	The TIBCO EMS software version currently running.	
	Start Time	The data and time that the server was started.	
	Backup	The name of the backup server for the server.	
	FT URL	The IP address and port number, or the hostname and port number, of the fault tolerant standby server assigned to this server.	
	Last Data Time	The time that a data update was last made.	
	State	The server status: Active The server is currently processing requests. Inactive The server is not currently processing requests. Standby The server is functioning as a backup for a primary server.	
	Uptime	The amount of time since the server was started. Format: dd HH:MM:SS	
		<days> <hours>:<minutes>:<seconds></seconds></minutes></hours></days>	
		For example.	
		For example: 10d 08:41:38	
Persistence	Async Storage	•	
Persistence		10d 08:41:38 The amount of database space, in bytes, used by	
Persistence	Storage	10d 08:41:38 The amount of database space, in bytes, used by asynchronous message persistence data on the server The amount of database space, in bytes, used by synchronous	
Persistence	Storage Sync Storage	10d 08:41:38 The amount of database space, in bytes, used by asynchronous message persistence data on the server The amount of database space, in bytes, used by synchronous message persistence data on the server. The amount of memory, in kilobytes, used by message	
Persistence	Stórage Sync Storage Mem Used	 10d 08:41:38 The amount of database space, in bytes, used by asynchronous message persistence data on the server The amount of database space, in bytes, used by synchronous message persistence data on the server. The amount of memory, in kilobytes, used by message persistence on the server. The maximum amount of memory, in kilobytes, used by 	
Persistence	Stórage Sync Storage Mem Used Max	 10d 08:41:38 The amount of database space, in bytes, used by asynchronous message persistence data on the server The amount of database space, in bytes, used by synchronous message persistence data on the server. The amount of memory, in kilobytes, used by message persistence on the server. The maximum amount of memory, in kilobytes, used by message persistence on the server. The amount of memory, in percent, used by message 	
Persistence	Stórage Sync Storage Mem Used Max Used %	 10d 08:41:38 The amount of database space, in bytes, used by asynchronous message persistence data on the server The amount of database space, in bytes, used by synchronous message persistence data on the server. The amount of memory, in kilobytes, used by message persistence on the server. The maximum amount of memory, in kilobytes, used by message persistence on the server. The amount of memory, in percent, used by message persistence. 	
Persistence	Stórage Sync Storage Mem Used Max Used % Pooled Disk Read	 10d 08:41:38 The amount of database space, in bytes, used by asynchronous message persistence data on the server The amount of database space, in bytes, used by synchronous message persistence data on the server. The amount of memory, in kilobytes, used by message persistence on the server. The maximum amount of memory, in kilobytes, used by message persistence on the server. The amount of memory, in percent, used by message persistence. The amount of message memory that has been pooled. The speed at which the server reads message persistence disk 	
Persistence	Stórage Sync Storage Mem Used Max Used % Pooled Disk Read Rate Disk Write	 10d 08:41:38 The amount of database space, in bytes, used by asynchronous message persistence data on the server The amount of database space, in bytes, used by synchronous message persistence data on the server. The amount of memory, in kilobytes, used by message persistence on the server. The maximum amount of memory, in kilobytes, used by message persistence on the server. The amount of memory, in percent, used by message persistence. The amount of message memory that has been pooled. The speed at which the server reads message persistence disk data. Status indicator for server-related alerts. Click to open the EMS "Single Server Tables" display and view the Server Alert Table for more detail. 	
	Stórage Sync Storage Mem Used Max Used % Pooled Disk Read Rate Disk Write Rate	 10d 08:41:38 The amount of database space, in bytes, used by asynchronous message persistence data on the server The amount of database space, in bytes, used by synchronous message persistence data on the server. The amount of memory, in kilobytes, used by message persistence on the server. The maximum amount of memory, in kilobytes, used by message persistence on the server. The amount of memory, in percent, used by message persistence. The amount of memory that has been pooled. The speed at which the server reads message persistence disk data. Status indicator for server-related alerts. Click to open the MS "Single Server Tables" display and view the Server Alert Table for more detail. • No alerts have exceeded a specified threshold. 	
	Stórage Sync Storage Mem Used Max Used % Pooled Disk Read Rate Disk Write Rate	 10d 08:41:38 The amount of database space, in bytes, used by asynchronous message persistence data on the server The amount of database space, in bytes, used by synchronous message persistence data on the server. The amount of memory, in kilobytes, used by message persistence on the server. The maximum amount of memory, in kilobytes, used by message persistence on the server. The amount of memory, in percent, used by message persistence. The amount of message memory that has been pooled. The speed at which the server reads message persistence disk data. Status indicator for server-related alerts. Click to open the EMS "Single Server Tables" display and view the Server Alert Table for more detail. 	

	Routes	Status indicator for route-related alerts. Click to open the EMS "Single Server Tables" display and view the Server Alert Table for more detail.
		No alerts have exceeded a specified threshold.
		One or more alerts have exceeded their specified WARNINGLEVEL threshold.
		 One or more alerts have exceeded their specified ALARMLEVEL threshold.
	Topics	Status indicator for topic-related alerts. Click to open the EMS "Single Server Tables" display and view the Server Alert Table for more detail.
		No alerts have exceeded a specified threshold.
		One or more alerts have exceeded their specified WARNINGLEVEL threshold.
		 One or more alerts have exceeded their specified ALARMLEVEL threshold.
	Queues	Status indicator for queue-related alerts. Click to open the EMS "Single Server Tables" display and view the Server Alert Table for more detail.
		No alerts have exceeded a specified threshold.
		 One or more alerts have exceeded their specified WARNINGLEVEL threshold.
		One or more alerts have exceeded their specified ALARMLEVEL threshold.
Connections / Destinations	Shows connection visible in the "E	on information for the server. The counts shown here are also MS Topics" and "EMS Clients" displays.
	Producers	The number of producers currently active on the server. Click to open the "EMS Clients"/ "Producers" for Server display for details.
	Producers Durables	to open the "EMS Clients"/ "Producers" for Server display
		to open the "EMS Clients"/ "Producers" for Server display for details. The number of durables currently active on the server. Click to open the "EMS Clients" / "Consumer Summary" for Server
	Durables	to open the "EMS Clients"/ "Producers" for Server display for details. The number of durables currently active on the server. Click to open the "EMS Clients" / "Consumer Summary" for Server display for details.
	Durables Routes	to open the "EMS Clients"/ "Producers" for Server display for details. The number of durables currently active on the server. Click to open the "EMS Clients" / "Consumer Summary" for Server display for details. The number of routes defined on the server. The number of clients currently connected to the server. Click to open the "EMS Clients" / "Connections" for Server
	Durables Routes Connections	to open the "EMS Clients"/ "Producers" for Server display for details. The number of durables currently active on the server. Click to open the "EMS Clients" / "Consumer Summary" for Server display for details. The number of routes defined on the server. The number of clients currently connected to the server. Click to open the "EMS Clients" / "Connections" for Server display for details. The number of consumers currently connected to the server. Click to open the "EMS Clients" / "Producer Summary" for
	Durables Routes Connections Consumers	to open the "EMS Clients"/ "Producers" for Server display for details. The number of durables currently active on the server. Click to open the "EMS Clients" / "Consumer Summary" for Server display for details. The number of routes defined on the server. The number of clients currently connected to the server. Click to open the "EMS Clients" / "Connections" for Server display for details. The number of consumers currently connected to the server. Click to open the "EMS Clients" / "Producer Summary" for Server display for details. The number of topics currently active on the server. Click to open the "EMS Topics" / "All Topics Table" display for
Messages In	Durables Routes Connections Consumers Topics	to open the "EMS Clients"/ "Producers" for Server display for details. The number of durables currently active on the server. Click to open the "EMS Clients" / "Consumer Summary" for Server display for details. The number of routes defined on the server. The number of clients currently connected to the server. Click to open the "EMS Clients" / "Connections" for Server display for details. The number of consumers currently connected to the server. Click to open the "EMS Clients" / "Producer Summary" for Server display for details. The number of topics currently active on the server. Click to open the "EMS Topics" / "All Topics Table" display for details. The number of queues currently active on the server. Click to open the "EMS Topics" / "All Queues Heatmap" display for
Messages In	Durables Routes Connections Consumers Topics Queues	to open the "EMS Clients"/ "Producers" for Server display for details. The number of durables currently active on the server. Click to open the "EMS Clients" / "Consumer Summary" for Server display for details. The number of routes defined on the server. The number of clients currently connected to the server. Click to open the "EMS Clients" / "Connections" for Server display for details. The number of consumers currently connected to the server. Click to open the "EMS Clients" / "Producer Summary" for Server display for details. The number of topics currently active on the server. Click to open the "EMS Topics" / "All Topics Table" display for details. The number of queues currently active on the server. Click to open the "EMS Topics" / "All Queues Heatmap" display for details. The number of inbound messages, per second, from all

Messages Out	Msgs/sec	The number of outbound messages, per second, from all producers and consumers.		
	Bytes out/ sec	The total size of outbound messages, in bytes per second, from all producers and consumers.		
	Total	The total of outbound messages, in bytes, from all producers and consumers since the server was started.		
Pending Messages	Current	The total number of inbound and outbound messages currently waiting to be processed.		
	Bytes pending	The total size of inbound and outbound messages, in bytes, currently waiting to be processed.		
Trend Graphs	Shows message	e metrics for the selected server.		
		ge Traces the total number of inbound and outbound rrently waiting to be processed.		
	In Msgs / sec Traces the number of inbound messages, per second, from all producers and consumers. This trend graph only displays when Use Rates is selected.			
	Out Msgs / sec Traces the number of outbound messages, per second, from all producers and consumers. This trend graph only displays when Use Rates is selected.			
	Delta In Msgs Traces the change in total inbound messages since the la update. This trend graph only displays when Use Rates is not selected.			
		sgs Traces the change in total outbound messages since the This trend graph only displays when Use Rates is not selected.		
	Use Rates	When this check box is selected, the inbound and outbound message rates (In Msgs/sec and Out Msgs/sec) display in the trend graph. When this check box is not selected, the delta inbound and outbound messages (Delta In Msgs and Delta Out Msgs) display in the trend graph.		
	Log Scale	This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option.		

- **Base at Zero** When this option is checked, zero is set as the Y axis minimum for all graph traces.
- Time RangeSelect a time range from the drop down menu varying from 2
Minutes to Last 7 Days, or display All Data. To specify a
time range, click the button.

Select or Enter Date and Time:
Mar 23, 2015 10:02 AM 🗾
Restore to Now
Ok Apply Cancel

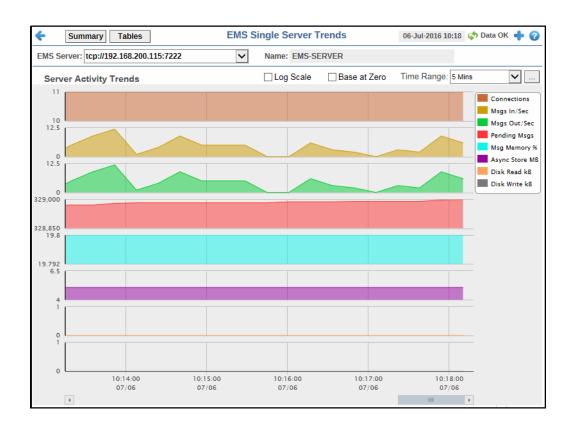
By default, the time range end point is the current time. To change the time range end point, click the button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd**, **YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows to move forward or backward one time period. **Note:** The time period is determined by your selection from the **Time Range** dropdown menu.

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

Single Server Trends

View trend graphs in parallel to investigate performance issues for a specific server.



Title Bar (possible features are):	🐼 Data OK Data connection state. Red indicates the Data
🗲 个 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
Open an instance of this display in a new window.	data source is connected.
 Open the online help page for this display. Menu , 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.	Open the Alert Views - RTView Alerts Table display.

Fields and Data

This display includes:

EMS
ServerSelect the EMS server for which you want to view data from this drop-down
menu. The selection made here populates this display.NameThe name of the EMS Server selected from the EMS Server drop-down menu.Server
Activity
TrendsSpecifies settings for the trend graphs.

Trend Shows metrics for the selected server. **Graphs**

Connections -- Traces the total number of client connections.

Msgs In/Sec -- Traces the number of inbound messages, per second, from all producers and consumers.

Msgs Out/Sec -- Traces the number of outbound messages, per second, from all producers and consumers.

Pending Msgs -- Traces the total number of messages currently waiting to be processed.

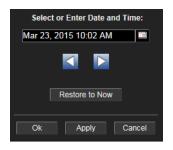
Msg Memory % -- Traces the amount of memory, in percent, used by messages.

Async Store MB -- Traces the amount of database space, in megabytes, used by asynchronous data on the server.

Disk Read KB -- Traces the amount of disk data, in kilobytes, read by the server since the server was started.

Disk Write KB -- Traces the amount of data, in kilobytes, written to disk by the server since the server was started.

- **Log Scale** This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option.
- **Base at Zero** When this option is checked, zero is set as the Y axis minimum for all graph traces.
- **Time Range** Select a time range from the drop down menu varying from 2 **Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click the **button**.



By default, the time range end point is the current time. To change the time range end point, click the button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

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

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

Single Server Tables

View all available utilization and performance data for specific servers.

🗲 🛧 Summary Trends EMS Single Server Tables 06-Jul-2016 10:21 💠 Data OK 💠 😧					• 🕜					
EMS Server: tcp://192.168.200.115:7222										
				Server Ta	uble					
time_stamp					ıme					
07/06/16 10:21:06					\$server:'te	cp://192.16	58.200.11	15:7222' \$agent	_adm_192.168.20	00.115
<										>
			S	erver Info	Table					
time_stamp	Host	asyncDBSize	backupName	connectio	onCount	diskRea	dRate	diskWriteRate	durableCount	fau
07/06/16 10:21:07	192.168.2	5,312,584			11		0.0	0.0	253	3
<										>
			Current Aler	rts for Sele	ected EM	S Server	,			
Time	Current Alerts for Selected EMS Server Time Alert Name Alert Index Alert Tex				ext					
<										>

Title Bar (possible features are):	🔯 Data OK Data connection state. Red indicates the Data
🗲 🔺 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Fields and Data

EMS Server	Select the EMS server for which you want to view data from this drop-down menu. The selection made here populates this display		
Name	The name of the EMS Server selected from the EMS Server drop-down menu.		
Server Table	This table shows information about how the monitor is connected to the server.		
	time_stamp The date and time this row of data was last updat		
	Name	The name of the server.	

	Agent	If used, the name of the RTView agent connecting to the EMS server.
	User	The user name for gaining access to the server.
	Password	The password associated with user name for gaining access to the server.
	Subs	RTView substitutions used when connecting to this server.
	ConnName	The name of the RTView connection to this server.
	Active	When checked, indicates that the server is currently running.
	FaultTolerantStandbyMode	When checked, indicates that the server is running as a backup server.
	FaultTolerantURL	The IP address and port number for the backup server assigned to this server.
	BackupName	The name of the backup server assigned as backup to this server.
	Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO Enterprise Message Service > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.
Select an EMS Server from the EMS Server drop-down menu. The metrics queried from the server.		EMS Server drop-down menu. This table shows server
	time_stamp	The date and time this row of data was last updated.
	Host	The name or IP address for the host server.
	asyncDBSize	The amount of database space, in bytes, used by asynchronous data on the server.
	backupName	The name of the backup server assigned as backup to this

me The name of the backup server assigned as backup to this server.

connectionCount The number of currently connected clients.

The speed at which the server reads disk data.

The speed at which the server writes data to disk.

durableCount The number of currently active durables.

The IP address and port number, or the hostname and port number, of the fault tolerant standby server assigned to this server.

The rate of inbound messages in bytes per second.

inboundMessageCount The number of inbound messages received by the server since the server was started.

inboundMessageRate The rate of inbound messages in number of messages per second.

The maximum amount of memory, in bytes, allocated for use by messages on the server.

messageMemory The amount of memory, in bytes, currently used by messages on the server.

Server Info Table

diskReadRate

diskWriteRate

FaultTolerantURL

inboundBytesRate

maxMessageMemory

messageMemoryPct	The amount of memory, in percent, used by messages on the server.
messageMemoryPooled	The currently allocated pool size for messages in bytes.
outboundBytesRate	The rate of outbound messages in bytes per second.
outboundMessageCount	The number of outbound messages sent by the server since the server was started.
outboundMessageRate	The rate of outbound messages in number of messages per second
pendingMessageCount	The number of currently pending messages on the server.
pendingMessageSize	The amount of space, in bytes, pending messages use on the server.
processId	The process ID of the EMS server.
queueCount	The number of message queues.
serverName	The name of the server.
startTime	The date and time that the server was started.
state	The server status: Active The server is currently processing requests.
	Inactive The server is not currently processing requests.
	Standby The server is functioning as a backup for a primary server.
syncDBSize	The amount of database space, in bytes, used by synchronous data on the server.
topicCount	The number of currently active topics.
upTime	The amount of time, in milliseconds, since the server was started.
versionInfo	The TIBCO EMS software version currently running.
Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO Enterprise Message Service > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.
Solact on EMS Sonver from the	EMS Server drep down menu. This table lists all available

Current Alerts Table for	Select an EMS Server from the EMS Server drop-down menu. This table lists all available data for currently active alerts. Click an alert to view details in the Alert Detail Window.			
Selected	Time	The time the alert was first activated.		
Server	Alert Name	The name of the alert.		
	Alert Index	The EMS server that activated the alert.		
	Alert Text	The text that is displayed for the alert.		
	Package	The RTView package reporting the alert.		
	Category	The alert category: Server, Queue or Topic.		

ID	The unique identifier for this alert instance.
Clr'd	When checked, the alert thresholds are no longer out of bounds and the alert has cleared.
Ack'd	When checked, a user has indicated that they have acknowledged the alert.
Owner	The user who has accepted ownership of this alert.
Source	The source of the alert.

Alert Detail Window

	Alert Detail	
Alert Time:	02/26/15 07:27:45	Acknowledged
ID:	1000	Cleared
Name:	EmsServerMemUsedHigh	Severity: 1
Index:	tcp://SLHOST21:7222	
Owner:		
Alert Text:	High Warning Limit exceeded, 9.36 limit: 5.0	current value:
Comments:		

Alert Time	The time the alert was first activated.
ID	The unique identifier for this alert instance.
Name	The name of the alert.
Index	The EMS server which activated the alert.
Owner	The user who has accepted ownership of this alert.
Alert Text	The text that is displayed for the alert.
Comments	User-supplied comments about this alert.
Acknowledged	When checked, a user has indicated that they have acknowledged the alert.
Cleared	When checked, the alert thresholds are no longer out of bounds and the alert has cleared.
Severity	Severity of the alert.

EMS Topics

These displays present several views of performance metrics for topics. You can view all topics that are defined on a specific server in the "All Topics Table" display, or you can view all servers that have a specific topic defined in the "Single Topic Summary" display. The "Single Topic By Server" display provides a list of all the servers on which those topics are defined.

- "All Topics Heatmap": A heatmap representation of a selected set of metrics from Topics organized by Server that allows you to track performance and utilization metrics and trends for all topics on a single server.
- "All Topics Table": Shows performance and utilization metrics and trends for all topics defined on a specified server, including consumer and subscriber count, memory utilization, and message performance metrics.
- "All Topics Summary": Shows performance and utilization metrics and trends for all topics defined on a specified server, including consumer and subscriber count, memory utilization, and message performance metrics.
- "Single Topic Summary": Shows detailed performance and utilization metrics and trends for a specified topic on a single server, including producer and consumer counts, and message performance metrics.
- "Single EMS Topic-Clients": View data for all consumers and producers associated with the selected topic.
- "Single Topic By Server": Table shows performance and utilization metrics for all servers that have a specified topic defined, including consumer and subscriber count, and message performance metrics.

All Topics Heatmap

A heatmap representation of a selected set of metrics from Topics organized by Server that allows you to track performance and utilization metrics and trends for all topics on a single server. View status and alerts of all topics for a server. Use the **Metric** drop-down menu to view to **Alert Severity**, **Alert Count**, **Consumers**, **Receivers**, **Pending Messages**, **Inbound Message Rate**, **Inbound Total Messages**, **Outbound Message Rate**, or **Outbound Total Messages**.

The heatmap is organized so that each rectangle represents a Topic on the selected Server. The rectangle color indicates the value of the selected metric in the **Metric** drop down list. You can mouse-over rectangles to view more details about the performance and status of each topic or click on a rectangle to drill-down to the "Single Topic Summary" display and view metrics for that particular Topic. You can click **Table** on this display to navigate to the "All Topics Table" display.

EMS Server: [cp://192.168.200.115:7222 Filter Pattern: I topics organized by Server where Color = Metric cp://192.168.200.115:722 All topics organized by Server where Color = Metric cp://192.168.200.115:722 (possible features are): Open the previous and upper display. en an instance of this display in a new window.	• 🕜
I Log _AutoMetric: Aiert Severity ♥ 0 1 All topics organized by Server where Color = Metric UP////52.108.200.115.722 Up////52.108.200.115.722 Up///52.108.200.115.722 Up///52.108.200.115.722 Up///52.108.200.115.722 Up///52.108.200.115.722 Up///52.108.200.115.722 Up///52.108.200.115.722 Up///52.108.200.115.722 Up//52.108.200.115.722 Up//52.108.200.115.722 Up//52.108.200.115.722 Up//52.108.200.115.722 Up//52.108.200.115.722 Up//52.108.200.115.	
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	neace
n the online help page for this display. 23-Mar-2017 12:04 Current date and time. Inco	rect t
might indicate the Monitor stopped running. C	orrect
Table open commonly accessed and green Data OK icon is a strong indication current and valid.	that o
The number of items currently in the display. Open the Alert Views - RTView Alerts	able

Note: Clicking **Table** in the Title Bar takes you to the "All Topics Table" display. Clicking **Summary** in the Title Bar takes you to the "All Topics Summary" display.

Fields and Data

This display includes:

The EMS Server selected from this drop-down menu populates all associated Topic data in EMS Server this display. Enter a string to show only topics with names that contain the string. For example, if you enter the string Madrid, all topics with Madrid in the topic name are shown in the table. If Filter Pattern no entry is made, all topic names are shown. For most use cases, you can enter a portion of the topic name.

This field is broken into two different values. The first value is the total number of currently Filtered active topics on the selected server, which is filtered by the Filter Pattern field and by the Topic default value specified in the **\$emsTopicFilterOutPattern** property in the **emsmon/** Count **conf/rtvapm.properties** file. The second value is the total number of topics on the selected server. In other words, the filtered number of topics/the total number of topics on the server.

The default value for the **\$emsTopicFilterOutPattern** property is:

collector.sl.rtview.sub=\$emsTopicFilterOutPattern:'^(?!^\\\$sys\\.|^\\\$TMP\\$ \\.|^AMX_MGMT\\.|^EMSGMS\\.|^AMX_SV\\.|^_HAWK\\.|^_LOCAL\\._HAWK\\.|^TMP\\. EMS)'

You can modify the filter value by editing the **\$emsTopicFilterOutPattern** property in the "sample.properties File", which will override the default value.

Clicking the associated Help button *displays* the **Info** dialog, which displays the defined filter in and filter out properties used by the **Filtered Topic Count**.

🍯 Info - Inte	ernet Explorer	
💐 http://19	92.168.200.132/emsmon/getdisplay.jsp?display=ems_alltopic	s_forserver_table&nl=
Ż	The Topic Count is the result of the selection of all EMS To the Filter in Patterns and removing from this set those mat Out Pattern across all or the selected EMS Server. An empty string will match all topic names (i.e. no fitter is a	tching the Filter
	Filter In Patterns	
	PatternOut	
^(?!^\\$sys\	II'STMP\$\I'AMX_MGMT\I'EM9GMS\I'AMX_SV\I'_HAV	VKLI^_LOCALL
		Close

- Log This option enables visualization on a logarithmic scale, and should be used when the range in your data is very broad. For example, if you have data that ranges from the tens to the thousands, then data in the range of tens will be neglected visually if you do not check this option. This option makes data on both extreme ranges visible by using the logarithmic of the values rather than the actual values.
- Auto When checked, the values of the selected metric are auto-scaled to its highest defined value. When unchecked, the values of the selected metric display based on the threshold defined for the alert associated with the selected metric. Selecting Auto helps to visualize the range of the values currently present for the selected metric instead of the threshold of the alert that has been associated with the metric. All metrics that have not been associated in the heatmap defaults with alerts use a monochromatic color gradient bar (whites and greens). All metrics that have been associated in the heatmap defaults with alerts use a multi-chromatic color gradient bar (reds, yellows, white, and greens).
- Metric Select the metric driving the heatmap display. The default is Alert Severity. Each Metric has a color gradient bar that maps values to colors. The heatmap organizes the topics by server, where each rectangle represents a Topic. Mouse-over any rectangle to display the current values of the metrics for the Topic. Click on a rectangle to drill-down to the associated "Single Topic Summary" display for a detailed view of metrics for that particular topic.

Alert Severity	The maximum alert level in the item (index) associated with the rectangle. Values range from 0 to 2 , as indicated in the color gradient bar 1 , where 2 is the greatest Alert Severity .
	2 Metrics that have exceeded their specified ALARMLEVEL threshold and have an Alert Severity value of 2 are shown in red. For a given rectangle, this indicates that one or more metrics have exceeded their alarm threshold.
	 Metrics that have exceeded their specified WARNINGLEVEL threshold and have an Alert Severity value of 1 are shown in yellow. For a given rectangle, this indicates that one or more metrics have exceeded their warning threshold.
	O Metrics that have not exceeded either specified threshold have an Alert Severity value of O and are shown in green. For a given rectangle, this indicates that no metrics have exceeded a specified alert threshold.
Alert Count	The total number of alarm and warning alerts in a given item (index) associated with the rectangle.
	The color gradient bar 1 1 1 shows the range of the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the middle value of the range.
Consumers	The total number of consumers in a given item (index) associated with the rectangle. The color gradient bar shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of consumers in the heatmap. The middle value in the gradient bar indicates the middle value of the range.
	The Auto option does not impact this metric.
Durables	The total number of active durables in a given item (index) associated with the rectangle. The color gradient bar and the shows the range of the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of durables in the heatmap. The middle value in the gradient bar indicates the middle value of the range.
Subscribers	The total number of subscribers in a given item (index) associated with the rectangle. The color gradient bar shows the range of the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of subscribers in the heatmap. The middle value in the gradient bar indicates the middle value of the range.
Pending Msgs	The total number of pending messages in a given item (index) associated with the rectangle. The color gradient bar 1500 1500 shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from 0 to the alert threshold of EmsTopicssPendingMsgsHigh , which is 3000 . The middle value in the gradient bar indicates the middle value of the range (the default is 1500).
	When Auto is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.

In Msg /sec	The number of inbound messages per second in a given item (index) associated with the rectangle. The color gradient bar • • • • • • • • • • • • • • • • • •
	When Auto is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.
	Note: This metric comes directly from the tibjms.admin.DestinationInfo class from TIBCO.
In Total Msg	The total number of inbound messages in a given item (index) associated with the rectangle. The color gradient bar shows the range of the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of receivers in the heatmap. The middle value in the gradient bar indicates the middle value of the range.
	The Auto option does not impact this metric.
Out Msg/sec	The number of outbound messages per second in a given item (index) associated with the rectangle. The color gradient bar 1 1 1 1 1 1 1 1 1 1
	When Auto is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.
	Note: This metric comes directly from the tibjms.admin.DestinationInfo class from TIBCO.
Out Total Msgs	The total number of outbound messages in a given item (index) associated with the rectangle. The color gradient bar shows the range of the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of receivers in the heatmap. The middle value in the gradient bar indicates the middle value of the range.
	The Auto option does not impact this metric.

All Topics Table

Track performance and utilization metrics for all topics on a single server.

🗲 🛧 Heatmap Summary	All EMS Top	ics for Ser	ver - Table	06-Ju	-2016 10:37 🗳) Data OK 🔶	?
EMS Server: tcp://192.168.200.115:7222	~						
Filter Pattern:			🕜 то	Filtered 11	1	15	0
Topic Name	URL	In Rate	In Total	Out Rate	Out Total	Pend Msgs	P
adb.custom.jmsrequest	tcp://192.1	0	0	0	0	0	
adb.salesorder.rr	tcp://192.1	0	0	0	0	0	
adb.salesorder.sub	tcp://192.1	0	0	0	0	0	
adb.standard.jmsrequest	tcp://192.1	0	582,832	0	583,934	2,233,301	1,9
MessageSelector	tcp://192.1	0	0	0	0	0	
rtv.amx.governance.internal.stats	tcp://192.1	0	0	0	0	0	
rtv.amx.governance.stats	tcp://192.1	0	0	0	0	0	
sample	tcp://192.1	0	0	0	0	0	
topic.sample	tcp://192.1	0	0	0	0	0	
topic.sample.exported	tcp://192.1	0	0	0	0	0	
topic.sample.imported	tcp://192.1	0	0	0	0	0	
<							>

Title Bar (possible features are):	🕼 Data OK Data connection state. Red indicates the Data
 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. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Note: Clicking **Heatmap** in the Title Bar takes you to the "All Topics Heatmap" display. Clicking **Summary** in the Title Bar takes you to the "All Topics Summary" display.

Fields and Data

This display includes:



The EMS Server selected from this drop-down menu populates all associated Topic data in this display.

Filter Enter a string to show only topics with names that contain the string. For example, if you enter the string Madrid, all topics with Madrid in the topic name are shown in the table. If no entry is made, all topic names are shown. For most use cases, you can enter a portion of the topic name.

Filtered Topic Count Topic Count Topic Count This field is broken into two different values. The first value is the total number of currently active topics on the selected server, which is filtered by the Filter Pattern field and by the default value specified in the **\$emsTopicFilterOutPattern** property in the **emsmon/ conf/rtvapm.properties** file. The second value is the total number of topics on the selected server. In other words, the filtered number of topics/the total number of topics on the server.

The default value for the **\$emsTopicFilterOutPattern** property is:

collector.sl.rtview.sub=\$emsTopicFilterOutPattern:'^(?!^\\\$sys\\.|^\\\$TMP\\$
\\.|^AMX_MGMT\\.|^EMSGMS\\.|^AMX_SV\\.|^_HAWK\\.|^_LOCAL\\._HAWK\\.|^TMP\\.
EMS)'

You can modify the filter value by editing the **\$emsTopicFilterOutPattern** property in the "sample.properties File", which will override the default value.

Clicking the associated Help button *integral* displays the **Info** dialog, which displays the defined filter in and filter out properties used by the **Filtered Topic Count**.

🏉 Info - Inter	rnet Explorer	3
kttp://192	2.168.200.132/emsmon/getdisplay.jsp?display=ems_alltopics_forserver_table&r	nl=
	The Topic Count is the result of the selection of all EMS Topics matching the Filter in Patterns and removing from this set those matching the Filter Out Pattern across all or the selected EMS Server. An empty string will match all topic names (i.e. no filter is applied)	
	Filter In Patterns	
	PatternOut	1
v(šiu/ĝeker)	^*\$TMP\$\!^AMX_MGMT\!^EM\$GM\$\!^AMX_\$V\!^_HAWK\!^_LOCAL\	
	Close	1

Table This table describes all topics on the selected server. Click a row to view metrics for a single topic in the "Single Topic Summary" display.

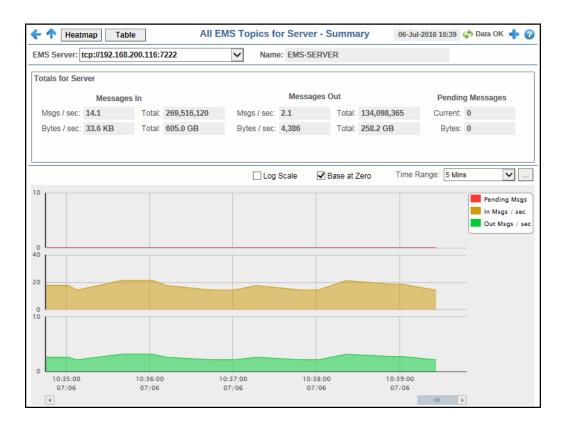
, , ,
The name of the topic.
The IP address and port number for the server.
The number of inbound messages for the topic, per second. Note: This metric comes directly from the tibjms.admin.DestinationInfo class from TIBCO.
The total number of inbound messages for the topic.
The number of outbound messages for the topic, per second. Note: This metric comes directly from the tibjms.admin.DestinationInfo class from TIBCO.
The total number of outbound messages for the topic.
The number of currently pending messages for the topic.
The amount of space, in bytes, used by pending messages for the topic.
The number of currently active durables or the topic.

consumerCount	The number of consumers for the topic.
durableCount	The number of durables for the topic.
failSafe	When checked, the message is marked as failsafe delivery.
fcMaxBytes	The maximum number of bytes allocated for use by flow control.
global	When checked, the message is global and is routed to other servers.
inboundByteRate	The amount of inbound messages for the topic, in bytes per second.
inboundTotalBytes	The total amount of inbound messages for the topic, in bytes, since the server started.
maxBytes	The maximum size, in bytes, that the topic can store for delivery to each durable or non-durable online subscriber on that topic.
maxMsgs	The maximum number of messages before the server indicates an error and overflow policies are activated.
outboundByteRate	The amount of outbound messages for the topic, in bytes per second.
outboundTotalBytes	The total amount of outbound messages for the topic, in bytes.
overflowPolicy	Indicates whether an overflow policy is set for the topic:
	 0 = No policy is set. 1 = A policy is set.
secure	When checked, the topic is designated as secure and
	enforces permission policies.
static	When checked, the topic has a static destination.
subscriberCount	The number of subscribers for the topic.
description	Descriptive text to help the administrator identify this resource.
Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO Enterprise Message Service > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.
time_stamp	The date and time this row of data was last updated.
DeltainboundTotalMessages	Displays the change (delta) in inboundTotalMessages from the previous cache refresh to the current cache refresh.
DeltainboundTotalBytes	Displays the change (delta) in inboundTotalBytes from the previous cache refresh to the current cache refresh.
DeltaoutboundTotalMessages	Displays the change (delta) in outboundTotalMessages from the previous cache refresh to the current cache refresh.

DeltaoutboundTotalBytes	Displays the change (delta) in outboundTotalBytes from the previous cache refresh to the current cache refresh.
prefetch	Lists the maximum number of messages consumers can fetch.
expiryOverride	If set to a non-zero value for a destination and the server delivers a message to the destination, the server replaces the producer's expiration value with this value.
store	Provides the store for this destination where persistent messages are stored.
URLTopic	The topic's URL.

All Topics Summary

Track performance and utilization metrics and trends for all topics on a single server.



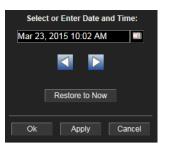
 Title Bar (possible features are): Open the previous and upper display. Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	 Data OK Data connection state. Red indicates the Data Server is not receiving data or the 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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Note: Clicking **Heatmap** in the Title Bar takes you to the "All Topics Heatmap" display. Clicking **Table** in the Title Bar takes you to the "All Topics Table" display.

Fields and Data

is display me	laacoi		
EMS Server	The EMS Server sele data in this display.	ected from this drop-down menu populates all associated Topic	
Name	The name of the ser	ver selected in the EMS Server drop down list.	
Totals for Server	Shows metrics for al	I topics on the selected server.	
	Messages In	Msgs/sec The number of inbound messages for all topics on the server, per second.	
		Total The total number of inbound messages for all topics on the server since the server was started.	
		Bytes/sec The size of inbound messages, in bytes per second, for all topics on the server.	
		Total The total size of inbound messages, in kilobytes, for all topics on the server since the server was started.	
	Messages Out	Msgs/sec The number of outbound messages for all topics on the server, per second.	
		Total The total number of outbound messages for all topics on the server since the server was started.	
		Bytes/sec The size of outbound messages, in bytes per second, for all topics on the server.	
		Total The total size of outbound messages for all topics on the server, in kilobytes, since the server was started.	
	Pending Messages	Current The total number of messages for all topics on the server currently waiting to be processed.	
		Bytes The total size of messages, in bytes, for all topics on the server currently waiting to be processed.	
Trend	Shows metrics for al	I topics on the selected server.	
Graphs	Pend Msgs Traces the total number of messages for all topics on the server currently waiting to be processed.		
	In Msgs / sec second.	Traces the number of inbound messages for all topics, per	
	Out Msgs / sec - second.	Traces the number of outbound messages for all topics, per	

- **Log Scale** This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option.
 - **Base at Zero** When this option is checked, zero is set as the Y axis minimum for all graph traces.
 - Time RangeSelect a time range from the drop down menu varying from 2
Minutes to Last 7 Days, or display All Data. To specify a
time range, click the button.



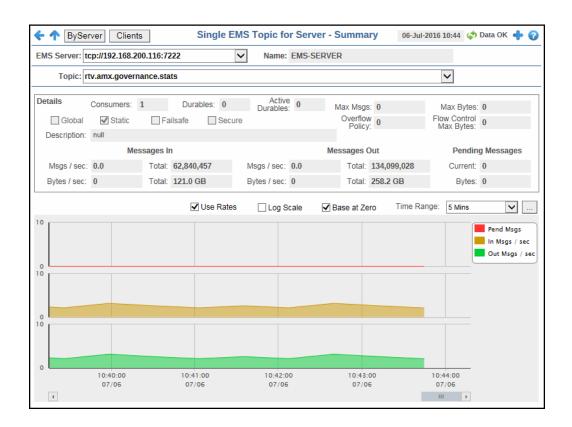
By default, the time range end point is the current time. To change the time range end point, click the button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd**, **YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows to move forward or backward one time period. **Note:** The time period is determined by your selection from the **Time Range** dropdown menu.

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

Single Topic Summary

Track performance and utilization metrics for a single topic on a single server.



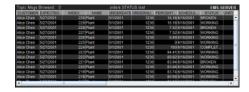
Title Bar (possible features are):	🕼 Data OK Data connection state. Red indicates the Data
 Open the previous and upper display. Open an instance of this display in a new window. 	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the data source is connected. 23-Mar-2017 12:04 Current date and time. Incorrect time
 Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.	Open the Alert Views - RTView Alerts Table display.

Note: Clicking **Clients** in the Title Bar takes you to the "Single EMS Topic-Clients" display for the selected topic.

Fields and Data

EMS Server	The EMS Server selected from this drop-down menu populates the Topics drop- down menu with the Topics belonging to this EMS Server.
Name	The name of the EMS server selected from the EMS Server drop-down menu.

- **Topic** Select a Topic from the drop-down menu to view details for the selected Topic.
- **Browse** Click to browse the contents of the selected topic in a separate window. The topic browser table displays up to 100,000 rows of messages.



By default, this button is disabled due to the fact that use of this option could significantly impact performance. To enable it, add the following substitution to the properties file with which you execute the Display Server and/or Viewer:

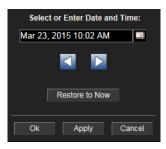
sl.rtview.sub=\$emsDestBrowseButtonVisFlag:1

Details Shows metrics for the topic selected from the Topic drop-down menu.

	Consumers	The current number of consumers for the topic.
	Durables	The number of durable subscribers (active and inactive) to the topic.
	Active Durables	The number of active durable subscribers to the topic.
	Max Msgs	The maximum number of messages allocated for the topic.
	Max Bytes	The maximum of memory, in bytes, allocated for use by the topic.
	Global	When checked, the message is global and is routed to other servers.
	Static	When checked, the topic has a static destination.
	Failsafe	When checked, the message is marked as failsafe delivery.
	Secure	When checked, the topic is designated as secure and enforces permission policies.
	Overflow Policy	 Indicates whether an overflow policy is set for the topic: 0 = No policy is set. 1 = A policy is set.
	Flow Control Max Bytes	The maximum amount of memory, in bytes, allocated for flow control use by the topic.
	Description	Description of the Topic.
Messages In	Msgs/sec	The number of inbound messages, per second, for the selected topic.
	Total	The total number of inbound messages for the selected topic since the server was started.
	Bytes/sec	The size of inbound messages, in bytes per second, for the selected topic.
	Total	The total size of inbound messages, in bytes, for the selected topic since the server was started.
Messages Out	Msgs/sec	The number of outbound messages, per second, for the selected topic.
	Total	The total number of outbound messages for the selected topic since the server was started.
	Bytes/sec	The size of outbound messages, in bytes per second, for the selected topic.

	Total	The total size of outbound messages, in bytes, for the selected topic since the server was started.		
Pending Messages	Current	The number of messages for the selected topic currently waiting to be processed.		
	Bytes	The size of the messages for the selected topic, in bytes, currently waiting to be processed.		
Trend Graphs	Shows message data for the selected topic. Pend Msgs Traces the number of messages currently waiting to be processed.			
		ec Traces the number of inbound messages, per second. This only displays when Use Rates is selected.		
	Out Msgs / sec Traces the number of outbound messages, per se This trend graph only displays when Use Rates is selected.			
		gs Traces the change in total inbound messages since the last trend graph only displays when Use Rates is not selected.		
		sgs Traces the change in total inbound messages since the last trend graph only displays when Use Rates is not selected.		
	Use Rates	When this check box is selected, the inbound and outbound message rates (In Msgs/sec and Out Msgs/sec) display in the trend graph. When this check box is not selected, the delta inbound and outbound messages (Delta In Msgs and Delta Out Msgs) display in the trend graph.		
	Log Scale	This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option.		

- **Base at Zero** When this option is checked, zero is set as the Y axis minimum for all graph traces.
- Time RangeSelect a time range from the drop down menu varying from 2Minutes to Last 7 Days, or display All Data. To specify a time
range, click the _____ button.



By default, the time range end point is the current time. To change the time range end point, click the button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows **Solution** 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 $\ensuremath{\textbf{Restore to Now}}$ to reset the time range end point to the current time.

Single EMS Topic-Clients

View data for all consumers and producers associated with the selected topic.

🗲 🛧 Ву	Server Summary	Single E	MS Topic - Cli	ents	06-Jul-201	16 10:51 💠 🛙	Data OK 💠 🕜
EMS Serve	r: tcp://192.168.200.116:7222	~	Name: EMS-SER	VER			
Торіс	rtv.amx.governance.stats					✓ ✓ S	Show Active Only
			Producers				Count: 0
ID	clientID	Msgs / s	sec Msgs Total	Bytes / sec	Total Bytes	userName	hos
				1			
<							>
			Consumers			-	Count: 1
ID EGA 460	clientID	Msgs/s	-		Total Bytes	userName	hos
561460	16		0.0 1,739,409	0.0	3,626,981,	admin	SLHOST21

Title Bar (possible features are):	🔄 Data OK Data connection state. Red indicates the Data
Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the data servers is servered.
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed 	data source is connected. 23-Mar-2017 12:04 Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time
displays.	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.	Open the Alert Views - RTView Alerts Table display.

Note: Clicking **Summary** in the Title Bar takes you to the "Single Topic Summary" display. Clicking ByServer in the Title Bar takes you to the "Single Topic By Server" display.

Fields and Data

EMS Server	The EMS Server selected from this drop-down menu populates the Topics drop- down menu with the Topics belonging to this EMS Server.
Name	The name of the EMS Server selected from the EMS Server drop-down menu.

Торіс	Select a Topic fi	rom the drop-down menu to view details for the selected Topic.	
Show Active Only	Select this check box to view only the active producers and consumers for the selected Server/ Topic combination.		
Producers	Shows data for all producers for the selected topic.		
	ID	A unique string identifier assigned to each producer.	
	clientID	A unique string identifier assigned to each client.	
	Msgs / sec	The number of messages, per second, emitted by the producer.	
	Msgs Total	The total number of messages emitted by the producer since the server was started.	
	Bytes / sec	The size of messages, in bytes per second, emitted by the producer.	
	Total Bytes	The total size of messages, in bytes, emitted by the producer since the server was started.	
	userName	The user name.	
	host	The name of the host.	
	sessionID	A unique string identifier assigned to each session.	
	connection ID	A unique string identifier assigned to each connection.	
	createTime	The amount of time, in milliseconds, since the producer was created.	
	time_stamp	The date and time this row of data was last updated.	
	Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO Enterprise Message Service > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.	
Consumers	Shows data for all consumers of messages for the selected topic.		
	ID	A unique string identifier assigned to each consumer.	
	clientID	A unique string identifier assigned to each client.	
	Msgs / sec	The number of messages, per second, processed by the consumer.	
	Msgs Total	The total number of messages processed by the consumer.	
	Bytes / sec	The size of messages, in bytes per second, processed by the consumer.	
	Total Bytes	The total size of messages, in bytes, processed by the consumer since the server was started.	
	userName	The user name.	
	host	The name of the host machine.	
	Msgs Sent	The number of messages sent to the consumer that were not yet acknowledged by the consumer's session. The sl.rtview.jmsadm.queryCIDetails property must be set to true in your sample.properties file to see this column.	

Size Msg Sent	The combined size of messages sent to the consumer that were not yet acknowledged by the consumer's session.
	The sl.rtview.jmsadm.queryCIDetails property must be set to true in your sample.properties file to see this column.
Ack Msgs	The total number of messages that have been sent to the consumer and have been acknowledged by the consumer's session.
	The sl.rtview.jmsadm.queryClDetails property must be set to true in your sample.properties file to see this column.
Sent Msgs	The total number of messages sent to the consumer since the consumer was created.
	The sl.rtview.jmsadm.queryClDetails property must be set to true in your sample.properties file to see this column.
Elap. Since Last Ack	The amount of time (in milliseconds) that has elapsed since the last time a message sent to the consumer was acknowledged by the consumer's session.
	The sl.rtview.jmsadm.queryClDetails property must be set to true in your sample.properties file to see this column.
Elap. Since Last Sent	The amount of time (in milliseconds) that has elapsed since the last time the server sent a message to the consumer.
	The sl.rtview.jmsadm.queryClDetails property must be set to true in your sample.properties file to see this column.
destination Prefetch	The actual destination prefetch value used by the server at runtime.
	The sl.rtview.jmsadm.queryClDetails property must be set to true in your sample.properties file to see this column.
prefetch Delivered Count	The number of prefetch messages delivered to the consumer by the server. For consumers receiving messages on any destination with positive prefetch value, this value is never more than the prefetch value of the destination. This value cannot be used to identify the status of the consumer, but it can be used in conjunction with other consumer information values to identify consumers who stopped receiving messages due to application- specific problems.
	The sl.rtview.jmsadm.queryClDetails property must be set to true in your sample.properties file to see this column.
durable Name	The name of the durable.
routeName	The queue owner server name if the consumer's destination is a routed queue.
	The sl.rtview.jmsadm.queryClDetails property must be set to true in your sample.properties file to see this column.
isActive	When checked, the consumer is active and can receive messages from the server.
	The sl.rtview.jmsadm.queryClDetails property must be set to true in your sample.properties file to see this column.
isSystem	This check box is checked if the consumer was automatically created by the system.
	The sl.rtview.jmsadm.queryClDetails property must be set to true in your sample.properties file to see this column.
sessionAck Mode	Lists the consumer's session acknowledge mode as a constant defined in TibjmsAdmin .
	The sl.rtview.jmsadm.queryClDetails property must be set to true in your sample.properties file to see this column.
session ID	A unique string identifier assigned to each session.

connection ID	A unique string identifier assigned to each connection.
createTime	The amount of time, in milliseconds, since the consumer was created.
time_stamp	The date and time this row of data was last updated.
Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO Enterprise Message Service > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.

Single Topic By Server

Track performance and utilization metrics of a single topic across all servers that have the topic defined on it. Compare topic activity among servers.

Summary Clients	EMS T	opic - Detail by	Server	06-Ju	ıl-2016 10:59 🗳	Data OK	+ 0
Topic: adb.standard.jmsreques	st				~		
URL	Act. Durables	Consumers	Durables	failsafe	fcMaxBytes	global	In B
cp://192.168.200.115:7222	1	8	8		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. 	 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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Note: Clicking **Clients** in the Title Bar takes you to the "Single EMS Topic-Clients" display for the selected topic. Clicking **Summary** in the Title Bar takes you to the "Single Topic Summary" display.

Fields and Data

- **Topic** The Topic selected from this drop-down menu populates this display.
- **Table**Shows details about the selected Topic for each server that has the Topic defined. Select
a server from the list to view details in the "Single Topic Summary" display.

URL	The IP address and port number for the server.
Act. Durables	The number of currently active durables.
Consumers	The current number of consumers.
Durables	The number of active and inactive durables.
failsafe	When checked, the message is marked as failsafe delivery.
fcMaxBytes	The maximum number of bytes allocated for use by flow control.
global	When checked, the message is global and is routed to other servers.
In Byte Rate	The amount of inbound messages for the topic, in bytes per second.
In Msgs Rate	The amount of inbound messages for the topic, in number of messages per second.
In Total Bytes	The total number of inbound bytes for the topic.
In Total Msgs	The total number of inbound messages for the topic.
maxBytes	The maximum size, in bytes, that the topic can store for delivery to each durable or non-durable online subscriber on the topic.
maxMsgs	The maximum number of messages allocated for use by the topic.
Out Byte Rate	The amount of outbound messages (in bytes) per second.
Out Msg Rate	The number of outbound messages per second.
Out Total Bytes	The total amount of outbound messages for the topic, in bytes, since the server was started.

Out Total Msgs	The total number of outbound messages for the topic since the server was started.
overflowPolicy	Policy Indicates whether an overflow policy is set for the topic:
	0 = No policy is set.
	1 = A policy is set.
Pending Msgs	The number of currently pending messages for the topic.
Pending Msgs Size	The amount of space, in bytes, pending messages use for the topic.
secure	When checked, the topic is designated as secure and enforces permission policies.
static	When checked, the topic has a static destination.
Subscribers	The number of subscribers for the topic.
time_stamp	The date and time this row of data was last updated.
description	Descriptive text to help the administrator identify this resource.

EMS Queues

These displays present several views of performance metrics for queues. You can view all queues that are defined on a specific server in the "All Queues Heatmap" display, or you can view all servers that have a specific queue defined in the "Single Queue Summary" display. The "Single EMS Queue-Clients" display provides a list of all the servers on which those queues are defined.

- "All Queues Heatmap": A heatmap representation of a selected set of metrics that shows performance and utilization metrics and trends for all queues defined on a specified server, including message performance metrics.
- "All Queues Table": Shows performance and utilization metrics for all queues defined on a specified server.
- "All Queues Summary": Shows performance and utilization metrics and trends for all queues defined on a specified server, including message performance metrics.
- "Single Queue Summary": Shows detailed performance and utilization metrics and trends for a specified queue on a single server, including producer and consumer counts, and message performance metrics.
- "Single EMS Queue-Clients": View data for all consumers and producers associated with the selected queue.
- "Single Queue By Server": Table shows performance and utilization metrics for all servers that have a specified queue defined, including consumer and receiver count, and message performance metrics.

All Queues Heatmap

A heatmap representation of the "All Queues Table" display that allows you to track performance and utilization metrics and trends for all queues on a single server. View status and alerts of all queues for a server. Use the **Metric** drop-down menu to view to **Alert Severity, Alert Count, Consumers, Receivers, Pending Messages, Inbound Message Rate, Inbound Total Messages, Outbound Message Rate,** or **Outbound Total Messages**. The heatmap is organized so that each rectangle represents a queue on the selected server. The rectangle color indicates the most critical alert state. Click on a node to drill-down to the "Single Queue Summary" display and view metrics for a particular queue. Toggle between the commonly accessed **Table** (link to the "All Queues Table" display) and **Heatmap** displays. Mouse-over rectangles to view more details about the performance and status of each queue.

🗲 🛧 Table Summary	All Que	eues - Heatmap	C)6-Jul-2016 11	:10 < Data C	к 🔶 🕜
EMS Server: tcp://192.168.200.11	16:7222 🗸					
Filter Pattern:		0	Filtered Queue Coun	t 13	/ 239	0
		Log 🗌 Auto Metric: 🛛	lert Severity	~	0 1	2
	All queues organized	by Server where Color	r = Metric			
	tcp://1	92.168.200.116:7222				
					I	

Title Bar (possible features are):	🐼 Data OK 🛛 Data connection state. Red indicates the Data
 Open the previous and upper display. Open an instance of this display in a new window. 	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 online help page for this display. Menu , 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.	▲ Open the Alert Views - RTView Alerts Table display.

Note: Clicking **Table** in the Title Bar takes you to the "All Queues Table" display. Clicking **Summary** in the Title Bar takes you to the "All Queues Summary" display.

Fields and Data

This display includes:

EMS The EMS Server selected from this drop-down menu populates all the associated Queue data in this display.

Filter Enter a string to show only queues with names that contain the string. For example, if you enter the string Madrid, all queues with Madrid in the queue name are shown in the table. If no entry is made, all queue names are shown. For most use cases, you can enter a portion of the queue name.

Filtered Queue Count This field is broken into two different values. The first value is the total number of currently active queues on the selected server, which is filtered by the Filter Pattern field and by the default value specified in the **\$emsQueueFilterOutPattern** property in the **emsmon/conf/rtvapm.properties** file. The second value is the total number of queues on the selected server. In other words, the filtered number of queues/the total number of queues on the server.

The default value for the **\$emsQueueFilterOutPattern** property is:

collector.sl.rtview.sub=\$emsQueueFilterOutPattern:'^(?!^\\\$sys\\.|^\\\$TMP\\
\$\\.|^AMX_MGMT\\.|^EMSGMS\\.|^AMX_SV\\.|^_HAWK\\.|^_LOCAL\\._HAWK\\.|^TMP\\
.EMS)'

You can modify the filter value by editing the **\$emsQueueFilterOutPattern** property in the "sample.properties File", which will override the default value.

Clicking the associated Help button *displays* the **Info** dialog, which displays the defined filter in and filter out properties used by the **Filtered Queue Count**.

Info - Internet Explorer				×
Http://192.168.200.132/e	msmon/getdisplay.jsp?d	isplay=ems_allqueues_fors	erver_table&nl=1&ddobj=N240&ddla	bel=
the Filter In Pa Out Pattern ac	tterns and removing from ross all or the selected E	election of all EMS Queues n this set those matching t EMS Server. eues (i.e. no filter is applied	he Filter	
	F	ilter In Patterns		
	Fi	iter Out Patterns		
^(?!^\\$sys\. ^\\$TMP\\$\. ^A			LOCAL_HAWK\. ^TMP\.EMS)	
			Close	9

- **Log** This option enables visualization on a logarithmic scale, and should be used when the range in your data is very broad. For example, if you have data that ranges from the tens to the thousands, then data in the range of tens will be neglected visually if you do not check this option. This option makes data on both extreme ranges visible by using the logarithmic of the values rather than the actual values.
- **Auto** When checked, the values of the selected metric are auto-scaled to its highest defined value. When unchecked, the values of the selected metric display based on the threshold defined for the alert associated with the selected metric. Selecting Auto helps to visualize the range of the values currently present for the selected metric instead of the threshold of the alert that has been associated with the metric. All metrics that have not been associated in the heatmap defaults with alerts use a monochromatic color gradient bar (whites and greens). All metrics that have been associated in the heatmap defaults with alerts use a multi-chromatic color gradient bar (reds, yellows, white, and greens).
- **Metric** Select the metric driving the heatmap display. The default is **Alert Severity**. Each Metric has a color gradient bar that maps values to colors. The heatmap organizes the topics by server, where each rectangle represents a Queue. Mouse-over any rectangle to display the current values of the metrics for the Queue. Click on a rectangle to drill-down to the associated "Single Queue Summary" display for a detailed view of metrics for that particular queue.

Alert Severity	The maximum alert level in the item (index) associated with the rectangle. Values range from 0 to 2 , as indicated in the color gradient bar 1 , where 2 is the greatest Alert Severity . Metrics that have exceeded their specified
	ALARMLEVEL threshold and have an Alert Severity value of 2 are shown in red. For a given rectangle, this indicates that one or more metrics have exceeded their alarm threshold.
	 Metrics that have exceeded their specified WARNINGLEVEL threshold and have an Alert Severity value of 1 are shown in yellow. For a given rectangle, this indicates that one or more metrics have exceeded their warning threshold.
	Metrics that have not exceeded either specified threshold have an Alert Severity value of 0 and are shown in green. For a given rectangle, this indicates that no metrics have exceeded a specified alert threshold.
Alert Count	The total number of alarm and warning alerts in a given item (index) associated with the rectangle.
	The color gradient bar • • • • • • • • • • • • • • • • • • •
Consumers	The total number of consumers in a given item (index) associated with the rectangle. The color gradient bar shows the range of the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of receivers in the heatmap. The middle value in the gradient bar indicates the middle value of the range.
	The Auto option does not impact this metric.
Receivers	The total number of receivers in a given item (index) associated with the rectangle. The color gradient bar shows the range of the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of receivers in the heatmap. The middle value in the gradient bar indicates the middle value of the range.
	The Auto option does not impact this metric.
Pending Msgs	The total number of pending messages in a given item (index) associated with the rectangle. The color gradient bar • • • • • • • • • • • • • • • • • • •
	When Auto is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.

In Msgs /sec	The number of inbound messages per second in a given item (index) associated with the rectangle. The color gradient bar 1 1 1 1 1 1 shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from 0 to the alert threshold of EmsQueuesInMsgRateHigh , which is 9 . The middle value in the gradient bar indicates the middle value of the range (the default is 4.5).
	When Auto is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.
	Note: This metric comes directly from the tibjms.admin.DestinationInfo class from TIBCO.
In Total Msg	The total number of inbound messages in a given item (index) associated with the rectangle. The color gradient bar shows the range of the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of receivers in the heatmap. The middle value in the gradient bar indicates the middle value of the range.
	The Auto option does not impact this metric.
Out Msgs/sec	The number of outbound messages per second in a given item (index) associated with the rectangle. The color gradient bar <u>• 4.5</u> shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from 0 to the alert threshold of EmsQueuesOutMsgRateHigh , which is 9 . The middle value in the gradient bar indicates the middle value of the range (the default is 4.5).
	When Auto is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.
	Note: This metric comes directly from the tibjms.admin.DestinationInfo class from TIBCO.
Out Total Msgs	The total number of outbound messages in a given item (index) associated with the rectangle. The color gradient bar • • • • • • • • • • • • • • • • • • •
	The Auto option does not impact this metric.

All Queues Table

Track performance and utilization metrics for all queues on a single server.

Title Bar (possible features are):	🕼 Data OK Data connection state. Red indicates the Data
 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. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Note: Clicking **Heatmap** in the Title Bar takes you to the "All Queues Heatmap" display. Clicking **Summary** in the Title Bar takes you to the "All Queues Summary" display.

Fields and Data

This display includes:



The EMS Server selected from this drop-down menu populates all associated Queue data in this display.

Filter Enter a string to show only queues with names that contain the string. For example, if you enter the string Madrid, all queues with Madrid in the queue name are shown in the table. If no entry is made, all queue names are shown. For most use cases, you can enter a portion of the queue name.

Filtered Queue Count This field is broken into two different values. The first value is the total number of currently active queues on the selected server, which is filtered by the **Filter Pattern** field and by the default value specified in the **\$emsQueueFilterOutPattern** property in the **emsmon/conf/rtvapm.properties** file. The second value is the total number of queues on the selected server. In other words, the filtered number of queues/the total number of queues on the server.

The default value for the **\$emsQueueFilterOutPattern** property is:

collector.sl.rtview.sub=\$emsQueueFilterOutPattern:'^(?!^\\\$sys\\.|^\\\$TM
P\\\$\\.|^AMX_MGMT\\.|^EMSGMS\\.|^AMX_SV\\.|^_HAWK\\.|^_LOCAL\\._HAWK\\.|
^TMP\\.EMS)'

You can modify the filter value by editing the **\$emsQueueFilterOutPattern** property in the "sample.properties File", which will override the default value.

Clicking the associated Help button *displays* the **Info** dialog, which displays the defined filter in and filter out properties used by the **Filtered Queue Count**.

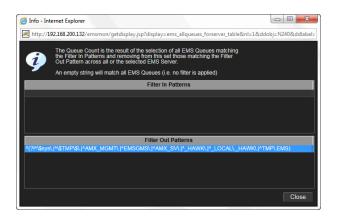


Table This table describes all queues on the selected server. Click a row to view metrics for a single queue in the "Single Queue Summary" display.

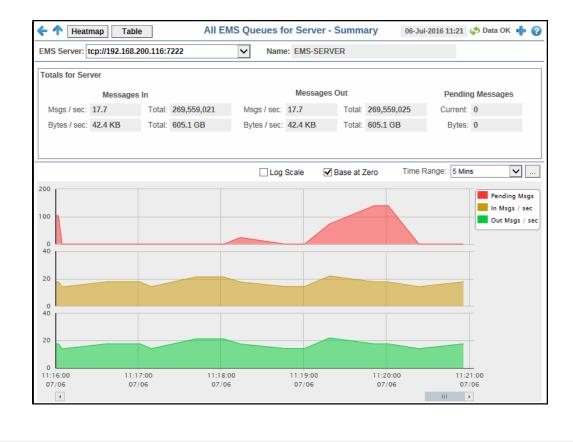
	, , ,
Queue Name	The name of the queue.
URL	The IP address and port number for the server.
In Rate	The number of inbound messages for the queue, per second. Note: This metric comes directly from the tibjms.admin.DestinationInfo class from TIBCO.
In Total	The total number of inbound messages for the queue.
Out Rate	The number of outbound messages for the queue, per second.
	Note: This metric comes directly from the tibjms.admin.DestinationInfo class from TIBCO.
Out Total	The total number of outbound messages for the queue.
Pend Msgs	The number of currently pending messages for the queue.

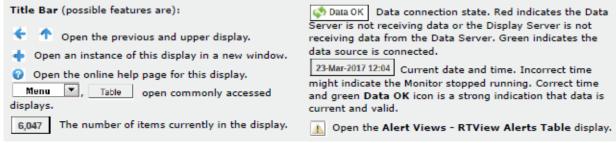
Pend Size	The amount of space, in bytes, used by pending messages for the queue.
activeDurableCount	The current number of active durables.
consumerCount	The number of active and inactive consumers.
durableCount	The number of active and inactive durables.
failSafe	When checked, the message is marked as failsafe delivery.
fcMaxBytes	The maximum number of bytes allocated for use by flow control.
global	When checked, the message is global and is routed to other servers.
inboundByteRate	The amount of inbound messages for the queue, in bytes per second.
inboundTotalBytes	The total amount of inbound messages for the queue, in bytes.
maxBytes	The maximum amount of bytes allocated for use by the queue.
maxMsgs	The maximum number of messages allocated for use by the queue.
outboundByteRate	The amount of outbound messages for the queue, in bytes per second.
outboundTotalBytes	The total amount of outbound messages for the queue, in bytes.
overflowPolicy	Indicates whether an overflow policy is set for the queue:
	0 = No policy is set.
	1 = A policy is set.
secure	When checked, the queue is designated as secure and enforces permission policies.
static	When checked, the queue has a static destination.
subscriberCount	The number of subscribers that receive queue message.
description	Descriptive text to help the administrator identify this resource.
Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO Enterprise Message Service > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.

time_stamp	The date and time this row of data was last updated.
DeltainboundTotalMessages	The change in total inbound messages since the last update.
DeltainboundTotalBytes	The change in total inbound message bytes since the last update.
DeltaoutboundTotalMessages	The change in total outbound messages since the last update.
DeltaoutboundTotalBytes	The change in total outbound message bytes since the last update.
prefetch	Lists the maximum number of messages consumers can fetch.
expiryOverride	If set to a non-zero value for a destination and the server delivers a message to the destination, the server replaces the producer's expiration value with this value.
store	Provides the store for this destination where persistent messages are stored.
deliveredMessageCount	Indicates the total number of messages that have been delivered and acknowledged.
URLQueue	The IP address and port for the queue.
exclusive	When checked, the server sends all messages on this queue to one consumer.
maxRedelivery	The maximum number of attempts for attempting redelivery of a message.
receiverCount	The number of receivers that receive queue message.

All Queues Summary

Track performance and utilization metrics and trends for all queues on a single server.





Note: Clicking **Heatmap** in the Title Bar takes you to the "All Queues Heatmap" display. Clicking **Table** in the Title Bar takes you to the "All Queues Table" display.

Fields and Data

EMS Server	The EMS Server selected from this drop-down menu populates all associated queue data in this display.
Name	The name of the server selected in the EMS Server drop down list.
Totals For Server	Shows metrics for all queues on the selected server.

Messages In	Msgs/sec The total number of inbound messages for all queues on the server, per second.
	Total The total number of inbound messages for all queues on the server since the server was started.
	Bytes/sec The amount of inbound messages, in bytes per second, for all queues on the server.
	Total The amount of inbound messages, in kilobytes, for all queues on the server since the server was started.
Messages Out	Msgs/sec The total number of outbound messages for all queues on the server, per second.
	Total The total number of outbound messages for all queues on the server since the server was started.
	Bytes/sec The amount of outbound messages, in bytes per second, for all queues on the server.
	Total The amount of outbound messages for all queues on the server, in kilobytes, since the server was started.
Pending Messages	Current The total number of messages currently waiting to be processed.
	Bytes The amount of messages, in bytes, currently waiting to be processed.
	or all queues on the selected server.
processed.	gs Traces the number of messages currently waiting to be
	Messages Out Pending Messages Shows metrics f Pending Msg

In Msgs / sec -- Traces the number of inbound messages for all queues, per second.

Out Msgs / sec -- Traces the number of outbound messages for all queues, per second.

This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option Log Scale option.

- **Base at Zero** When this option is checked, zero is set as the Y axis minimum for all graph traces.
- Time RangeSelect a time range from the drop down menu varying from
2 Minutes to Last 7 Days, or display All Data. To specify
a time range, click the button.

Selec	t or Enter Date a	nd Time:
Mar 23	, 2015 10:02 AM	<u></u>
	Restore to Now	
Ok	Apply	Cancel

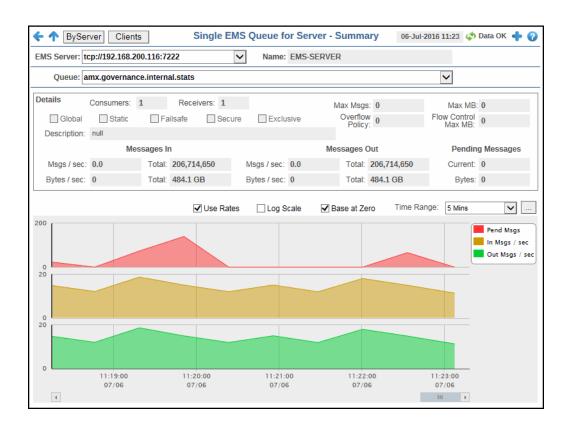
By default, the time range end point is the current time. To change the time range end point, click the button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd**, **YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

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

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

Single Queue Summary

Track performance and utilization metrics for a single queue on a single server.



Title Bar (possible features are):	🕼 Data OK Data connection state. Red indicates the Data
 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. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Note: Clicking **Clients** in the Title Bar takes you to the "Single EMS Queue-Clients" display. Clicking **By Server** in the Title Bar takes you to the "Single Queue By Server".

Fields and Data

EMS Server	The EMS Server selected from this drop-down menu populates the Queues drop- down menu with the queues belonging to this EMS Server.
Name	The name of the EMS Server selected from the EMS Server drop-down menu.

- **Queue** Select a queue from the drop-down menu. The selection made here populates this display.
- **Browse** Click to browse the contents of the selected queue in a separate window. The queue browser table displays up to 100,000 rows of messages.

Queued Maga	Browsed							EMS-	SERVER
AName	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Test Field	Test	JMS
Mag 1748									
ilsg 1749	924						Testing	ar.	
litig 1753	394						Testing		
Hsg 1754	334				858	390	NIA		
lisg 1754									
itag 1765	486						Testing	*	
llsg 1755							Testing	2	
itsg 1756		490					NIA		
itsg 1756		366							
Hsg 1767	094	204			508	523	Testing	ar.	
itag 1757							Testing	2	
Hsg 1758	958			878			NIA		
lisp 1749							Testing	2	
1.000	374					3.4		_	

By default, this button is disabled due to the fact that use of this option could significantly impact performance. To enable it, add the following substitution to the properties file with which you execute the Display Server and/or Viewer:

sl.rtview.sub=\$emsDestBrowseButtonVisFlag:1

Details Shows metrics for the queue selected from the **Queue** drop-down menu.

	Consumers	The number of consumers currently interacting with the queue.
	Receivers	The number of consumers currently receiving messages from the queue.
	Max Msgs	The maximum number of messages allocated for the queue.
	Max MB	The maximum amount of memory, in megabytes, allocated for use by the queue.
	Global	When checked, the message is global and is routed to other servers.
	Static	When checked, the queue has a static destination.
	Failsafe	When checked, the message is marked as failsafe delivery.
	Secure	When checked, the queue is designated as secure and enforces permission policies.
	Exclusive	When checked, the server sends all messages on this queue to one consumer.
	Overflow Policy	 Indicates whether an overflow policy is set for the queue: 0 = No policy is set. 1 = A policy is set.
	Flow Control Max MB	The maximum amount of memory, in megabytes, allocated for flow control use by the queue.
	Description	Description of the Queue.
Messages In	Msgs/sec	The number of inbound messages, per second, for the selected queue.
	Total	The total number of inbound messages for the selected queue since the server was started.
	Bytes/sec	The size of the inbound messages, in bytes per second, for the selected queue.
	Total	The total size of inbound messages, in bytes, for the selected queue since the server was started.

Messages Out	Msgs/sec	The number of outbound messages, per second, for the selected queue.			
	Total	The total number of outbound messages for the selected queue since the server was started.			
	Bytes/sec	The size of outbound messages, in bytes per second, for the selected queue.			
	Total	The total size of outbound messages, in bytes, for the selected queue since the server was started.			
Pending Messages	Current	The total number of messages for the selected queue currently waiting to be processed.			
	Bytes	The size, in bytes, of messages for the selected queue currently waiting to be processed.			
Trend	Shows metrics	for the selected queue on the specified server.			
Graphs	Pending Msgs Traces the number of messages currently waiting to be processed.				
	In Msgs / sec Traces the number of inbound messages, per second. This trend graph only displays when Use Rates is selected.				
	Out Msgs / sec Traces the number of outbound messages, per second. This trend graph only displays when Use Rates is selected.				
	Delta In Msgs Traces the change in total inbound messages since the las update. This trend graph only displays when Use Rates is not selected.				
		sgs Traces the change in total inbound messages since the last trend graph only displays when Use Rates is selected.			
	Use Rates	When this check box is selected, the inbound and outbound message rates (In Msgs/sec and Out Msgs/sec) display in the trend graph. When this check box is not selected, the delta inbound and outbound messages (Delta In Msgs and Delta Out Msgs) display in the trend graph.			
	Log Scale	This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option.			

Base at Zero When this option is checked, zero is set as the Y axis minimum for all graph traces.

Time RangeSelect a time range from the drop down menu varying from 2
Minutes to Last 7 Days, or display All Data. To specify a time
range, click the button.

Select or Enter Date and Time:						
Mar 23, 2	Mar 23, 2015 10:02 AM					
	Restore to Nov	V				
Ok	Apply	Cancel				

By default, the time range end point is the current time. To change the time range end point, click the a button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

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

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

Single EMS Queue-Clients

View data for all consumers and producers associated with the selected queue.

← ↑ ByServer Summary	Single EMS	Queue - Clie	ents	06-Jul-20	16 11:27 📫	Data OK 🔶 🕜
EMS Server: tcp://192.168.200.116:7222	✓ Nam	e: EMS-SERV	ER			
Queue: amx.governance.internal.stats					✓ ✓	Show Active Only
	Pro	Producers				Count: 1
ID clientID	Msgs / sec	Msgs Total	Bytes / sec	Total Bytes	userName	hos
1180060	96.0	413,436,138	245,782.0	1,039,568,	admin	SLHOST16
<	Con	sumers				Count: 1
ID clientID	Msgs/sec	Msgs Total	Bytes/sec	Total Bytes	userName	hos
1180446	48.0	206,718,069	122,915.0	519,849,21	admin	SLHOST16
<						,

 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. G,047 The number of items currently in the display. 	Title Bar (possible features are):	🕼 Data OK Data connection state. Red indicates the Data
 Open the online help page for this display. Menu , Table open commonly accessed displays. Table open commonly accessed displays. 		-
	 Open the online help page for this display. Menu , Table open commonly accessed 	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
	6,047 The number of items currently in the display.	

Note: Clicking **By Server** in the Title Bar takes you to the "Single Queue By Server". Clicking **Summary** in the Title Bar takes you to the "Single Queue Summary" display.

Fields and Data

This display includes:

EMS Server The EMS Server selected from this drop-down menu populates the Queue drop-down menu with the Queues belonging to this EMS Server.Name The name of the EMS Server selected from the EMS Server drop-down menu.

- **Queue** Select a Queue from the drop-down menu to view details for the selected Queue.
- **Show Active** Only Select this check box to view only the active producers and consumers for the selected EMS Queue.
- **Producers** Shows data for all producers for the selected queue.
 - **ID** A unique string identifier assigned to each producer.
 - clientID A unique string identifier assigned to each client.
 - **Msgs / sec** The number of messages, per second, that are emitted by the producer.
 - **Msgs Total** The total number of messages emitted by the producer since the server was started.
 - **Bytes / sec** The size of messages, in bytes per second, that are emitted by the producer.
 - **Total Bytes** The total size of messages, in bytes, emitted by the producer since the server was started.
 - userName The user name.
 - host The name of the host.
 - **sessionID** A unique string identifier assigned to each session.
 - **connection** A unique string identifier assigned to each connection. **ID**
 - **createTime** The amount of time, in milliseconds, since the producer was created.
 - **time_stamp** The date and time this row of data was last updated.
 - ExpiredWhen checked, performance data has not been received within
the time specified (in seconds) in the Expire Time field in the
Duration region in the RTView Configuration Application >
(Project Name) > Solution Package Configuration >
TIBCO Enterprise Message Service > DATA STORAGE tab.
The Delete Time field (also in the Duration region) 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.
- **Consumers** Shows data for all consumers associated with the selected queue.
 - **ID** A unique string identifier assigned to each consumer.
 - **clientID** A unique string identifier assigned to each client.
 - **Msgs / sec** The number of messages, per second, that are processed by the consumer.
 - **Msgs Total** The total number of messages that have been processed by the consumer.
 - **Bytes / sec** The size of messages, in bytes per second, that are processed by the consumer.
 - **Total Bytes** The total size of messages, in bytes, processed by the consumer since the server was started.
 - userName The user name.
 - **host** The name of the host machine.

Msgs Sentt	The number of messages sent to the consumer that were not yet acknowledged by the consumer's session.
	The sl.rtview.jmsadm.queryClDetails property must be set to true in your sample.properties file to see this column.
Size Msg Sent	The combined size of messages sent to the consumer that were not yet acknowledged by the consumer's session.
	The sl.rtview.jmsadm.queryClDetails property must be set to true in your sample.properties file to see this column.
Ack Msgs	The total number of messages that have been sent to the consumer and have been acknowledged by the consumer's session.
	The sl.rtview.jmsadm.queryClDetails property must be set to true in your sample.properties file to see this column.
Sent Msgs	The total number of messages sent to the consumer since the consumer was created.
	The sl.rtview.jmsadm.queryClDetails property must be set to true in your sample.properties file to see this column.
Elap. Since Last Ack	The amount of time (in milliseconds) that has elapsed since the last time a message sent to the consumer was acknowledged by the consumer's session.
	The sl.rtview.jmsadm.queryClDetails property must be set to true in your sample.properties file to see this column.
Elap. Since Last Sent	The amount of time (in milliseconds) that has elapsed since the last time the server sent a message to the consumer.
	The sl.rtview.jmsadm.queryClDetails property must be set to true in your sample.properties file to see this column.
destination Prefetch	The actual destination prefetch value used by the server at runtime.
	The sl.rtview.jmsadm.queryCIDetails property must be set to true in your sample.properties file to see this column.
prefetch Delivered Count	The number of prefetch messages delivered to the consumer by the server. For consumers receiving messages on any destination with positive prefetch value, this value is never more than the prefetch value of the destination. This value cannot be used to identify the status of the consumer, but it can be used in conjunction with other consumer information values to identify consumers who stopped receiving messages due to application- specific problems.
	The sl.rtview.jmsadm.queryClDetails property must be set to true in your sample.properties file to see this column.
durable Name	The name of the durable.
routeName	The queue owner server name if the consumer's destination is a routed queue.
	The sl.rtview.jmsadm.queryClDetails property must be set to true in your sample.properties file to see this column.
isActive	When checked, the consumer is active and can receive messages from the server.
	The sl.rtview.jmsadm.queryClDetails property must be set to true in your sample.properties file to see this column.
isSystem	This check box is checked if the consumer was automatically created by the system.
	The sl.rtview.jmsadm.queryCIDetails property must be set to true in your sample.properties file to see this column.

sessionAck Mode	Lists the consumer's session acknowledge mode as a constant defined in TibjmsAdmin .
	The sl.rtview.jmsadm.queryCIDetails property must be set to true in your sample.properties file to see this column.
session ID	A unique string identifier assigned to each session.
connection ID	A unique string identifier assigned to each connection.
createTime	The amount of time, in milliseconds, since the consumer was created.
time_stamp	The date and time this row of data was last updated.
Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO Enterprise Message Service > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.

Single Queue By Server

Track performance and utilization metrics of a single queue across all servers. Compare queue activity among servers.

🗲 🛧 Summary Clients	EM	S Queue -	Detail by	/ Server	0	6-Jul-2016 11:31 💠 Da	ita OK 🔶 🕜
Queue: amx.governance.stats						\checkmark	
URL	Consumers	exclusive	failsafe	fcMaxBytes	global	In Byte Rate	In Msg R
tcp://192.168.200.115:7222	0			0		0	
tcp://192.168.200.116:7222	1			0		17,609	
tcp://192.168.200.121:7222	1			0		0	
< 🗌							>

Title Bar (possible features are):	Data OK Data OK 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 an instance of this display in a new window. Open the online help page for this display. Menu , 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.	Open the Alert Views - RTView Alerts Table display.

Note: Clicking **Summary** in the Title Bar takes you to the "Single Queue Summary". Clicking **Clients** in the Title Bar takes you to the "Single EMS Queue-Clients" display.

Fields and Data

- **Queue** The Queue selected from this drop-down menu populates this display.
- **Table**Shows details about the selected Queue for each server that has the queue defined.
Select a server to view details in the "Single Queue Summary" display.

URL	The URL of the server.
Consumers	The number of active and inactive consumers.
exclusive	When checked, the server sends all messages on this queue to one consumer.
failSafe	When checked, the message is marked as failsafe delivery.
fcMaxBytes	The maximum number of bytes allocated for use by flow control.
global	When checked, the message is global and is routed to other servers.
In Byte Rate	The amount of inbound messages for the queue, in bytes per second.
In Msg Rate	The amount of inbound messages for the queue, in number of messages per second.
In Total Bytes	The total number of inbound bytes for the queue.
In Total Msgs	The total number of inbound messages for the queue.
maxBytes	The maximum amount of bytes allocated for use by the queue.
maxMsgs	The maximum number of messages allocated for use by the queue.
maxRedelivery	The maximum number of attempts for attempting redelivery of a message.

Out Byte Rate	The amount of outbound messages (in bytes) per second.
Out Msg Rate	The number of outbound messages per second.
Out Total Bytes	The total amount of outbound messages, in bytes, since the server was started.
Out Total Msgs	The total number of outbound messages since the server was started.
overflowPolicy	Indicates whether an overflow policy is set for the queue:
	0 = No policy is set.
	1 = A policy is set.
Pending Msgs	The number of currently pending messages.
Pending Msgs Size	The amount of space, in bytes, pending messages use for the queue.
Receivers	The number of receivers of queue messages.
secure	When checked, the topic is designated as secure and enforces permission policies.
static	When checked, the topic has a static destination.
time_stamp	The date and time this row of data was last updated.
description	Descriptive text to help the administrator identify this resource.

EMS Clients

These displays present performance metrics for all server connections, including users, routes between servers, producers, consumers and durables connected to a specific EMS server.

- "Connections": Shows connection information on a single server.
- "Bridges, Users, Ports": Shows utilization metrics for bridges, users and ports on a single server.
- "Routes": Shows bridges for server routes on a single server.
- "Producers": Shows utilization metrics for producers on a single server.
- "Producer Summary": Shows utilization metrics for producers on a single server.
- "Consumers": Shows utilization metrics for consumers on a single server.
- "Consumer Summary": Shows utilization metrics for consumers on a single server.
- "Durables": Shows utilization metrics for durables on a single server.

Connections

View connections on a single server.

EMS Server:	tcp://192.168.200.116:7	/222 🗸	Name: EMS	-SERVER		Show	v Active Onl
Client ID Filter:				Connection	Filtered 85	/ 85	(
User			-				
Filter:			0				
Conn ID	Client ID	Conn URL	User	host	type	consumerCount	produce
181372		[admin@SLHOST16]	admin	SLHOST16	CONN	3	
181373	EMSGMS.Unbound	[admin@SLHOST16]	admin	SLHOST16	CONN	0	
181375		[admin@SLHOST16]	admin	SLHOST16	CONN	3	
181376	EMSGMS.Unbound	[admin@SLHOST16]	admin	SLHOST16	CONN	0	
181378		[admin@SLHOST16]	admin	SLHOST16	CONN	3	
181379	EMSGMS.amxadmi	[admin@SLHOST16]	admin	SLHOST16	CONN	0	
181388		[admin@SLHOST16]	admin	SLHOST16	CONN	0	
181396		[admin@SLHOST16]	admin	SLHOST16	CONN	0	
181398		[admin@SLHOST16]	admin	SLHOST16	CONN	3	L
181399	EMSGMS.amxadmi	[admin@SLHOST16]	admin	SLHOST16	CONN	0	
1181402		[admin@SLHOST16]	admin	SLHOST16	CONN	0	
1181403		[admin@SLHOST16]	admin	SLHOST16	CONN	3	
1181405	EMSGMS.amxadmi	[admin@SLHOST16]	admin	SLHOST16	CONN	0	
1181407		[admin@SLHOST16]	admin	SLHOST16	QUEUE	0	
1181410		[admin@SLHOST16]	admin	SLHOST16	CONN	0	
1181415		[admin@SLHOST16]	admin	SLHOST16	QUEUE	0	
181424	AMX_MGMT.DevEn	[admin@SLHOST16]	admin	SLHOST16	CONN	4	
181427	AMX_SV:8bf3d299	[admin@SLHOST16]	admin	SLHOST16	CONN	37	
1181590		[admin@SLHOST16]	admin	SLHOST16	CONN	3	
181591	EMSGMSamxadm	[admin@SLHOST16]	admin	SLHOST16	CONN	0	
1181593		[admin@SLHOST16]	admin	SLHOST16	CONN	3	
1181594	EMSGMS.Unbound	[admin@SLHOST16]	admin	SLHOST16	CONN	0	
1181596		[admin@SLHOST16]	admin	SLHOST16	CONN	3	
181597	EMSGMS.Unbound	[admin@SLHOST16]	admin	SLHOST16	CONN	0	
181599		[admin@SLHOST16]	admin	SLHOST16	CONN	3	
181600	EMSGMS.amxadmi	[admin@SLHOST16]	admin	SLHOST16	CONN	0	
1181603		[admin@SLHOST16]	admin	SLHOST16	CONN	7	
1181609	AMX_MGMT.Syste	fadmin@SLHOST161	admin	SLHOST16	CONN	5	

Title Bar (possible features are):	🔯 Data OK Data connection state. Red indicates the Data
🗲 🔺 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Fields and Data

EMS Server	The EMS Server selected from this drop-down menu populates all associated Connections data in this display.
Name	The name of the EMS Server selected from the EMS Server drop-down menu.
Show Active Only	Select this check box to display only active connections.
Client ID Filter	Filter field that allows you to filter the list of connections by client ID.

Filtered
Connection
CountThis field is broken into two different values. The first value is the total number of
currently active connections on the selected server, which is filtered by the Filter
Pattern field and by the default value specified in the
semsConnectionFilterOutPattern property in the emsmon/conf/

SemsConnectionFilterOutPattern property in the **emsmon/conf/ rtvapm.properties** file. The second value is the total number of connections on the selected server. In other words, the filtered number of connections/the total number of connections on the server.

The default value for the **\$emsConnectionFilterOutPattern** property is:

collector.sl.rtview.sub=\$emsConnectionFilterOutPattern:'^(?!^\\[admin\\@)'

You can modify the filter value by editing the **\$emsConnectionFilterOutPattern** property in the **`sample.properties File**", which will override the default value. Clicking the associated Help button **?** displays the **Info** dialog, which displays the defined filter in and filter out properties used by the **Filtered Connection Count**.

🥔 Info - Int	ernet Explorer
💐 http://1	92.168.200.132/emsmon/getdisplay.jsp?display=ems_allconns_forserver&nl=1ⅆ
Ŷ	The Connection Count is the result of the selection of all Connections matching the Filter In Patterns and removing from this set those matching the Filter Out Pattern for the selected EMS server. An empty string will match all Connections (i.e. no filter is applied)
	Filter Out Patterns
	Close

User Filter Filter field that allows you to filter the list of connections by user name.

Connections This table describes the current connections on the selected server.

Conn ID	The unique numeric ID assigned to this connection that can be used for deletion.
Client ID	The unique string identifier assigned to the client.
Conn URL	The connection URL.
User	The user name.
host	The name of the host to which the server is connected.
type	The type of connection: Queue, Topic or System.
consumerCount	The total number of consumers currently connected.
producerCount	The total number of producers currently connected.
sessionCount	The total number of sessions currently connected.
startTime	The date and time the server was started
upTime	The amount of time, in milliseconds, since the server was started.

Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO Enterprise Message Service > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.
time_stamp	The date and time this row of data was last updated.

Bridges, Users, Ports

View bridges configured on an EMS Server, as well as their associated users and ports. You can right-click in the **Bridges** table and select **Go To Source** to view bridged source information in the "Single Queue Summary" if the source is a queue, or "Single Topic Summary" if the source is a topic. You can right-click in the **Bridges** table and select **Go To Target** to view bridged target information in the "Single Queue Summary" if the target is a queue, or "Single Topic Summary" if the target is a topic.

Note: The Go To Source option will not enabled if the source side of the bridge is wildcarded.

Note: .The functionality of the **Drop Down** option in the drop down list that displays when you rightclick in the **Bridges** table is replaced by the **Go To Source** and **Go To Target** options, and no additional functionality exists for the **Drop Down** option.

(↑	EMS Bridges, Use	rs, Ports for Server	06-Jul-2016 13:19	💠 Data OK 💠 🕜
EMS Server: tcp://192.168.200.116:7222	✓ Name	EMS-SERVER		85 Connections
	Bri	dges		
source	ti	arget	selector	Expired
amx.governance.internal.stats	rtv.amx.governance.int	ernal.stats		
amx.governance.stats	rtv.amx.governance.sta	ats		
Users			Listen Ports	
name external	description	port		RL
admin EMS-SERVER	Administrator Main Server	tcp://7222	tcp://192.168.200.11	0:7222
EMS-SERVER	Route Server			

Title Bar (possible features are):	🐼 Data OK Data connection state. Red indicates the Data
🗲 🔺 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Fields and Data

EMS Server	The EMS Server selected from this drop-down menu populates all associated Bridges, Users, and Ports data in this display.		
Name	The name of the EMS Server selected from the EMS Server drop-down menu.		
Bridges	This table desc	ribes the bridges for the selected server.	
	source	The topic or queue which is the source of the bridge.	
	target	The topic or queue which is the target of the bridge.	
	selector	The message selector string or blank if none has been set.	
	Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO Enterprise Message Service > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.	
Users	This table describes the users on the selected server.		
	name	The name of the connected user.	
	external	When checked, the user is defined in an external system.	
	description	Textual description of the user.	
Listen Ports	This table describes the connections the selected server is to listen for.		
POILS	port	The IP address and port number on which the server is to listen for connections.	
	URL	The URL on which the server is to listen for connections.	

Routes

Track utilization metrics for server routes on a single server. Inbound metrics, such as **inboundByteRate**, indicate an in route to the server. Outbound metrics, such as **outboundByteRate**, indicate an out route to the server.

(EMS Routes	for Server		06-Jul-2016 13:24	💠 Data OK 🔶 🕜
EMS Server: tcp://192.168.20	00.171:6010	✓ Name:	EMS-SLDEMO	S2-6010		3 Routes
Totals for Server: In Msgs	sec: 0.0	In Msgs: 0	Out Ms	sgs / sec: 0.0	Out Msgs:	0
remoteURL		remoteName	connected	stalled	inboundByteRate	inboundMessageRa
tcp://192.168.200.171:6020,tcp	://192.168.2	EMS-SLDEMOS2-6020	0	0	0.0	
tcp://192.168.200.171:6030,tcp	://192.168.2	EMS-SLDEMOS2-6030	0	0	0.0	
tcp://SLHOST10		EMS-SLDEMOS1-7010	0	0	0.0	
<						>
Detail for Selected Route	Connec	cted			Zone Name:	
Remote URL: tcp://SLHO	ST10			Go	Zone Type: M	HOP
Mes	ssages In		Mess	sages Out		
Msgs / sec: 0.0	Total: 0	Msgs / sec:	0.0	Total: 0		
Bytes / sec: 0	Total: 0	Bytes / sec:	0	Total: 0		
		🗌 Log Scal	e 🗹 Base	at Zero	Time Range: 5 Min	ns 🔽
10						In Msgs / sec
						Out Msgs / sec
10						
13:20:00	13:21:00	13:22:00	13:23:00	1	3:24:00	_
07/06	07/06	07/06	07/06		07/06	
4						b.



Fields and Data

EMS Server	The EMS Server selected from this drop-down menu populates all associated Routes data in this display.
Name	The name of the EMS server selected from the EMS Server drop-down menu.
Routes	The number of server routes and the connection state.

• -- One or more routes for this server are disconnected.

-- All routes for this server are connected.

— There are no routes for this server.

Shows metrics for all server routes on the selected server.

Totals For Server

Table

In Msgs / sec	The number of inbound messages, per second.
In Msgs	The total number of inbound messages.
Out Msgs / sec	The number of outbound messages, per second.
Out Msgs	The total number of outbound messages.
This table shows metrics for e view details.	each server route on the selected server. Select a route to
remoteURL	The URL of the remote server.
remoteName	The name of the remote server.
connected	When checked, the server route is connected.
stalled	Indicates whether the IO flow stalled on the route. A value of 0 (zero) = not stalled. A value of 1 = stalled.
inboundByteRate	The rate of inbound data in bytes, per second.
inboundMessageRate	The rate of inbound messages in number of messages per second.
inboundTotalBytes	The total number of inbound bytes.
inboundTotalMessages	The total number of inbound messages.
outboundByteRate	The rate of outbound data in bytes per second.
outboundMessageRate	The rate of outbound messages in number of messages per second.
outboundTotalBytes	The total number of outbound bytes.
outboundTotalMessages	The total number of outbound messages.
zoneName	The name of the zone for the route.
zoneType	Indicates a multi-hop or one-hop zone.
active	Indicates whether the server route is currently transferring data: 1 = true 0 = false

0 = false

	inactive	Indicates whether the server route is currently transferring data:		
		1 = true		
		0 = false		
	suspended	Indicates whether outbound messages to the route have been suspended:		
		1 = true		
		0 = false		
	remoteURLName	The IP address and name for the remote connection.		
Detail for Selected	Shows metrics for the server	route selected from the table.		
Route	Connected	The server route connection state.		
		The server route is disconnected		
		The server route is connected.		
	Zone Name	The name of the zone for the route.		
	Remote URL	The IP address and port number for the server route connection. Click the button to open the selected server in the EMS Single Server Summary display.		
	Zone Type	Indicates a multi-hop or one-hop zone.		
	Messages In	Msgs/sec The number of inbound messages, per second.		
		Total The total number of inbound messages since the connection was established.		
		Bytes/sec The amount of inbound messages, in bytes per second, for this server route.		
		Total The amount of inbound messages, in kilobytes, for this server route since the connection was established.		
	Messages Out	Msgs/sec The number of outbound messages, per second.		
		Total The total number of outbound messages since the connection was established.		
		Bytes/sec The amount of outbound messages, in bytes per second.		
		Total The amount of outbound messages, in kilobytes, since the connection was established.		
Trend	Shows message data for the	selected route.		
Graphs	In Msgs / sec Traces th	In Msgs / sec Traces the number of inbound messages, per second.		
	Out Msgs / sec Traces the number of outbound messages, per second.			
	Log Scale	This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option.		

is set as the Y axis

Base at Zero	When this option is checked, zero
	minimum for all graph traces.

Time Range

Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click the button.

Select or Enter Date and Time:
Mar 23, 2015 10:02 AM
Restore to Now
Ok Apoly Cancel

By default, the time range end point is the current time. To change the time range end point, click the button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

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

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

Producers

Track utilization metrics for producers on a single server.

		EMS PI	roducers fo	r Server	06-Jul-2016 13	:27 🧯	🔊 Data OK 🔶	?
EMS Server: tc	p://192.168.200.171:6	5010 🗸	Name: EMS-	SLDEMOS2-6010			8 Producers	
Client ID Filter:		? De	stName Filter:		0		Show Active	Only
Count: 8	Msgs / sec: 4	I.0 Total Msgs:	6,213,157	Bytes / sec: 800	Total B	ytes:	1,222.9 MB	
ID	Client I	D	D	estination	Msgs	l sec	Total Msgs	By
2007		\$sys.adn	nin			0.0	3,302,620	
2049		\$sys.adn	nin			0.0	2,196,187	
2055		\$sys.adn				0.0		
2121		\$sys.adn				0.0		
2136		\$sys.adn				4.0		
2138		\$sys.adn				0.0		
2139		\$sys.adn				0.0		
2140		\$sys.adn	nin			0.0	11,229	

Title Bar (possible features are):	🐼 Data OK Data connection state. Red indicates the Data		
Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the		
 Open an instance of this display in a new window. Open the online help page for this display. 	data source is connected. 23-Mar-2017 12:04 Current date and time. Incorrect time		
Menu , Table open commonly accessed plays.	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.	Open the Alert Views - RTView Alerts Table display.		

Note: Clicking on a row in the Producers table and then clicking the Dest. button in the Title Bar takes you to the "Single Queue Summary" display for the selected producer.

Fields and Data

EMS Server	The EMS Server selected from this drop-down list displays a list of the currently connected Producers.
Name	The name of the EMS server selected from the EMS Server drop-down menu.

Producers	The number of currently connected producers on the server.				
Client ID Filter	Filter field that allows you to filter the list of producers by client ID.				
DestName Filter	Filter field that allows you to filter the list of producers by destination name.				
Show Active Only	Select this check box to display only active producers.				
Count	The number of currently connected producers on the server.				
Msgs / sec	The number of messages, per second, for the producer.				
Total Msgs	The total number of messages for the producer.				
Bytes / sec	The amount of messages, in bytes per second, for the producer.				
Total Bytes	The total size of messages, in bytes, for the producer.				
Table	This table shows metrics for each producer on the selected server. Double- clicking on a row in the Producers table displays details for the producer in the "Producer Summary" drill-down display.				
	ID	A unique string identifier assigned to each producer.			
	Client ID	A unique string identifier assigned to each client.			
	Destination	The name of the destination.			
	Msgs / sec	The number of messages, per second, for the producer.			
	Total Msgs	The total number of messages for the producer.			
	Bytes / secThe size of messages, in bytes per second, for the producer.Total BytesThe total size of messages, in bytes, for the producer.				
	User The user name.				
	Host The name of the host.				
	sessionID	A unique string identifier assigned to each session.			
	ConnID	A unique string identifier assigned to each connection.			
	createTime	The amount of time, in milliseconds, since the producer was created.			
	time_stamp	The date and time this row of data was last updated.			
	Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO Enterprise Message Service > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.			
	destinationType	The configured destination type.			

Producer Summary

Displays details for an individual producer. You can access this display by double-clicking on a producer in the "Producers" display.

(EMS Pro	oducer - Sum	imary	06-Jul-2016 13:	:29 📫 D	Vata OK 💠 🕜
EMS Server:	tcp://192.168.200.17	71:6010	✓	Name: EMS-SLI	DEMOS2-6010			
Producer ID /Client ID:	2007;					~]	
Detail for Sel	ected Producer							
Dest Name:	\$sys.admin							Expired
Dest Type:	Unknown(1)	Producer ID:	2007	Conn	ID: 8227	Session ID:	7923	
Creation Time:	25-May-2016 09:53	:07 User: admir	1					
Client ID:								1
Msgs / sec:	0.0	Total Msgs:	3,302,797	Bytes /	sec: 0.0	Total Bytes:	647	1
				og Scale 🔽	Base at Zero	Time Range:	5 Mins	✓ …
10								
								Msgs / sec
								Bytes / sec
5								
۰ 🗆								
500								
250								
0 13:25:0		26:00	13:27:00		8:28:00	13:29:00		
07/06	5 O7	7/06	07/06	(07/06	07/06		
4							•	

Title Bar (possible features are):	🐼 Data OK Data connection state. Red indicates the Data
🗲 👖 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Fields and Data

This display includes:

EMS Server	The selected EMS Server populates the Producer ID/ Client ID drop-down menu with associated Producer IDs/Client IDs. This drop down list defaults to the EMS Server that was selected on the previous display.
Name	The name of the EMS server selected from the EMS Server drop-down menu.
Producer ID/ Client ID	Drop-down menu containing the Producer IDs/Client IDs. This drop down list defaults to the Producer ID/Client ID that was selected on the previous display.

Detail for Selected Producer	Shows metrics for the producer selected from the table.			
	Dest Name	The name of the destination.		
	Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO Enterprise Message Service > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.		
	Dest Type	The configured destination type.		
	Producer ID	A unique string identifier assigned to each producer.		
	Conn ID	A unique string identifier assigned to each connection.		
	Session ID	A unique string identifier assigned to each session.		
	Creation Time	The amount of time, in milliseconds, since the producer was created.		
	User	The user name.		
	Client ID	A unique string identifier assigned to each client.		
	Msgs/sec	The number of messages, per second, for the producer.		
	Total Msgs	The total number of messages for the producer.		
	Bytes/sec	The size of messages, in bytes per second, for the producer.		
	Total Bytes	The total size of messages, in bytes, for the producer.		
Trend Graphs	Msgs / sec Tra	a for the selected producer. Ices the number of messages for the producer, per second. aces the size of messages for the producer, in bytes.		
	Log Scale	This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option.		

- **Base at Zero** When this option is checked, zero is set as the Y axis minimum for all graph traces.
- Time RangeSelect a time range from the drop down menu varying from
2 Minutes to Last 7 Days, or display All Data. To specify a
time range, click the button.

Selec	t or Enter Date a	nd Time:
Mar 23,	2015 10:02 AM	
	Restore to Now	
Ok	Apply	Cancel

By default, the time range end point is the current time. To change the time range end point, click the button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd**, **YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

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

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

Consumers

Track utilization metrics for consumers on a single server.

EMS Server: tcp	://192.168.200.171:6010	✓ Name: Ef	MS-SLDEMOS2-6010	1	2 Consumers	
Client ID Filter:		OestName Filter:		? .	Show Active (Only
Count: 12	Msgs / sec: 8.0	Bytes / sec: 45.0 KB	Total Msgs: 6,224,639	Total Bytes: ;	28.1 GB	
ID	Client ID		Dest Name	Msgs / sec	Total Msgs	B
7 9 2583 2653 2667 2785 2808 2809 2810 2812 2813 2814		\$TMP\$.EMS-SLDEN \$TMP\$.EMS-SLDEN \$TMP\$.EMS-SLDEN \$TMP\$.EMS-SLDEN \$TMP\$.EMS-SLDEN \$TMP\$.EMS-SLDEN \$TMP\$.EMS-SLDEN \$TMP\$.EMS-SLDEN	AOS2-6030.> AOS2-6010.53A25602AAE11EF3 AOS2-6010.53A25602AAE11F28 AOS2-6010.53A25602AAE11F35 AOS2-6010.53A25602AAE11F91 AOS1-7010.>	0.0 0.0 4.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	2,197,813 276,789 350,505 0 45,130 23,655 13,594	
۲						>

Title Bar (possible features are):	🔄 Data OK Data connection state. Red indicates the Data
🗲 🛧 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Note: Clicking on a row in the Consumers table and then clicking the **Dest.** button in the Title Bar takes you to the "Single Topic Summary" display for the selected consumer.

Fields and Data

This display includes:

EMS Server	The EMS Server selected from this drop-down list displays a list of the currently connected Consumers.
Name	The name of the EMS Server selected from the EMS Server drop-down menu.

Consumers	The number of currently connected consumers on the server.
Client ID Filter	Filter field that allows you to filter the list of consumers by client ID. This filter works in conjunction with the DestName Filter to display the list of consumers.
DestName Filter	Filter field that allows you to filter the list of consumers by destination name. This filter works in conjunction with the Client ID Filter to display the list of consumers.
Show Active Only	Select this check box to display only active consumers.
Count	The number of currently connected consumers on the server.
Msgs / sec	The number of messages, per second, for the consumer.
Bytes / sec	The amount of messages, in bytes per second, for the consumer.
Total Msgs	The total number of messages for the consumer.
Total Bytes	The total size of messages, in bytes, for the consumer.
Table	This table shows metrics for each consumer on the selected server. Double-clicking

This table shows metrics for each consumer on the selected server. Double-clicking on a row in the Consumers table displays details for the consumer in the "Consumer Summary" drill-down display.

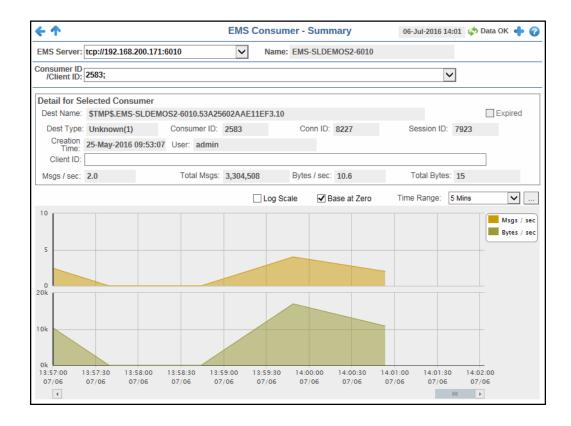
- **ID** A unique string identifier assigned to each consumer.
- **Client ID** A unique string identifier assigned to each client.
- **Dest Name** The name of the destination.
- **Msgs / sec** The number of messages, per second, for the consumer.
- **Total Msgs** The total number of messages for the consumer.
- Bytes / sec The size of messages, in bytes per second, for the consumer.
- **Total Bytes** The total size of messages, in bytes, for the consumer.
- **User** The user name.
- **Host** The name of the host machine.
- **Session ID** A unique string identifier assigned to each session.
- **Conn ID** A unique string identifier assigned to each connection.
- Curr Msg Sent
CountThe number of messages sent to the consumer that were not
yet acknowledged by the consumer's session.
The sl.rtview.jmsadm.queryClDetails property must be set to true in
 - your sample.properties file to see this column.
- Curr Msg Sent Size
 The combined size of messages sent to the consumer that were not yet acknowledged by the consumer's session.

 Note: The sl.rtview.jmsadm.queryClDetails property must be set to
 - true in your sample.properties file to see this column.
- Total Msg Ack
CountThe total number of messages that have been sent to the
consumer and have been acknowledged by the consumer's
session.
 - **Note:** The **sl.rtview.jmsadm.queryCIDetails** property must be set to **true** in your **sample.properties** file to see this column.
- Total Msg Sent
CountThe total number of messages sent to the consumer since the
consumer was created.
 - **Note:** The sl.rtview.jmsadm.queryClDetails property must be set to true in your sample.properties file to see this column.

Elapsed Since Last Ack	The amount of time (in milliseconds) that has elapsed since the last time a message sent to the consumer was acknowledged by the consumer's session.
	Note: The sl.rtview.jmsadm.queryClDetails property must be set to true in your sample.properties file to see this column.
Elapsed Since Last Sent	The amount of time (in milliseconds) that has elapsed since the last time the server sent a message to the consumer.
	Note: The sl.rtview.jmsadm.queryCIDetails property must be set to true in your sample.properties file to see this column.
Destination Prefetch	The actual destination prefetch value used by the server at runtime.
	Note: The sl.rtview.jmsadm.queryCIDetails property must be set to true in your sample.properties file to see this column.
Prefetch Deliv Count	The number of prefetch messages delivered to the consumer by the server. For consumers receiving messages on any destination with positive prefetch value, this value is never more than the prefetch value of the destination. This value cannot be used to identify the status of the consumer, but it can be used in conjunction with other consumer information values to identify consumers who stopped receiving messages due to application-specific problems.
	Note: The sl.rtview.jmsadm.queryCIDetails property must be set to true in your sample.properties file to see this column.
Durable Name	The name of the durable.
Route Name	The queue owner server name if the consumer if the consumer's destination is a routed queue.
	Note: The sl.rtview.jmsadm.queryCIDetails property must be set to true in your sample.properties file to see this column.
Is Active	When checked, the consumer is active and can receive messages from the server.
	Note: The sl.rtview.jmsadm.queryCIDetails property must be set to true in your sample.properties file to see this column.
Is System	This check box is checked if the consumer was automatically created by the system.
	Note: The sl.rtview.jmsadm.queryClDetails property must be set to true in your sample.properties file to see this column.
Session Ack Mode	Lists the consumer's session acknowledge mode as a constant defined in TibjmsAdmin .
	Note: The sl.rtview.jmsadm.queryCIDetails property must be set to true in your sample.properties file to see this column.
Create Time	The amount of time, in milliseconds, since the consumer was created.
time_stamp	The date and time this row of data was last updated.
Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO Enterprise Message Service > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.
Dest Type	The configured destination type.

Consumer Summary

Displays details for an individual consumer. You can access this display by double-clicking on a producer in the "Consumers" display.





Fields and Data

This display includes:

EMS Server	The selected EMS Server populates the Consumer ID/ Client ID drop-down menu with Consumer IDs/Client IDs belonging to this EMS Server. This drop down list defaults to the EMS Server that was selected on the previous display.
Name	The name of the EMS Server selected from the EMS Server drop-down menu.
Consumer ID/ Client ID	Drop-down menu containing the Consumer IDs/Client IDs. This drop down list defaults to the Consumer ID/Client ID that was selected on the previous display.

Detail for Selected Consumer	Shows metrics for the consumer selected from the table.			
	Dest Name	The name of the destination.		
	Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO Enterprise Message Service > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.		
	Dest Type	The configured destination type.		
	Consumer ID	A unique string identifier assigned to each consumer.		
	Conn ID	A unique string identifier assigned to each connection.		
	Session ID	A unique string identifier assigned to each session.		
	Creation Time	The amount of time, in milliseconds, since the consumer was created.		
	User	The user name.		
	Client ID	A unique string identifier assigned to each client.		
	Msgs/sec	The number of messages, per second, for the consumer.		
	Total Msgs	The total number of messages for the consumer.		
	Bytes/sec	The size of messages, in bytes per second, for the consumer.		
	Total Bytes	The total size of messages, in bytes, for the consumer.		
Trend Graphs	Msgs / sec Tra	a for the selected producer. Ices the number of messages for the consumer, per second. aces the size of messages for the consumer, in bytes.		
	Log Scale	This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option.		

- **Base at Zero** When this option is checked, zero is set as the Y axis minimum for all graph traces.
- Time RangeSelect a time range from the drop down menu varying from
2 Minutes to Last 7 Days, or display All Data. To specify a
time range, click the button.

Select or Enter Date and Time:				
Mar 23, 2015 10:02 AM				
	Restore to Now			
Ok	Apply	Cancel		

By default, the time range end point is the current time. To change the time range end point, click the button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd**, **YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

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

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

Durables

Track utilization metrics for durables on a single server.

(↑		EMS D	urables for	Serv	ver	06	6-Jul-201	6 14:06	救 Data OK	+ 0
EMS Server: tcp://192.168.20	.173:9010	\checkmark	Name: EMS	SLDE	MOS4-901	.0				
						Total Pendi	ing Msgs	: 0	Durable (Count: 28
Name	Topic	active	Client ID	con	sumerID	noLocalE	nabled	Pendir	ng Msgs	Penc
PROD1.emsmgr.topic.market.ca	PROD1.emsmgr		null		90				0	^
PROD1.emsmgr.topic.market.ca	PROD1.emsmgr		null		91				0	
PROD1.emsmgr.topic.market.ca	PROD1.emsmgr		null		92				0	
PROD1.emsmgr.topic.market.ca			null		94				0	
PROD1.emsmgr.topic.market.ca			null		95				0	
PROD1.emsmgr.topic.market.ca			null		96				0	
PROD1.emsmgr.topic.market.ca	_		null		97				0	
PROD1.emsmgr.topic.market.ca			null		98				0	~
PROD1.emsmgr.topic.market.ca	PROD1.emsmgr		null	L	99				0	_
<										>
Durable: PROD1.emsmgr.to	pic.market.cash.flow.	transactio	on1-dur			Client ID:	null			
Users:					Co	nsumer ID:	90			
Topic: PROD1.emsmgr.t	pic.market.cash.flow.	transactio	on1		Per	nding Msgs:	0			tive
Selectors:					Dendin	g Msg Size:	0			o Local
Selectors.					Pendin	g wsg size.	0			nabled
			Log Scale	√ B	ase at Zer	o Tim	e Range	5 Mins	5	∨
10									_	
									Pend	ing Msgs
5										
0										
14:02:00	14:03:00	14:0	4:00	1	4:05:00		14:06:0	0	_	
07/06	07/06		/06		07/06		07/06	-		
4								Ш	•	

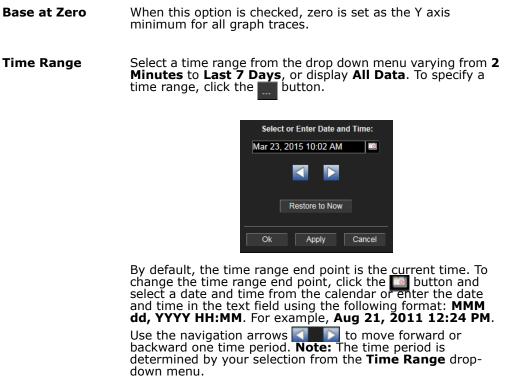
Title Bar (possible features are):	💠 Data OK Data connection state. Red indicates the Data
 Open the previous and upper display. Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	Server is not receiving data or 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
6,047 The number of items currently in the display.	current and valid. Open the Alert Views - RTView Alerts Table display.

Fields and Data

This display includes:

EMS Server	The EMS Server selected from this drop-down menu populates all associated Durables data in this display.
Name	The name of the EMS Server selected from the EMS Server drop-down menu.
Total Pending Msgs	The total number of pending messages for the durable.
Durable Count	The number of currently connected durables on the server.
Table	This table shows metrics for each durable on the selected server.

	Name	The name of the durable.
	Торіс	The name of the topic.
	Active	Indicates whether the durable is active.
	Client ID	A unique string identifier assigned to each client.
	consumerID	A unique string identifier assigned to each consumer.
	NoLocalEnabled	Indicates whether the subscriber receives messages from all connections its local connection.
		Enabled The subscriber does not receive messages sent from its local connection.
		Disabled The subscriber receives messages from all connections.
	Pending Msgs	The total number of pending messages for the selected durable.
	Pending Size	The total amount of pending messages, in bytes, for the selected durable.
	Selector	Indicates that the subscriber only receives messages that match this selector.
	userName	The name of the user of this durable subscriber.
	time_stamp	The date and time this row of data was last updated.
Durable	The name of the du	rable selected from the table.
Users	The names of the us	sers of this durable subscriber.
Торіс	The name of the top	pic.
Selectors	Indicates that the su	ubscriber only receives messages that match this selector.
Client ID	A unique string iden	tifier assigned to each client.
Consumer ID	A unique string iden	tifier assigned to each consumer.
Pending Msgs	The total number of	pending messages for the selected durable.
Pending Msg Size	The total size of pen	iding messages, in bytes, for the selected durable.
Active	Indicates whether the	ne durable is active.
No Local	Indicates whether the connection.	ne subscriber receives messages from all connections its local
	Enabled	The subscriber does not receive messages sent from its local connection.
	Disabled	The subscriber receives messages from all connections.
Trend Graphs	-	a for the selected consumer. Traces the number of pending messages for the durable.
	Log Scale	This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option.



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

TIBCO Spotfire Reports

There are two TIBCO Spotfire reports that are provided with EMS Monitor, the **EMS Queue Message Metrics Report** and the **EMS Server Message Metrics Report**. Each of the reports can be configured using Oracle or MySQL. This section includes:

- "System Requirements" on page 498
- "Configuring Spotfire Reports" on page 499
- "Reports" on page 511

System Requirements

This section describes the minimum system requirements necessary to use these reports.

TIBCO Spotfire

Version 7.0 for Oracle and MySQL reports

Clients

Microsoft Windows 64-bit

Databases Supported

Oracle (version 11G) and MySQL (version 5.6)

Configuring Spotfire Reports

Though similar, there are two slightly different flows for configuring the TIBCO Spotfire reports:

- "MySQL Report Configuration" on page 499
- "Oracle Report Configuration" on page 504.

MySQL Report Configuration

You can generate the following reports using Oracle MySQL: **EMS Server Message Metrics Report** (using **ems_serverinfo_mysql.dxp** and **ems_serverinfo_mysql.txt**) and **EMS Queue Message Metrics Report** (using **ems_queues_mysql.dxp** and **ems_queues_mysql.txt**).

 Open the ems_queues_mysql.dxp Spotfire Analysis file in the rtvapm/emsmon/ projects/reports/Spotfire directory that was created during the EMS Monitor installation.

The **Data Connection Login** window displays.

ease log into the d	ata source.
Data connection:	
Connection	
Data source:	
Authentication meth Database: rtvhistory	nod: Database authentication /
I	
Jsemame:	
Jsemame: ² assword:	

Click the Skip button (there is no need to log in at this point).
 The TIBCO Spotfire dashboard displays.

ems_queues_mysql.dxp - TIBCO Spotfire		
File Edit View Insert Tools Hel ⇒ ▼ ∰	; ▶ ▼ 🕄 🖬 🔌 🖩 📾 🗠 🖬 → 📲 🖬 🗠 🖁	🛓 😃 🖄 🥹 📰 📕 🖂 🗗 🗰 🔝 🏟 🗄
	By Week Number	
Vetric: Consumer Count Receiver Count Inbound Message Rate Outbound Message Rate Inbound Byte Rate Outbound Byte Rate Pending Message Size Pending Message Size	0.00	
Reset All Filters	By Week Day	
Type to search in list (All) D values	0.00	
	By Hour	
	0.00	
Details-on-Demand		>
imeGroup ConsumerCo Receiv	Count InboundMsg OutboundMs InboundByte OutboundBy	rt PendingMess PendingMess URL
Details		0 of 0 rows 0 marked 11 columns

3. Click File> Replace Data Table.

The **Replace Data Table** window displays.

place Data Table	X
Select data table to replace:	
ems_queues_mysql	· · · · · · · · · · · · · · · · · · ·
Select source to replace with:	
	Select 👻
Settings	
Load method:	IBM Netezza
🔿 Import data table	Microsoft SQL Server
 Keep data table external 	Microsoft SQL Server Analysis Services
Load on demand	OData
	Oracle
Settings (No parameters applied)	Oracle Essbase
 Show transformations (no transformation steps ad 	d Oracle MySQL
Help	Pivotal Greenplum
	Pivotal HAWQ
	PostgreSQL
	SAP BW

Note: When connecting the **ems_queues_mysql** dashboard to your MySQL data, Spotfire's **Replace Data Table** functionality may run very slowly, or even time-out, if the dataset is too large.

4. Click the **Select** button (associated with the **Select source to replace with** field) and select **Oracle MySQL**.

The **Oracle MySQL Connection** window displays.

Pracle MySQL Connection	×
Server:	
168.106.219.198:3330	•
Authentication method:	
Database authentication	•
Usemame:	
ott	
Password:	
•••••	
	Connect
Database:	
rtvhistory	×0.
Help	OK Cancel

5. Enter the **Server**, **Username**, **Password**, select **Database authentication** as the **Authentication Method**, and click the **Connect** button.

The **Database** drop down should be populated.

6. Select **rtvhistory** from the **Database** drop down and click the **OK** button.

The **Views in Connection** window displays.

Views in Connection		×
Available tables in database:	Views in connection:	Columns in selected view:
Relations • Custom Query • Edit Tables Sbw6 New Custom Query Edit Custom Query Edit Custom Query bw_activity_totals Delete Custom Query bw_activity_totals bw_processes bw_processes bw_processes bw_processes compared to table bwf_process_totals bwf_processes bwf_processes compared totals ems_connections ems_ourbestotals ems_producers ems_producers ems_producers ems_producers ems_protecounts ems_protecounts ems_protecounts ems_protecounts	Add > < Remove	
Help		OK Cancel

 Select the Custom Query drop down list and select New Custom Query. The Custom Query window displays.

luery name:			
EMS_queues_mysql			
luery:			
7 AVG ("outboundByteRate") as "outboundByte			
8 AVG("pendingMessageSize") as "pendingMes			
<pre>9 AVG("pendingMessageCount") as "pendingMe</pre>	ssageCount"		
LO from ((
11 Select CONCAT (CONCAT (EXTRACT (month from CONCAT (CONCAT (EXTRACT (day from "time sta		VTDACT	(ver from
"time stamp"),' '),	mp /, -), CONCAI (CONCAI (E	AIRACI	(year from
12 CONCAT (CONCAT (EXTRACT (hour from "time st	amp"),':'		l
), CONCAT (TO_CHAR (FLOOR (EXTRACT (minute fr	om "time_stamp")/15))*15,	1:00.0	0')))))
13 "TimeBucket", "inboundMessageRate", "out	boundMessageRate", "outbou	ndByte	Rate",
			Verify
Rouit Columna D			Verify
Result Columns Parameters			Verify
Result columns:	Data Tina		
Result columns: Column Name	Data Type	-	Verify
Result column Same	String		
Result columns: Column Name	String		New
Result columns: Column Name URL	String	E	New
Result columns: Column Name URL TimeBucket	String	E	New
Result columns: Column Name URL TimeBucket name	String String String	E	New
Result columns: Column Name URL TimeBucket name consumerCount	String String String Double	E	New Edit Delete Move Up
Result columns: Column Name URL TimeBucket name consumerCount receiverCount	String String String Double Double	E	New Edit Delete
Result columns: Column Name URL TimeBucket name consumerCount receiverCount outboundMsgRate	String String Double Double Double		New Edit Delete Move Up

8. Enter the desired name (whatever name is meaningful for you) into the Query_name field, open the text file in your installation directory associated with your table (for example, if you are selected ems_queues_mysql.dxp initially, then open ems_queues_mysql.txt), copy and paste the SQL code in the file into the Query field on the Custom Query window, and click the Verify button.

Note: This step is required because the database contains data that has been compacted as well as data that has not yet been compacted. The SQL code compacts the data that has not been compacted and adds the newly compacted data to the already compacted data so that all the "bucket" values are the same. For example, let's say the compacted data is compacted so that the oldest data is contained in 15 minute buckets, but the more recent data is contained in 5 or 10 minute buckets. The SQL code takes the data contained in the 5 and 10 minute buckets and compacts it into 15 minute buckets so that all the data is consistently bucketed.

Once the SQL has been verified, the column names display in the **Result Columns** tab.

9. Click the OK button on the Custom Query window.

The new query (for example, **EMS_queues_mysql)** should display in the list of **Custom queries** on the **Views in Connection** window.

Views in Connection		×
Available tables in database:	Views in connection:	Columns in selected view:
Relations - Custom Query - Edit Tables		
EMS_queues_mysql		
ems_queues < Remove		
Help		OK Cancel

10.Select your new custom query and click the **Add** button.

Your new custom query should display in the **Views in connection** region and the query's associated columns should display in the **Columns in selected view** region.

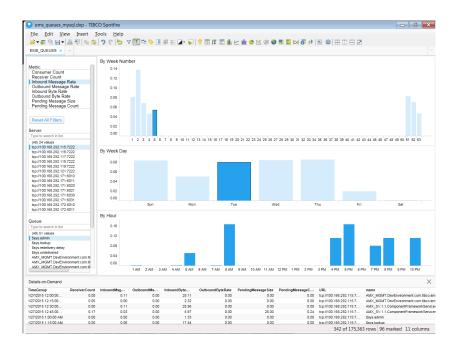
vailable tables in database:	Views in connection:	Columns in selected view:
Type to search tables Relations Custom Query Edit Tables Custom queries Contended Custom queries ems_queues ems_queues	Add > <remove< td=""><td>ImeGroup ConsumeCount ReceiverCount InboundMsgRate OutboundMsgRate UbundByteRate OutboundByteRate PendingMessageSize PendingMessageCount UIL name</td></remove<>	ImeGroup ConsumeCount ReceiverCount InboundMsgRate OutboundMsgRate UbundByteRate OutboundByteRate PendingMessageSize PendingMessageCount UIL name

11.Click the **OK** button on the **Views in Connection** window.

The **Replace Data Table** window displays.

Replace Data Table		×
Select data table to replace:		
ems_queues_mysql		v
Select source to replace with:		
EMS_queues_mysql		Select 💌
Settings		
Load method:		
Import data table		
Keep data table external		
Load on demand		
Settings (No parameters applied)		
$\ensuremath{}$ Show transformations (no transformation steps added)		
Help	ОК	Cancel

12.Select the **Import data table** radio button and click the **OK** button. Your data should display in TIBCO Spotfire.



13.Repeat the same steps above for the ems_serverinfo_mysql.dxp Spotfire Analysis file and the ems_serverinfo_mysql.txt file to create the EMS Server Message Metrics Report.

Oracle Report Configuration

There are two different Oracle reports that can be generated: **EMS Server Message Metrics Report** (using **ems_serverinfo_sql.dxp** and **ems_serverinfo_sql.txt**) and **EMS Queue Message Metrics Report** (using **ems_queues_sql.dxp** and **ems_queues_sql.txt**).

 Open the ems_queues_sql.dxp Spotfire Analysis file in the rtvapm/emsmon/ projects/reports/Spotfire directory that was created during the EMS Monitor installation. The **Data Connection Login** window displays.

Data Connection Lo	gin	×
Please log into the d	lata source.	
Data connection:		
Connection		
Data source:		
Connection type: O Server: 202.168.19 Authentication meth Database: rtvhistory	2.198:3368 nod: Database authentication	
Usemame:		
Password:		
Help	Connect Skip	Cancel

Click the Skip button (there is no need to log in at this point).
 The TIBCO Spotfire dashboard displays.

ems_queues_sql.dxp - TIBCO Spotfire		
File Edit View Insert Tools Help ☞ ▼ 幕 ⑭ ☴ ▼ 홈 輕 ◎ @ ◎ ♥ ♥ EMS_QUEUES × +	5 또 🗓 🖷 🖗 🏵 🖬 🗐 🗄 🗐 🗐 🗮 🤤 🖬 🖉 🖓 👼	•• 🖻 📽 🖽
Metric: Consumer Count Receiver Count Pending Message Count Pending Message Size Inhound Message Size Outbound Byte Rate Outbound Byte Rate Outbound Message Rate	By Week Number	
Server: Type to search in list (All) O values	By Week Day	
()	By Hour	
Details-on-Demand JRL TimeBucket name	consumerCo receiverCount outboundMs InboundMsg InboundByte outboundBy	t pendingMess
	0 of 0 rows	0 marked 12 columns

3. Click File> Replace Data Table.

The **Replace Data Table** window displays.

elect data table to replace:		
ms_queues_sql		
elect source to replace with:		
·	Select 👻	
Settings	1	
Load method:	IBM DB2	
💿 Import data table 🛛 😽	IBM Netezza	
Keep data table external	Microsoft SQL Server	
Load on demand	Microsoft SQL Server Analysis Services	Į
Settings (No parameters applied)	OData	
	Oracle	
 Show transformations (no transformation steps a 	d Oracle Essbase	
Help	Oracle MySQL	l
	Pivotal Greenplum	
	Pivotal HAWQ	
	PostgreSQL	

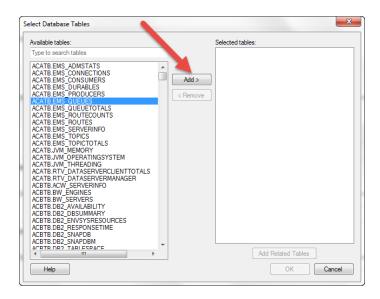
4. Click the **Select** button (associated with the **Select source to replace with** field) and select **Oracle**.

The **Oracle Connection** window displays.

Dracle Connection	×
Server:	
162.100.200.98	-
Connect using:	
SID 🔻 or	d
Authentication method:	
Oracle authentication	•
Usemame:	
ATB	
Password:	
•••••	
Help	Connect Cancel

Enter the Server, select SID in the Connect using drop down (and enter orcl in the associated field if not defaulted), select Oracle authentication as the Authentication Method, enter the Username and Password, and click the Connect button.

The **Select Database Tables** window displays.



6. Select ACATB.EMS_QUEUES from the Available Tables select list and click the Add button.

The table displays in the **Selected tables** region.

Select Database Tables	×
Available tables:	Selected tables:
Type to search tables	ACATB.EMS_QUEUES
Type U sead childres ACATE EMS CONNECTIONS ACATE EMS CONNECTIONS ACATE EMS CONNECTIONS ACATE EMS CONNECTIONS ACATE EMS OURABLES ACATE EMS QUEUETOTALS ACATE EMS QUEUETOTALS ACATE EMS QUEUETOTALS ACATE EMS CONTECUINTS ACATE EMS TOPICTOTALS ACATE BAY MEMORY ACATE SUM OPERATINGSYSTEM ACATE BAY DATASERVERNIFO ACATE BAY ENGINES ACATE BAY ENGINES ACATE BAY SERVERINFO ACATE BAY SERVERINF	Add > <remove< td=""></remove<>
	Add Related Tables
Help	OK Cancel

7. Click the OK button.

The **Views in Connection** window displays with the selected table listed in the **Available tables in the database** region.

able tables in database:	Views in connection:	Columns in selected view:
to search tables		
tions • Custom Query • Edit Tables		
ACATE Edit Custom Query Delete Custom Query	Add > < Remove	

8. Select the **EMS_QUEUES** table from the list and click **Custom Query > New Query**. The **Custom Query** window displays.

luery name:			
EMS_Queues_orcl			
luery:			
6 AVG ("inboundByteRate") as "inbound			
7 AVG ("outboundByteRate") as "outbou			
8 AVG ("pendingMessageSize") as "pend			
9 AVG("pendingMessageCount") as "per 0 from (hdingMessageCount"		
1 Select CONCAT (CONCAT (EXTRACT (mont)	h from "time stamp"),'-').		
	ime stamp"), '-'), CONCAT (CONCAT (EXI	RACT (Y	ear from
"time_stamp"),' '),	_		
2 CONCAT (CONCAT (EXTRACT (hour from "			
), CONCAT (TO, CHAR (FLOOR (EXTRACT (mi)	<pre>nute from "time stamp")/15))*15, ':</pre>	00.00')))))
// south (10_shak (1100k (141 MCI (iii)			Verify
,, contait (10_onak (1200k (2418401 (iii)	1002 120m 02m2_02mg (, 10), 10,		Verify
			Verify
Result Columns Parameters			Verify
Result Columns Parameters	Data Type		Verify New
Result Columns Parameters Result columns:			New
Result Columns Parameters Result columns: Column Name	Data Type		New Edit
Result Columns Parameters Result columns: Column Name URL	Data Type String		New
Result Columns Parameters Result columns: Column Name URL TimeBucket	Data Type String String		New Edit
Result Columns Parameters Result columns: Column Name URL TimeBucket name	Data Type String String String		New Edit Delete
Result Columns Parameters Result columns: Column Name URL TimeBucket name consumerCount	Data Type String String String Double		New Edit Delete Move Up
Result Columns Parameters Result columns: Column Name URL TimeBucket name consumerCount receiverCount	Data Type String String Double Double		New Edit Delete
Result Columns Parameters Result columns: Column Name URL TimeBucket name consumerCount receiverCount outboundMsgRate	Data Type String String Double Double Double		New Edit Delete Move Up

9. Enter the desired name (whatever name is meaningful for you) into the **Query_name** field, open the text file in your installation directory associated with your table (for example, if you selected **ems_queues_sql.dxp** initially, then open

ems_queues_sql.txt), copy and paste the SQL code in the file into the **Query** field on the **Custom Query** window, and click the **Verify** button.

Note: This step is required because the database contains data that has been compacted as well as data that has not yet been compacted. The SQL code compacts the data that has not been compacted and adds the newly compacted data to the already compacted data so that all the "bucket" values are the same. For example, let's say the compacted data is compacted so that the oldest data is contained in 15 minute buckets, but the more recent data is contained in 5 or 10 minute buckets. The SQL code takes the data contained in the 5 and 10 minute buckets and compacts it into 15 minute buckets so that all the data is consistently bucketed.

Once the SQL script has been verified, the column names display in the **Result Columns** tab.

10.Click the OK button.

The new query displays under **Custom queries** in the **Available tables in database** list on the **Views in Connection** window.

Views in Connection		×
Available tables in database:	Views in connection:	Columns in selected view:
Type to search tables		
Relations Custom Query Edit Tables		
K/S EMS_Queues_orcl	Add >	
	Remove	
Help		OK Cancel

11.Select your newly added query/view and click the **Add** button.

The new query displays in the **Views in connection** list and the associated columns display in the **Columns in selected view** region.

ailable tables in database:	Views in connection:	Columns in selected view:
elations - Loues II declase. pet to search tables elations - Custom Query - Edit Tables Custom queries C EMS_Queues_ord	Add > < Remove	Image: State Stat

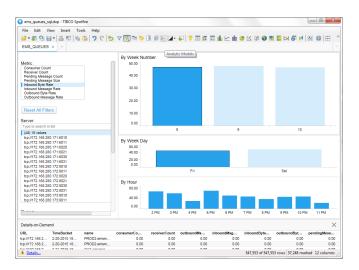
12.Click the **OK** button.

The **Replace Data Table** window displays.

place Data Table	X
Select data table to replace:	
ems_queues_sql	T
Select source to replace with:	
EMS_Queues_orcl	Select -
Settings	
Load method:	
Import data table	
Keep data table external	
Load on demand	
Settings (No parameters applied)	
\odot Show transformations (no transformation steps added)	
Help	OK Cancel

13.Select Import data table as the Load Method and click OK.

Your report should display in the TIBCO Spotfire dashboard.



14.Repeat the above steps using the ems_serverinfo_sql.dxp Spotfire Analysis file and the ems_serverinfo_sql.txt files to create the EMS Server Message Metrics Report.

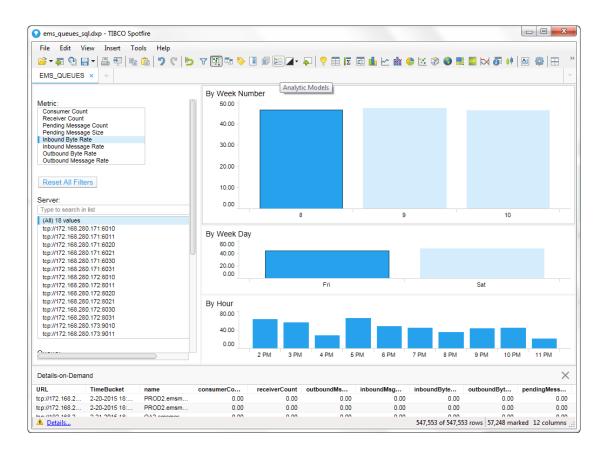
Reports

The following reports are available:

- "EMS Queue Message Metrics Report" on page 512
- "EMS Server Message Metrics Report" on page 513

EMS Queue Message Metrics Report

The **EMS Queue Message Metrics Report** allows you to details for various metrics for one or more selected servers.



Metrics and Data

This report includes:

Metric

Lists the metrics available for the report.

Consumer Count	The total number of consumers.
Receiver Count	The number of active receivers on the queue
Pending Message Count	Number of currently pending messages on the server.
Pending Message Size	Amount of space, in bytes, that the pending messages use on the server.
Inbound Byte Rate	The rate of inbound bytes per second.
Inbound Msg Rate	The rate of inbound messages per second.
Outbound Byte Rate	The rate of outbound bytes per second.

Outbound	The rate of outbound messages per second.
Msg Rate	

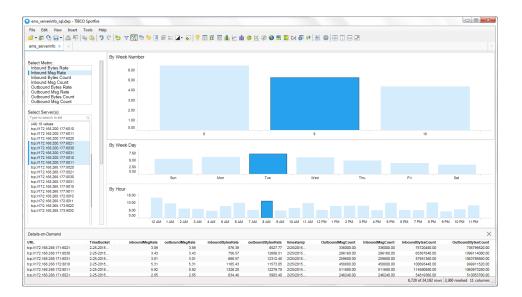
Reset All Resets any defined filters from the report. Filters

Server	Select the server or servers for which you want to view data in the report. You
	can use the Search field to find a particular server. Selecting a server or servers
	from this list automatically updates the list of available queues in the Queues
	select list.

- Queue Select the queue or queues for which you want to view data in the report. You can use the **Search** field to find a particular queue.
- **By Week** Displays the averages (for the Rate metrics) or sums (for the Count metrics) for the selected server(s) for each week. You can hover over each week to view the exact counts or rates for that week. Clicking on a particular week displays data Number for each day for that particular week in the **By Week Day** region.
- By Week Day Displays the averages (for the Rate metrics) or sums (for the Count metrics) for each day in the selected week. Hovering over a particular day displays the exact sum or average for that day. Clicking on a particular day populates data for each hour in the **By Hour** region.
- Displays the averages (for the Rate metrics) or sums (for the Count metrics) for **By Hour** each hour in the selected day. Hovering over a particular hour displays the exact sum or average for that hour. Clicking on a particular hour updates the **TimeBucket** information in the **Details-on-Demand** region.
- Shows all metrics (Consumer Count, Receiver Count, Pending Message Count, Pending Size Count, Inbound Byte Rate, Inbound Msg Rate, **Details-on-**Demand Outbound Byte Rate, and Outbound Msg Rate) for each selected server at a specific time (TimeBucket (24 hour clock) and timestamp) based on the object selected in the dashboard (By Week Number, By Week Day, and By Hour).

EMS Server Message Metrics Report

This report displays the sum or average of the selected metric for a server or servers by week number, by week day, and by hour of a particular day. You can hover over the various objects in the report to view more detailed information, or look in the **Details-on-Demand** region to view data details for a specific time bucket.



Metrics and Data This report includes:

Select Metric Lists the metrics available for the report.

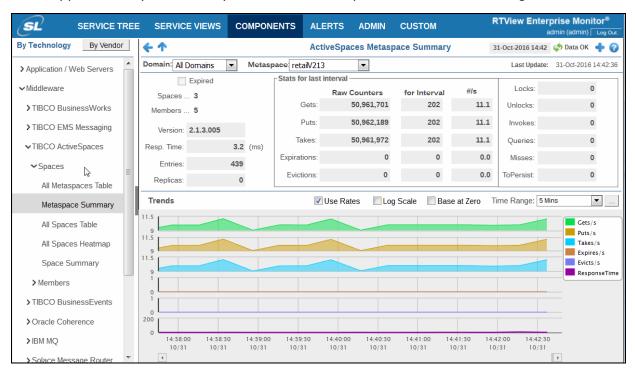
	Inbound Bytes Rate	The rate of inbound bytes per second.
	Inbound Msg Rate	The rate of inbound messages per second.
	Inbound Bytes Count	The number of inbound bytes received by the server since the server was started.
	Inbound Msg Count	The number of inbound messages received by the server since the server was started.
	Outbound Bytes Rate	The rate of outbound bytes per second.
	Outbound Msg Rate	The rate of outbound messages per second.
	Outbound Bytes Count	The number of outbound bytes sent by the server since the server was started.
	Outbound Msg Count	The number of outbound messages sent by the server since the server was started.
Select Server	Select the serve	er or servers for which you want to view data in the report.
By Week Number	the selected ser exact counts or	erages (for the Rate metrics) or sums (for the Count metrics) for ver(s) for each week. You can hover over each week to view the rates for that week. Clicking on a particular week displays data that particular week in the By Week Day region.
By Week Day	each day in the	erages (for the Rate metrics) or sums (for the Count metrics) for selected week. Hovering over a particular day displays the exact for that day. Clicking on a particular day populates data for each Hour region.
By Hour	each hour in the sum or average	erages (for the Rate metrics) or sums (for the Count metrics) for e selected day. Hovering over a particular hour displays the exact for that hour. Clicking on a particular hour updates the formation in the Details-on-Demand region.
Details-on- Demand	Count, Inboun Outbound Byte specific time (Ti	cs (Inbound Bytes Rate, Inbound Msg Rate, Inbound Bytes d Msg Count, Outbound Bytes Rate, Outbound Msg Rate, es Count, Outbound Msg Count) for each selected server at a meBucket (24 hour clock) and timestamp) based on the object dashboard (By Week Number, By Week Day, and By Hour).

CHAPTER 9 Solution Package for TIBCO ActiveSpaces

The Solution Package for TIBCO ActiveSpaces[™] is a plug-in application to RTView Enterprise Monitor® that allows you to monitor the health and performance of TIBCO ActiveSpaces instances and services in real-time.

TIBCO ActiveSpaces is a distributed in-memory data grid for building highly scalable, faulttolerant applications. The distributed, highly-scalable nature of TIBCO ActiveSpaces often include 10s if not 100s of individual nodes which can be clustered locally or geographically across multiple datacenters which makes monitoring a distributed cluster quite a challenge. Often, performance issues on one node are negligible and are handled via fault tolerance but cluster wide problems can be catastrophic.

RTView Enterprise Monitor provides the visibility necessary to monitor such a highly distributed environment in the context of managing TIBCO Infrastructure components on up to the application layers that rely on TIBCO ActiveSpaces as a crucial caching mechanism.



This chapter includes:

- "Product Overview"
- "Configuration Parameters You Need"
- "Configure Data Collection"
- "Enabling & Disabling Archival of Historical Data"
- "Troubleshoot"
- "Upgrading the Monitor"
- "TIBCO ActiveSpaces Monitor Views/Displays"

Product Overview

• View Global Displays Showing Each Space within One or More Metaspaces

A global, consolidated view is especially important when it comes to in-memory data grids. Typically, data and activity (gets / puts) are not evenly distributed across a grid that contains multiple, independently typed spaces. Data spaces of disparate sizes can be instantiated on different subsets of members, some overlapping, some not. It is essential to be able to quickly determine and remedy those situations where individual spaces may be hogging resources and causing a performance bottleneck affecting users.

• View Performance and Utilization across All Members of a Cluster Hosting Each Space

When content size and activity metrics are not evenly distributed across all members within a single space, an individual member may become overloaded and cause a performance bottleneck affecting end users. TIBCO ActiveSpaces Monitor can visually identify where these "hotspots" are in each cluster. By knowing how space members interact with the space via their role and metrics, like data volume and gets/puts/takes per second, system administrators are enabled to dynamically manage the system resources in order to maintain high performance of a cluster.

Monitor TIBCO ActiveSpaces at the Application Level

No matter whether you are responsible for just ActiveSpaces, or all the TIBCO middleware components within a given application or even the entire application platform including JVMs, virtual machines, physical machines and databases, TIBCO ActiveSpaces Monitor provides the visual context that allows you to view the overall health and stability of an application as an aggregate of the health of its individual infrastructure components. RTView allows the user to drill-down on alerts at the application level to see the status of all the infrastructure components, and down to the individual alerts within any given component to quickly identify the source of the problem without having to resort to multiple different native monitoring tools.

• Alerting in a Dynamic Data Grid

Though it is possible to use the TIBCO Hawk Console to define alerts on each member in the grid, one at a time, it becomes impractical when the grid gets larger (e.g. > 20 members), or when new members are being added dynamically. In this common scenario, an alert configuration mechanism that dynamically assigns alerts to each member and space as they come and go makes managing the system much easier as it undergoes change.

TIBCO ActiveSpaces Monitor adds Historical Alerts to Aid in Problem Resolutions

Naturally, you need real-time metrics to ensure that you spot alerts that might help you to head off problems before they affect the end user but often we need to diagnose the root cause of failure AFTER we get our systems back up and running. RTView collects and displays those time-stamped snapshots of metrics to help you understand what went wrong as well as provide the context on whether a given spike is normal or whether it is an outlier that needs immediate attention.

Perform Scalability and Capacity Analysis to Ensure Optimal Response Times

RTView Enterprise Monitor gives you visual confirmation of cluster-wide workloads so that you can ensure you have the optimum number of nodes required to support current and peak activity levels. Capacity analysis is also useful in determining whether you have enough compute capacity to add new applications to the ActiveSpaces cluster or whether you need to add nodes to support the additional workload. Historical data analysis also allows you to view capacity from day-to-day or minute-to-minute and is particularly useful in determining the impact of application changes and updates to system resources.

Identify Potentially Abusive Usage Patterns that affect System Performance

What users are using my resources? Who is consuming the most capacity? Am I using my system resources efficiently? Am I dedicating enough capacity to my most valuable applications or am I wasting it on lower value services? These are all common questions when we run into unexpected capacity issues. RTView Enterprise Monitor helps you to answer these questions to ensure that your resources are used efficiently for the most mission critical applications.

Cross-Correlation of ActiveSpaces Metrics with Hardware, Database and Network Metrics

So you see a backup within your ActiveSpaces environment. Is the problem in the ActiveSpaces cluster? Or is it in fact caused by excess latency within the network layer. You could take hours to track down the answer to these types of questions. Fortunately, RTView Enterprise Monitor is able to correlate events and metrics from different systems and aggregate them in a visually intuitive way so that you can instantly see the impact across multiple layers all at the same time.

See **README_sysreq.txt** for the full system requirements for RTView®.

Configuration Parameters You Need

To configure the Solution Package for TIBCO ActiveSpaces make a note of the following values:

- PackageName=tasmon
- ServerDirectory=miscmon
- AlertPrefix=Tas

Configure Data Collection

Perform the following to enable data collection:

Use the RTView Configuration Application to configure your data collection.

1. Navigate to RTView Configuration Application > (MISCMON-LOCAL/Project Name) > Solution Package Configuration > TIBCO Active Spaces > CONNECTIONS tab.

€ RTView®	MISCMON-LOCAL - Miscellaneous	Monitor	
APROJECTS	TIBCO Active Spaces		
Custom	CONNECTIONS	DATA COLLECTION	DATA STORAGE
Docker			
IBM DB2			
Microsoft SQL Server	Classpath (Required) Directory Containing TIBCO Active Spaces Jars. This is requi	ed to connect to TIBCO Enterprise Message Service.	
MongoDB			
MySQL Database	ex. /tibco/as/2.1.2/lib or c:\tibco\as\2.1.2/lib Always enclose enviro	nment variables in %, ex. %MY_ENV_VAR%	
Node.js			•
Oracle Database			-
Oracle Enterprise Manager	To be	gin adding Connections, click 😛	
RTView Manager			
RedHat JBoss			
TIBCO Active Spaces			
TIBCO Adapters			
TIBCO BusinessEvents			
TIBCO Hawk			
VMWare			
hostmon			

2. On the **CONNECTIONS** tab, provide the correct full path to the directory containing the TIBCO Active Spaces JDBC jar file in the **Classpath** field. For example:

%RTVAPM_HOME%/../ext/tibco/as/2.1.6/as-admin.jar

%RTVAPM_HOME%/../ext/tibco/as/2.1.6/as-common.jar

TIBCO Active Spaces		
CONNECTIONS	DATA COLLECTION	DATA STORAGE
Classpath (Required) Directory Containing TIBCO Active Spaces Jars. This is req	ulired to connect to TIBCO Enterprise Message Service.	
ex. /tibco/as/2.1.2/lib or c:\tibco\as\2.1.2\lib Always enclose env	ironment variables in %, ex. %MY_ENV_VAR%	
To b	egin adding Connections, click	•

3. In the **Connections** section, click the The **Add Connection** dialog displays.

TIBCO Active Spaces		
CONNECTIONS	DATA COLLECTION	DATA STORAGE
Classpath (Required)	Add Connection	Î
Directory Containing TIBCO Active Spaces Jars. This is required to con	Metaspace *	
ex. /Ebco/esi2,1,2/Eb or o:/Ebcolesi2,1,2/Eb Always enclose environment vari	Domain Name	
	Space	
To begin a	Discovery URL	
	Show Example Formats Listen URL	
	Show Example Formats Security Token File	
	Identity Password	
	* Indicates required field	
	SAVE CANCEL	*

icon

4. Enter the metaspace name, the domain name(s), connection name(s), and space name(s) to which you want to view data and click **Save** to connect to your metaspace, where:

Metaspace - the name of the metaspace to be monitored.

Domain Name - arbitrary name that can be used to differentiate collectors when their results are aggregated into a common cache at the central rtview collection server.

Space - a semi-colon separated list of space names to monitor. Typically, this should be set to "*" to monitor all spaces in the given metaspace.

Discovery URL - If your dataserver is on the same subnet as your metaspace cluster (the recommended method), specify this field using the following format:

```
tcp://interface:port;interface2:port2;interface3:port3 tibpgm://dport/
interface;multicast/key1=value1;key2=value2;key3=value3 tibrv://service/network/
daemon
```

Set this field to "-" to accept the default "tibpgm".

If your dataserver is a remote client and you set up an as-agent as follows:

```
java -jar as-agent.jar -name as-agent0 -metaspace <metaspace> -remote_listen
tcp://<agent-host-ip>:<agent-port>
```

Then you would configure the Discovery URL as follows:

```
Discovery URL=tcp://<agent-host-ip>:<agent-port>?remote|true listen=tcp://
<dataserver-host-ip>:<dataserver-port>
```

Note: Using the syntax "remote|true" instead of "remote=true" is a work-around for a limitation of the RTView connection property parser.

Listen URL - If your dataserver is on the same subnet as your metaspace cluster (the recommended method), specify this field using the following format:

tcp://interface:listen_port

Set this field to "-" to accept the default. Since release 1.1.1 of ActiveSpaces, the listen URL port now defaults to 50,000, instead of randomly choosing a port above 30,000. If the port is already in use, the port number is automatically incremented to the first available port.

Security Token File - Enter the directory path to the security token file. If you copy the security token file to the current project directory, the path can be eliminated and just the name of the security token file can be entered. If you specify the security token, you should not use the discovery parameter since discovery values are defined in the security token file.

Identity Password - Enter the value of the password used to create the safe identity password required with the security token file.

The newly created connection displays in the **Connections** section.

TIBCO Active Spaces *		
CONNECTIONS	DATA COLLECTION	DATA STORAGE
Classpath (Required) Directory Containing TIBCO Active Spaces Jars. This is require	ed to connect to TIBCO Enterprise Message Service.	
ex: /libco/as/2.1.2/lib or c:tlibco/as/2.1.2/lib Always enclose enviro	nment variables in %, ex. %MY_ENV_VAR%	
MyMeta MyDomain tcp://interface.port.interface2:port2;interface4 tibpgm://dport/interface;multicast/key1=value tcp://interface.iisten_port	3:port3 1;key2=value2;key3=value3 tibrv://service/network/daemon	/ 1

5. You can specify the Poll Rates (query interval, in seconds) that will be used to collect the metric data for all caches by clicking on the DATA COLLECTION tab and entering the desired polling rate. The caches impacted by this field are: TasQueryStats, TasSpaceStatistics, TasMemberStatistics, TasMembers, TasMetaspaces, and TasSeeders.

TIBCO Active Spaces *		
CONNECTIONS	DATA COLLECTION	DATA STORAGE
Poll Rates Set the rate in seconds at which to collect metric data Poll Rate 20	•	

Enabling & Disabling Archival of Historical Data

You can specify the number of history rows to store in memory, the compaction rules, the duration before metrics are expired and deleted, and the different types of metrics that you want the Historian to store in the **Data Storage** tab in the RTView Configuration Application. This section contains the following:

- "Defining the Storage of TASMON In Memory History"
- "Defining TASMON Compaction Rules"
- "Defining Expiration and Deletion Duration for TASMON Metrics"
- "Enabling/Disabling Storage of TASMON Historical Data"
- "Defining a Prefix for All History Table Names for TASMON Metrics"

Defining the Storage of TASMON In Memory History

You can modify the maximum number of history rows to store in memory in the Data Storage tab. The **History Rows** property defines the maximum number of rows to store for the TasSpaceStatistics, TasMembers, TasMetaspaces, and TasSeeders caches. The default settings for **History Rows** is 50,000. To update the default setting:

- 1. Navigate to the RTView Configuration Application > (MISCMON-LOCAL/Project Name) > Solution Package Configuration > TIBCO Active Spaces > DATA STORAGE tab.
- 2. In the Size region, click the History Rows field and specify the desired number of rows.

CONNECTIONS	DATA COLLECTION	DATA STOR/	AGE
Size Set the number of history rows to keep in memory History Rows 50000			
Compaction Set the compaction rules for history. The Condense Interv Condense Interval	val and Condense Raw Time are in seconds. Condense Raw Time 1200	Compaction Rules 1h - ;1d 5m ;2w 15m	
Duration Set the number of seconds between data updates before Expire Time	metrics are expired or deleted Delete Time		
40	3600		

Defining TASMON Compaction Rules

Data compaction, essentially, is taking large quantities of data and condensing it using a defined rule so that you store a reasonably sized sample of data instead of all of your data, thus preventing you from potentially overloading your database. The caches impacted by these fields are: TasSpaceStatistics, TasMembers, TasMetaspaces, and TasSeeders caches. The available fields are:

- Condense Interval -- The time interval at which the cache history is condensed for the following caches: TasSpaceStatistics, TasMembers, TasMetaspaces, and TasSeeders. The default is 60 seconds.
- Condense Raw Time -- The time span of raw data kept in the cache history table for the following caches: TasSpaceStatistics, TasMembers, TasMetaspaces, and TasSeeders. The default is 1200 seconds.
- Compaction Rules -- This field defines the rules used to condense your historical data in the database for the following caches: TasSpaceStatistics, TasMembers, TasMetaspaces, and TasSeeders. By default, the columns kept in history will be aggregated by averaging rows with the following rule 1h -;1d 5m;2w 15m, which means the data from 1 hour will not be aggregated (1h rule), the data over a period of 1 day will be aggregated every 5 minutes (1d 5m rule), and the data over a period of 2 weeks old will be aggregated every 15 minutes (2w 15m rule).
- Navigate to the RTView Configuration Application > (MISCMON-LOCAL/Project Name) > Solution Package Configuration > TIBCO Active Spaces > DATA STORAGE tab.

2. In the Compaction region, click the Condense Interval, Condense Raw Time, and Compaction Rules fields and specify the desired settings.

Note: When you click in the **Compaction Rules** field, the **Copy default text to clipboard** link appears, which allows you copy the default text (that appears in the field) and paste it into the field. This allows you to easily edit the string rather than creating the string from scratch.

BCO Active Spaces *		
CONNECTIONS	DATA COLLECTION	DATA STORAGE
Size Set the number of history rows to keep in memory History Rows		
Compaction Set the compaction rules for history. The Condense in Condense Interval	erval and Condense Raw Time are in seconds. Condense Raw Time 1200	Compaction Rules 1h - ;1d 5m ;2w 15m
Duration Set the number of seconds between data updates be	fore metrics are expired or deleted	
Expire Time	Delete Time	
40	3600	
40	3600	
40	3600	
	3600	
History Storage	3600 tabase. Metrics that are not listed do not support storing history.	

Defining Expiration and Deletion Duration for TASMON Metrics

The data for each metric is stored in a specific cache and, when the data is not updated in a certain period of time, that data will either be marked as expired or, if it has been an extended period of time, it will be deleted from the cache altogether. By default, metric data will be set to expired when the data in the cache has not been updated within 45 seconds. Also, by default, if the data has not been updated in the cache within 3600 seconds, it will be removed from the cache.

The caches impacted by these fields are: TasQueryStats, TasSpaceStatistics, TasMemberStatistics, TasMembers, TasMetaspaces, and TasSeeders. To modify these defaults:

- Navigate to the RTView Configuration Application > (MISCMON-LOCAL/Project Name) > Solution Package Configuration > TIBCO Active Spaces > DATA STORAGE tab.
- 2. In the **Duration** region, click the **Expire Time** and **Delete Time** fields and specify the desired settings.

BCO Active Spaces *		
CONNECTIONS	DATA COLLECTION	DATA STORAGE
Size Set the number of history rows to keep in memory History Rows 50000		
Compaction Set the compaction rules for history. The Condense Interval Condense Interval	and Condense Raw Time are in seconds. Condense Raw Time 1200	Compaction Rules 1h - ;1d 5m ;2w 15m
Duration Set the number of seconds between data updates before m Expire Time	etrics are expired or deleted	
40	3600	
History Storage Select metrics the Historian will store in the history database	e. Metrics that are not listed do not support storing history.	

Enabling/Disabling Storage of TASMON Historical Data

The History Storage section allows you to select which metrics you want the Historian to store in the history database. By default, historical Cluster Metaspaces (TasMetaspaces cache), Members (TasMembers cache), and Object Space Stats (TasSpaceStatistics cache) are saved to the database. Seeders (TasSeeders cache) data is not saved by default. To enable/disable the collection of this historical data, perform the following steps:

- 1. Navigate to the RTView Configuration Application > (MISCMON-LOCAL/Project Name) > Solution Package Configuration > TIBCO Active Spaces > DATA STORAGE tab.
- **2.** In the **History Storage** region, (de)select the toggles for the metrics that you do/do not want to collect. Blue is enabled, gray is disabled.

CONNECTIONS	DATA COLLECTION	DATA STORAGE
Duration Set the number of seconds between data updates	before metrics are expired or deleted	
Expire Time	Delete Time	
40	3600	
History Storage Select metrics the Historian Hilestory and Manager	detabase. Metrics that are not listed do not support storing history.	
Cluster Metaspaces		
Cluster Metaspaces		
Members		
Members Object Space Stats		
Members Object Space Stats Seeders History Table Name Prefix	all metrics. Note that this requires a change to your history database schema.	

Note: In some deployments, the data volume added by enabling these metrics can easily scale to levels exceeding the ability of RTView Enterprise Monitor to maintain this data in the cache and the history database. You should be certain that you really need this level of detail and that you have the available database capacity before enabling these tables.

Defining a Prefix for All History Table Names for TASMON Metrics

The **History Table Name Prefix** field allows you to define a prefix that will be added to the database table names so that RTView Enterprise Monitor can differentiate history data between data servers when you have multiple data servers with corresponding Historians using the same solution package(s) and database. In this case, each Historian needs to save to a different table, otherwise the corresponding data server will load metrics from both Historians on startup. Once you have defined the **History Table Name Prefix**, you will need to create the corresponding tables in your database as follows:

- Locate the .sql template for your database under RTVAPM_HOME/tasmon/dbconfig and make a copy of template.
- Add the value you entered for the **History Table Name Prefix** to the beginning of all table names in the copied .sql template.

Use the copied .sql template to create the tables in your database.

To add the prefix:

- 1. Navigate to RTView Configuration Application > (MISCMON-LOCAL/Project Name) > Solution Package Configuration > TIBCO Active Spaces > DATA STORAGE tab.
- 2. Click on the **History Table Name Prefix** field and enter the desired prefix name.

CO Active Spaces *		
CONNECTIONS	DATA COLLECTION	DATA STORAGE
Duration let the number of seconds between data updates t	vefore metrics are expired or deleted	
Expire Time	Delete Time	
40	3600	
listory Storage		
History Storage elect metrics the Historian will store in the history Cluster Metaspaces	database. Metrics that are not listed do not support storing history.	Default
elect metrics the Historian will store in the history	database. Metrics that are not listed do not support storing history.	Default Default
elect metrics the Historian will store in the history of Cluster Metaspaces	database. Metrics that are not listed do not support storing history.	
Cluster Metaspaces		
elect metrics the Historian will store in the history of Cluster Metaspaces Members Object Space Stats	database. Metrics that are not listed do not support storing history.	
elect metrics the Historian will store in the history of Cluster Metaspaces Cluster Metaspaces Members Object Space Stats Seeders History Table Name Prefix		

Troubleshoot

This section includes:

- "Log Files" on page 526
- "JAVA_HOME" on page 527
- "Permissions" on page 527
- "Network/DNS" on page 527
- "Verify Data Received from Data Server" on page 527
- "Verify Port Assignments" on page 527

Log Files

When a Monitor component encounters an error, it outputs an error message to the console and/or to the corresponding log file. If you encounter issues, look for errors in the following log files:

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

which are located in the **RTViewEnterpriseMonitor/emsample/servers/miscmon/logs** directory.

Logging is enabled by default. If you encounter issues with log files, verify the **logs** directory exists in the **RTViewEnterpriseMonitor/emsample/servers/miscmon** directory.

JAVA_HOME

If the terminal window closes after executing the **start_rtv** command, verify that JAVA_HOME is set correctly.

Permissions

If there are permissions-related errors in the response from the **start_rtv** command, check ownership of the directory structure.

Network/DNS

If any log file shows reference to an invalid URL, check your system's hosts file and confirm with your Network Administrator whether your access to the remote system is being blocked.

Verify Data Received from Data Server

If you encounter problems collecting data, restart the Data Server, start the Monitor, and go to the **Admin** tab and select **Architecture> RTView Cache Tables** in the navigation tree. Select **MISCMON-LOCAL** from the **Data Server** drop down list, and search for all caches that start with "Tas." Make sure these caches are populated (the number of **Rows** and **Columns** in the table should be greater than 0). If not, there might be a problem with the connection to the Data Server.

Verify Port Assignments

If the display server or Historian fail to connect to the Data Server or they receive no data, verify the ports are assigned correctly in your properties files and restart the Data Server.

Upgrading the Monitor

This section describes the steps necessary to upgrade existing versions of the monitor to the current version. To upgrade your application, follow the steps for each version between the version you are upgrading from and the version to which you are upgrading.

- "Version 4.0"
- "Version 3.8"

Version 4.0

Additional selected member resource metrics have been added to the history of the TasMembers cache.

The subset of additional columns used for history are listed in the "ALTER TABLE" commands, below.

You will need to update the table structure of the TAS_MEMBER historian table by executing the following alter table SQL sentences in your selected database administrative tool:

DB2:

ALTER TABLE "TAS_MEMBER" ADD "thread_count" BIGINT; ALTER TABLE "TAS_MEMBER" ADD "res_mem_size" BIGINT; ALTER TABLE "TAS_MEMBER" ADD "mem_load" FLOAT; ALTER TABLE "TAS_MEMBER" ADD "peak_res_mem_size" BIGINT; ALTER TABLE "TAS_MEMBER" ADD "page_size" BIGINT; ALTER TABLE "TAS_MEMBER" ADD "peak_page_size" BIGINT; ALTER TABLE "TAS_MEMBER" ADD "process_cpu_load" FLOAT; ALTER TABLE "TAS_MEMBER" ADD "jvm_comm_heap_size" BIGINT; ALTER TABLE "TAS_MEMBER" ADD "jvm_max_heap_size" BIGINT; ALTER TABLE "TAS_MEMBER" ADD "jvm_used_heap_size" BIGINT; ALTER TABLE "TAS_MEMBER" ADD "jvm_comm_nonheap_size" BIGINT; ALTER TABLE "TAS_MEMBER" ADD "jvm_used_heap_size" BIGINT; ALTER TABLE "TAS_MEMBER" ADD "jvm_comm_nonheap_size" BIGINT; ALTER TABLE "TAS_MEMBER" ADD "jvm_used_nonheap_size" BIGINT; ALTER TABLE "TAS_MEMBER" ADD "jvm_finalizing_count" BIGINT; ALTER TABLE "TAS_MEMBER" ADD "jvm_finalizing_count" BIGINT;

SQL Server:

ALTER TABLE [TAS_MEMBER] ADD [thread_count] BIGINT; ALTER TABLE [TAS_MEMBER] ADD [res_mem_size] BIGINT; ALTER TABLE [TAS_MEMBER] ADD [mem_load] FLOAT; ALTER TABLE [TAS_MEMBER] ADD [peak_res_mem_size] BIGINT; ALTER TABLE [TAS_MEMBER] ADD [peak_page_size] BIGINT; ALTER TABLE [TAS_MEMBER] ADD [peak_page_size] BIGINT; ALTER TABLE [TAS_MEMBER] ADD [process_cpu_load] FLOAT; ALTER TABLE [TAS_MEMBER] ADD [jvm_comm_heap_size] BIGINT; ALTER TABLE [TAS_MEMBER] ADD [jvm_max_heap_size] BIGINT; ALTER TABLE [TAS_MEMBER] ADD [jvm_used_heap_size] BIGINT; ALTER TABLE [TAS_MEMBER] ADD [jvm_comm_nonheap_size] BIGINT; ALTER TABLE [TAS_MEMBER] ADD [jvm_max_nonheap_size] BIGINT; ALTER TABLE [TAS_MEMBER] ADD [jvm_used_nonheap_size] BIGINT; ALTER TABLE [TAS_MEMBER] ADD [jvm_finalizing_count] BIGINT; ALTER TABLE [TAS_MEMBER] ADD [jvm_finalizing_count] BIGINT;

MySQL:

ALTER TABLE "TAS_MEMBER" ADD "thread_count" BIGINT; ALTER TABLE "TAS_MEMBER" ADD "res_mem_size" BIGINT; ALTER TABLE "TAS_MEMBER" ADD "mem_load" FLOAT; ALTER TABLE "TAS_MEMBER" ADD "peak_res_mem_size" BIGINT; ALTER TABLE "TAS_MEMBER" ADD "peak_page_size" BIGINT; ALTER TABLE "TAS_MEMBER" ADD "peak_page_size" BIGINT; ALTER TABLE "TAS_MEMBER" ADD "process_cpu_load" FLOAT; ALTER TABLE "TAS_MEMBER" ADD "jvm_comm_heap_size" BIGINT; ALTER TABLE "TAS_MEMBER" ADD "jvm_max_heap_size" BIGINT; ALTER TABLE "TAS_MEMBER" ADD "jvm_used_heap_size" BIGINT; ALTER TABLE "TAS_MEMBER" ADD "jvm_comm_nonheap_size" BIGINT; ALTER TABLE "TAS_MEMBER" ADD "jvm_used_heap_size" BIGINT; ALTER TABLE "TAS_MEMBER" ADD "jvm_used_heap_size" BIGINT; ALTER TABLE "TAS_MEMBER" ADD "jvm_comm_nonheap_size" BIGINT; ALTER TABLE "TAS_MEMBER" ADD "jvm_used_heap_size" BIGINT; ALTER TABLE "TAS_MEMBER" ADD "jvm_max_nonheap_size" BIGINT; ALTER TABLE "TAS_MEMBER" ADD "jvm_used_nonheap_size" BIGINT; ALTER TABLE "TAS_MEMBER" ADD "jvm_finalizing_count" BIGINT;

Oracle:

ALTER TABLE "TAS_MEMBER" ADD ("thread_count" NUMBER, "res_mem_size" NUMBER, "mem_load" FLOAT, "peak_res_mem_size" NUMBER, "page_size" NUMBER, "peak_page_size" NUMBER, "process_cpu_load" FLOAT, "jvm_comm_heap_size" NUMBER, "jvm_max_heap_size" NUMBER, "jvm_used_heap_size" NUMBER, "jvm_comm_nonheap_size" NUMBER, "jvm_max_nonheap_size" NUMBER, "jvm_used_nonheap_size" NUMBER, "jvm_finalizing_count" NUMBER, "JvmMemoryUsedPercent" REAL);

SyBase:

ALTER TABLE "TAS_MEMBER" ADD "thread_count" BIGINT NULL, "res_mem_size" BIGINT NULL, "mem_load" FLOAT NULL, "peak_res_mem_size" BIGINT NULL, "page_size" BIGINT NULL, "peak_page_size" BIGINT NULL, "process_cpu_load" FLOAT NULL, "jvm_comm_heap_size" BIGINT NULL, "jvm_max_heap_size" BIGINT NULL, "jvm_used_heap_size" BIGINT NULL, "jvm_comm_nonheap_size" BIGINT NULL, "jvm_max_nonheap_size" BIGINT NULL, "jvm_used_nonheap_size" BIGINT NULL, "jvm_finalizing_count" BIGINT NULL, "JvmMemoryUsedPercent" FLOAT NULL;

Version 3.8

Additional selected member resource metrics have been added to the history of the **TasMembers** cache. The subset of additional columns used for history are listed in the "ALTER TABLE" commands. You must update the table structure of the TAS_MEMBER historian table by executing the following alter table SQL sentences in your selected database administrative tool:

DB2:

ALTER TABLE "TAS_MEMBER" ADD "thread_count" BIGINT; ALTER TABLE "TAS_MEMBER" ADD "res_mem_size" BIGINT;

```
ALTER TABLE "TAS_MEMBER" ADD "mem_load" FLOAT;
ALTER TABLE "TAS_MEMBER" ADD "peak_res_mem_size" BIGINT;
ALTER TABLE "TAS_MEMBER" ADD "page_size" BIGINT;
ALTER TABLE "TAS_MEMBER" ADD "peak_page_size" BIGINT;
ALTER TABLE "TAS_MEMBER" ADD "process_cpu_load" FLOAT;
ALTER TABLE "TAS_MEMBER" ADD "jvm_comm_heap_size" BIGINT;
ALTER TABLE "TAS_MEMBER" ADD "jvm_max_heap_size" BIGINT;
ALTER TABLE "TAS_MEMBER" ADD "jvm_used_heap_size" BIGINT;
ALTER TABLE "TAS_MEMBER" ADD "jvm_comm_nonheap_size" BIGINT;
ALTER TABLE "TAS_MEMBER" ADD "jvm_comm_nonheap_size" BIGINT;
ALTER TABLE "TAS_MEMBER" ADD "jvm_comm_nonheap_size" BIGINT;
ALTER TABLE "TAS_MEMBER" ADD "jvm_max_nonheap_size" BIGINT;
ALTER TABLE "TAS_MEMBER" ADD "jvm_used_nonheap_size" BIGINT;
ALTER TABLE "TAS_MEMBER" ADD "jvm_used_nonheap_size" BIGINT;
ALTER TABLE "TAS_MEMBER" ADD "jvm_used_nonheap_size" BIGINT;
ALTER TABLE "TAS_MEMBER" ADD "jvm_finalizing_count" BIGINT;
```

SQL Server:

```
ALTER TABLE [TAS_MEMBER] ADD [thread_count] BIGINT;
ALTER TABLE [TAS_MEMBER] ADD [res_mem_size] BIGINT;
ALTER TABLE [TAS_MEMBER] ADD [mem_load] FLOAT;
ALTER TABLE [TAS_MEMBER] ADD [peak_res_mem_size] BIGINT;
ALTER TABLE [TAS_MEMBER] ADD [peak_page_size] BIGINT;
ALTER TABLE [TAS_MEMBER] ADD [peak_page_size] BIGINT;
ALTER TABLE [TAS_MEMBER] ADD [process_cpu_load] FLOAT;
ALTER TABLE [TAS_MEMBER] ADD [jvm_comm_heap_size] BIGINT;
ALTER TABLE [TAS_MEMBER] ADD [jvm_max_heap_size] BIGINT;
ALTER TABLE [TAS_MEMBER] ADD [jvm_comm_nonheap_size] BIGINT;
ALTER TABLE [TAS_MEMBER] ADD [jvm_comm_nonheap_size] BIGINT;
ALTER TABLE [TAS_MEMBER] ADD [jvm_max_nonheap_size] BIGINT;
ALTER TABLE [TAS_MEMBER] ADD [jvm_max_nonheap_size] BIGINT;
ALTER TABLE [TAS_MEMBER] ADD [jvm_max_nonheap_size] BIGINT;
ALTER TABLE [TAS_MEMBER] ADD [jvm_used_nonheap_size] BIGINT;
```

MySQL:

```
ALTER TABLE "TAS_MEMBER" ADD "thread_count" BIGINT;
ALTER TABLE "TAS_MEMBER" ADD "res_mem_size" BIGINT;
ALTER TABLE "TAS_MEMBER" ADD "mem_load" FLOAT;
ALTER TABLE "TAS_MEMBER" ADD "peak_res_mem_size" BIGINT;
ALTER TABLE "TAS_MEMBER" ADD "page_size" BIGINT;
ALTER TABLE "TAS_MEMBER" ADD "page_size" BIGINT;
ALTER TABLE "TAS_MEMBER" ADD "peak_page_size" BIGINT;
ALTER TABLE "TAS_MEMBER" ADD "process_cpu_load" FLOAT;
ALTER TABLE "TAS_MEMBER" ADD "jvm_comm_heap_size" BIGINT;
ALTER TABLE "TAS_MEMBER" ADD "jvm_max_heap_size" BIGINT;
ALTER TABLE "TAS_MEMBER" ADD "jvm_used_heap_size" BIGINT;
ALTER TABLE "TAS_MEMBER" ADD "jvm_comm_nonheap_size" BIGINT;
ALTER TABLE "TAS_MEMBER" ADD "jvm_comm_nonheap_size" BIGINT;
ALTER TABLE "TAS_MEMBER" ADD "jvm_max_nonheap_size" BIGINT;
ALTER TABLE "TAS_MEMBER" ADD "jvm_used_nonheap_size" BIGINT;
```

Oracle:

ALTER TABLE "TAS_MEMBER" ADD ("thread_count" NUMBER, "res_mem_size" NUMBER, "mem_load" FLOAT, "peak_res_mem_size" NUMBER, "page_size" NUMBER, "peak_page_size" NUMBER, "process_cpu_load" FLOAT, "jvm_comm_heap_size" NUMBER, "jvm_max_heap_size" NUMBER, "jvm_used_heap_size" NUMBER, "jvm_comm_nonheap_size" NUMBER, "jvm_max_nonheap_size" NUMBER, "jvm_used_nonheap_size" NUMBER, "jvm_finalizing_count" NUMBER, "JvmMemoryUsedPercent" REAL);

SyBase:

ALTER TABLE "TAS_MEMBER" ADD "thread_count" BIGINT NULL, "res_mem_size" BIGINT NULL, "mem_load" FLOAT NULL, "peak_res_mem_size" BIGINT NULL, "page_size" BIGINT NULL, "peak_page_size" BIGINT NULL, "process_cpu_load" FLOAT NULL, "jvm_comm_heap_size" BIGINT NULL, "jvm_max_heap_size" BIGINT NULL, "jvm_used_heap_size" BIGINT NULL, "jvm_comm_nonheap_size" BIGINT NULL, "jvm_max_nonheap_size" BIGINT NULL, "jvm_used_nonheap_size" BIGINT NULL, "jvm_finalizing_count" BIGINT NULL, "JvmMemoryUsedPercent" FLOAT NULL;

TIBCO ActiveSpaces Monitor Views/Displays

This section contains the following:

- "Spaces View": The displays in this View allow you to view the current and historical metrics for all metaspaces and spaces in a heatmap, tabular, or summary format.
- "Members View": The displays in this View allow you to view the current and historical metrics for all members in a particular metaspace, view data for members within a particular space, and view data for all spaces for a particular member.

Spaces View

These displays provide detailed data for all metaspaces and spaces in a heatmap, tabular, or summary format. Displays in this View are:

- "All Metaspaces Table": A tabular view of your metaspaces and their associated metrics.
- "Metaspace Summary": This display allows you to view metrics and trend data for a particular metaspace.
- "All Spaces Table": A tabular view of all spaces contained within a particular metaspace.
- "All Spaces Heatmap": A heatmap view of all spaces contained within a particular metaspace.
- "Space Summary": This display allows you to view metrics and trend data for a particular space.
- "All Queries Table": This display allows you to view queries by domain, metaspace, and space and view the performance metrics for the queries.
- "Query Summary": This display allows you to view performance metrics for a particular query, as well as to view any related queries.

All Metaspaces Table

The table in this display provides a view of all of your metaspaces and their associated metric data including domain, metaspace, alert level, 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 metaspace in the "Metaspace Summary" display

Data

Domain # Metaspace # Alert Level # Alert Count # Spaces # Members # AS Version # Entries # Replication Production retailV212 Image: Constraint of the state of th		: 3		M	etaspaces			
Production retail/213 0 3 5 2.1.3.005 469	Domain :	Metaspace =	Alert Level =	Alert Count =	Spaces =		Entries =	Replica
			()	-				
Production retailV214 0 3 4 2.1.4.011 441			O					
	Troduction	Totality214				 2.1.1.011		
r (possible features are):	r (nossible f	atura ara).						

Note: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by the selected domain. Refer to TIBCO ActiveSpaces documentation for more information regarding these fields.

current and valid.

Filter By:

Title

Menu

displays.

.

Table

6,047 The number of items currently in the display.

open commonly accessed

Domain	Select the domain for which you want to view data.
Metaspace Count	The total number of metaspaces found for the domain selected in the Domain dropdown, which are displayed in the Metaspaces table.
Metaspaces Table	
Domain	The name of the domain.

Domain

and green Data OK icon is a strong indication that data is

Open the Alert Views - RTView Alerts Table display.

Metaspace	The name of the metaspace.
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.
Spaces	The number of user spaces defined in the metaspace.*
Members	The number of members (clients and servers) associated with the metaspace.*
AS Version	The metaspace's current version of TIBCO ActiveSpaces.*
Entries	The total number of entries stored in the metaspace.*
Replicas	The total number of replicas stored in the metaspace.*
Response Time	The average response time for the metaspace.*
Gets	The total number of "get" operations performed on the user-spaces defined on the metaspace.*
Gets/interval	The number of "get" operations performed on the user-spaces defined for the metaspace during the current polling interval.*
Gets/sec	The rate of "get" operations (per second) performed on the user-spaces defined for the metaspace. *
Puts	The total number of "put" operations performed on the user-spaces defined on the metaspace.*
Puts/interval	The number of "put" operations performed on the user-spaces defined for the metaspace during the current polling interval.*
Puts/sec	The rate of "put" operations (per second) performed on the user-spaces defined for the metaspace.*
Takes	The total number of "take" operations performed on the user-spaces defined on the metaspace.*
Takes/interval	The number of "take" operations performed on the user-spaces defined for the metaspace during the current polling interval.*
Takes/sec	The rate of "take" operations (per second) performed on the user-spaces defined for the metaspace.*
Expires	The total number of entries in the user-spaces defined on the metaspace that have expired.*
Expires/ interval	The number of entries in the user-spaces defined for the metaspace that expired during the current polling interval.*
Expires/sec	The rate of entries in the user-spaces defined for the metaspace that expired (per second). *
Evicts	The total number of entries in the user-spaces defined on the metaspace that have been $evicted.*$
Evicts/interval	The number of entries performed in the user-spaces defined for the metaspace that were evicted during the current polling interval.*
Evicts/sec	The rate of entries in the user-spaces defined for the metaspace that were evicted (per second). *
Locks	The total number of locks in the user-spaces defined for the metaspace.*
Unlocks	The total number of unlocks in the user-spaces defined for the metaspace. st

Invokes	The remote invocation count.*
Queries	The browser queries count in the user-spaces defined for the metaspace.*
Misses	The total number of misses on the user-spaces defined for the metaspace. st
ToPersist	The ToPersist count, which indicates how many tuples are required to be persisted to the database if the write-behind feature is configured.*
Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO Active Spaces > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.
Timestamp	The date and time the row data was last updated.

Metaspace Summary

This display provides a view of the current and historical metrics for a single metaspace. The trend graph in the bottom half of the display traces the current and historical total number of or rate data for gets, puts, takes, expires, and evictions, and also traces the average response time.

← ↑			Activ	eSpaces Metaspa	ce Summary	03-Aug	g-2017 09:50	💠 Data OK 🔶 🕜
Domain: All Domains	~	Metaspa	ice: retailV21	3 🗸			Last Update:	03-Aug-2017 09:49:58
Expired		[-Stats for last	interval —				
Spaces 3				Raw Counters	for Interval	#/s	Locks:	0
Members 5			Gets:	288,990,207	201	9.9	Unlocks:	0
Version: 2.1.3.005			Puts:	288,992,241	202	10.0	Invokes:	0
		(22.2)	Takes:	288,992,917	202	10.0	Queries:	0
Resp. Time:	4.6	(ms)	Expirations:	0	0	0.0	Misses:	0
Entries:	455		Evictions:	0	0	0.0	ToPersist	0
Replicas:	0		Evictions.	Ū	U	0.0		Ū
Trends			🗸 Use	Rates 🗌 Log Scal	e 🗌 Base at	Zero Time	Range: 2 Ho	urs 🗸
3								Gets/s
9					~	-11-W		Puts/s
9					~	-11-M	1	Takes/s
3								Expires/s
9				~~~~		~~~~W~	· /	ResponseTime
1								
1								
o								
						Chant		
08:00:00 08:15		08:30:0 08/03			09:15:00 08/03	09:30:00 08/03	09:45:00 08/03	
08/03 08/								

Title Bar (possible features are):	🔯 Data OK Data connection state. Red indicates the Data
🔶 🛧 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed 	data source is connected. 23-Mar-2017 12:04 Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time
displays.	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.	Open the Alert Views - RTView Alerts Table display.

Note: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by the selected domain. Refer to TIBCO ActiveSpaces documentation for more information regarding these fields.

Filter By:

The display might include these filtering options:

	Domain	Select the domain	for which you want to show data in the display.		
	Metaspace	Select the metasp	ace for which you want to show data in the display.		
Fiel	ds and Data:				
	Last Update	The date and time	e in which the data in the display was last updated.		
	Expired	seconds) in the Ex Application > (Pro Spaces > DATA s allows you to defin	erformance data has not been received within the time specified (in kpire Time field in the Duration region in the RTView Configuration ject Name) > Solution Package Configuration > TIBCO Active STORAGE tab. The Delete Time field (also in the Duration region) ne the amount of time (in seconds) in which the row will be removed here is no response.		
	Spaces	The number of use	er spaces defined in the metaspace.*		
	Members	The number of me	embers (clients and servers) associated with the metaspace. st		
	Version	The metaspace's o	current version of TIBCO ActiveSpaces.		
	Resp. Time	The average respo	onse time for the metaspace.*		
	Entries	The total number	of entries stored in the metaspace.*		
	Replicas	The total number of replicas stored in the metaspace.*			
	Stats for last in	interval			
		Gets	Raw Counters The total number of gets for the metaspace. for interval The number of gets for the current interval. #/s The number of gets per second.		
		Puts	Raw Counters The total number of puts for the metaspace. for interval The number of puts for the current interval. #/s The number of puts per second.		
		Takes	Raw Counters The total number of takes for the metaspace.		

for interval-- The number of takes for the current interval.

#/s -- The number of takes per second.

Expirations	Raw Counters The total number of expirations for the metaspace.
	for interval The number of expirations for the current interval.#/s The number of expirations per second.
Evictions	Raw Counters The total number of evictions for the metaspace. for interval The number of evictions for the current interval. #/s The number of evictions per second.
Locks	The total number of locks in the user-spaces defined for the metaspace.*
Unlocks	The total number of unlocks in the user-spaces defined for the metaspace.*
Invokes	The remote invocation count.*
Queries	The browser queries count in the user-spaces defined for the metaspace.*
Misses	The total number of misses in the user-spaces defined for the metaspace. *
ToPersist	The ToPersist count, which indicates how many tuples are required to be persisted to the database if the write-behind feature is configured.*
Traces the follo	wing:
Gets(/s) Use Rates s	traces the total number of gets, or the number of gets per second wit elected.
Puts(/s) t Use Rates s	races the total number of puts, or the number of puts per second with elected.
Takes(/s) - with Use Ra	 traces the total number of takes, or the number of takes per second tes selected.
	traces the total number of expires, or the number of expires per Use Rates selected.
	 traces the total number of evicts, or the number of evicts per second tes selected.
Response T	ime traces the average response time.
Use Rates	Select this check box to trace the rates (Gets/s, Puts/s, Takes/s Expires/s, Evicts/s) instead of the total numbers (Gets, Puts, Takes, Expires, Evicts).
Log Scale	Select to enable a logarithmic scale. Use Log Scale to see usage

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.

Trends

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 .

	Select or Enter Date and Time:
	Restore to Now
[Ok Apply Cancel

By default, the time range end point is the current time. To change the time range end point, click Calendar _____ and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

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

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

All Spaces Table

The table in this display provides a view of all of your spaces and their associated metric data including domain, metaspace, space, alert level, 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 adapter in the "Space Summary" display.

and green Data OK icon is a strong indication that d	← ↑ 🕱		Ac	tiveSpaces	; All Spa	ces - Table		21-Apr-2017 15:	55 🗳 Data O	к 🔶 🕜
Domain Metaspace : Space Alert Level: Alert Count: Space State : Members : Seeders Production retaiv214 inventory 0 READY 4 Production retaiv214 inventory 0 READY 4 Production retaiv214 inventory 0 READY 4 Production retaiv214 stores 0 READY 4 Production retaiv214 stores 0 READY 4 Production retaiv214 stores 0 READY 4	Domain: Produc	tion 🗸	Metaspace: re	tailV214	\checkmark					
Domain Mertaspace Space A Hert Levels Alert Countic Space State & Members & Seeders Production retal/V214 customers 0	Space Count: 3				Spa	ces				
Production retailv214 inventory OREADY OREA	Domain =	Metaspa	ce =	Space	=		Alert Count =	Space State =	Members =	Seeders
Production retailV214 inventory OREADY OREA	Production					-			4	
Production retailV214 istores 0 (READY 4 Image: star (possible features are): Image: s	Production	retailV214	inventory				0	READY	4	
ar (possible features are): Image: Data OK Data OK <td>Production</td> <td>retailV214</td> <td>stores</td> <td></td> <td></td> <td></td> <td>0</td> <td>READY</td> <td>4</td> <td></td>	Production	retailV214	stores				0	READY	4	
Open the previous and upper display. en an instance of this display in a new window. en the online help page for this display. Table open commonly accessed o, Table open commonly accessed o,		<								>
might indicate the Monitor stopped running. Correct and green Data OK icon is a strong indication that d current and valid.	Open the p	revious a	nd upper dis		Š	Server is n eceiving d	ot receiving ata from th	g data or th ie Data Serv	e Display	Server is no
The number of items currently in the display. (Den the Alert Views - RTView Alerts Table of the Alert Views - RTViews - RTVi	pen the online	help page	for this dis	play.	n a	night indic and green l	ate the Mo Data OK io	nitor stoppe	ed running	g. Correct tir
	The number	r of items	currently in	the displa	ay.	🚹 Open t	the Alert V	iews - RTV	iew Aler	ts Table di

Note: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by the selected domain. Refer to TIBCO ActiveSpaces documentation for more information regarding these fields.

Filter By:

Domain	Select the domain for which you want to view data.
Metaspace	Select the metaspace for which you want to view data.
Spaces Table:	
Domain	The name of the domain.
Metaspace	The name of the metaspace.

Space	The name of the space.
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.
Space State	The current state of the space.*
Members	The total number of members in the space.*
Seeders	The number of seeders in the space.*
Min Seeder Count	The defined minimum seeder count (minimum number of seeders that need to be joined to the space before the space becomes ready).*
CapacityPerSeeder	The capacity value for the space in number of entries per seeder.*
Entries	The total number of entries stored in the space.*
Replicas	The total number of replicas stored in the space.*
Gets	The total number of "get" operations performed on the user-spaces defined on the space.*
Gets/interval	The number of "get" operations performed on the user-spaces defined for the space during the current polling interval.*
Gets/sec	The rate of "get" operations (per second) performed on the user-spaces defined for the space. *
Puts	The total number of "put" operations performed on the user-spaces defined on the space.*
Puts/interval	The number of "put" operations performed on the user-spaces defined for the space during the current polling interval.*
Puts/sec	The rate of "put" operations (per second) performed on the user-spaces defined for the space.*
Takes	The total number of "take" operations performed on the user-spaces defined on the space.*
Takes/interval	The number of "take" operations performed on the user-spaces defined for the space during the current polling interval.*
Takes/sec	The rate of "take" operations (per second) performed on the user-spaces defined for the space.*
Expires	The total number of entries in the user-spaces defined on the space that have $expired.*$
Expires/interval	The number of entries in the user-spaces defined for the space that expired during the current polling interval. *
Expires/sec	The rate of entries in the user-spaces defined for the space that expired (per second). $*$
Evicts	The total number of entries in the user-spaces defined on the space that have been evicted.*
Evicts/interval	The number of entries performed on the user-spaces defined for the space that were evicted during the current polling interval.*
Evicts/sec	The rate of entries in the user-spaces defined for the space that were evicted (per second). *
Locks	The total number of locks in the user-spaces defined for the space. *

Unlocks	The total number of unlocks in the user-spaces defined for the space. st
Invokes	The remote invocation count.*
Queries	The total number of queries in the user-spaces defined for the space.*
Misses	The total number of misses in the user-spaces defined for the space. st
ToPersist	The ToPersist count, which indicates how many tuples are required to be persisted to the database if the write-behind feature is configured.*
Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO Active Spaces > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.
Timestamp	The date and time the row data was last updated.

All Spaces Heatmap

This heatmap display provides an easy-to-view interface that allows you to quickly identify the current status of each of your spaces for each available metric. You can view the spaces in the heatmap based on the following metrics: current alert severity, entries, gets per second, puts per second, takes per second, expires per second, and evicts per second. By default, this display shows the heatmap based on the **Alert Severity** metric.

You can use the **Labels** check-box to include or exclude labels in the heatmap, and you can mouse over a rectangle to see additional metrics for an space. Clicking one of the rectangles in the heatmap opens the "Space Summary" display, which allows you to see additional details for the selected space.

← ↑ Ⅲ	ActiveSp	paces All Spaces - Heatmap	21-Apr-2017 16:34 💠 Data OK	+ 🕜
Domain: Production	Metaspace: retailV214	~	Last Update: 21-Apr-201	7 16:34:08
Space Count: 3		Color Metric: Alert Severity	✓ 0 1	2
Labels Log Color Sc	ale 🗌 Log Size	Spaces		
		Production retailV214		
customers		inventory	stores	
M St Er G T T Ev S S ⊙	omain: Production ttaspace: retail/214 acce: customers abe: READY tries: 0 tts/sec: 0.00 tts/sec: 0.00 kes/sec: 0.00 pires/sec: 0.00 verity: 0			
r (possible features Open the previous		Server is not receivi receiving data from	onnection state. Red indi ng data or the Display S the Data Server. Green i	erver is
en an instance of this	display in a new wind			
en the online help page.	ge for this display. en commonly accessed	might indicate the M	urrent date and time. Inc Ionitor stopped running. icon is a strong indicatio	Correct

Filter By:

Domain	Select the domain for which you want to see data.
Metaspace	Select the metaspace for which you want to see data.
Fields and Data:	
Last Update	The date and time in which the data in the display was last updated.
Space Count	The total number of spaces found for the selected Domain/Metaspace combination.
Labels	Select this check box to display the names of the adapters at the top of each rectangle in the heatmap.
Log Color Scale	Select this check box to use a logarithmic scale, rather than a linear scale, to map from the selected metric value for a cell to the color for the cell. Log Scale provides another way to distribute and differentiate values that you might not be able to see on a linear scale due to the dominant nature of large values in a linear scale.

current and valid.

Open the Alert Views - RTView Alerts Table display.

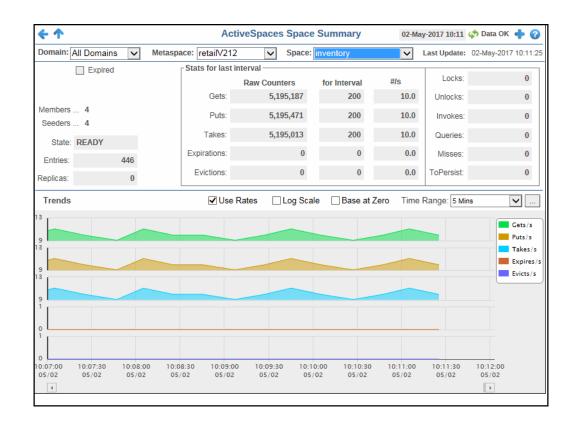
6,047 The number of items currently in the display.

- **Log Size** Select this check box to use a logarithmic scale, rather than a linear scale, to map from the selected metric value for a cell to the size for the cell. **Log Scale** provides another way to distribute and differentiate values that you might not be able to see on a linear scale due to the dominant nature of large values in a linear scale.
- **Color Metric** Choose a metric to view in the display.
 - The current alert severity. Values range from **0 2**, as indicated in Alert Severity bar, where **2** is the highest Alert the color gradient 💻 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. Entries The total number of entries in the space. 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 **TasSpaceEntriesHigh**. The middle value in the gradient bar indicates the middle value of the range. The number of gets per second. The color gradient <u>be populated</u> by the current heatmap, shows the value/color mapping. Gets/sec The numerical values in the gradient bar range from 0 to the defined alert threshold of TasSpaceGetRateHigh. The middle value in the gradient bar indicates the middle value of the range. Puts/sec current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the defined alert threshold of **TasSpacePutRateHigh**. The middle value in the gradient bar indicates the middle value of the range.
 - Takes/secThe number of takes per second. The color gradientoppulated 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 TasSpaceTakeRateHigh. The middle value in
the gradient bar indicates the middle value of the range.

 - **Evicts/sec** The number of evictions 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 **TasSpaceEvictsRateHigh**. The middle value in the gradient bar indicates the middle value of the range.

Space Summary

This display provides a view of the current and historical metrics for a single space. The trend graph in the bottom half of the display traces the current and historical total number of or rate data for gets, puts, takes, expires, and evictions.



Title Bar (possible features are):	Data OK Data connection state. Red indicates the Data
🗧 个 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Note: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by the selected domain. Refer to TIBCO ActiveSpaces documentation for more information regarding these fields.

Filter By:

The display might include these filtering options:

Fields and Data:	
Space	Select the space for which you want to show data in the display.
Metaspace	Select the metaspace for which you want to show data in the display.
Domain	Select the domain for which you want to show data in the display.

Last Update	The date and time in which the data in the display was last updated.
Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO Active Spaces > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.
Members	The total number of members associated with the space.* Note: You can click on this field to open the "Members by Space Table".
Seeders	The number of seeders in the space.* Note: You can click on this field to open the "Members by Space Table".
State	The current state of the space.*
Entries	The total number of entries stored in the space.*
Replicas	The total number of replicated entries in the space.*

Stats for last interval

Gets	Raw Counters The total number of gets for the space. for interval The number of gets for the current interval. #/s The number of gets received per second.
Puts	 Raw Counters The total number of puts for the space. for interval The number of puts for the current interval. #/s The number of puts received per second.
Takes	Raw Counters The total number of takes for the space. for interval The number of takes for the current interval. #/s The number of takes received per second.
Expirations	Raw Counters The total number of expirations for the space. for interval The number of expirations for the current interval. #/s The number of expirations received per second.
Evictions	Raw Counters The total number of evictions for the space. for interval The number of evictions for the current interval. #/s The number of evictions received per second.
Locks	The total number of locks in the user-spaces defined for the space.*
Unlocks	The total number of unlocks in the user-spaces defined for the space. *
Invokes	The remote invocation count.*
Queries	The total number of queries in the user-spaces defined for the space. *
Misses	The total number of misses on the user-spaces defined for the space.*
ToPersist	The ToPersist count, which indicates how many tuples are required to be persisted to the database if the write-behind feature is configured.*

Trends Traces the following:

Gets(/s) -- traces the total number of gets, or the number of gets per second with **Use Rates** selected.

Puts(/s)-- traces the total number of puts, or the number of puts per second with **Use Rates** selected.

Takes(/s) -- traces the total number of takes, or the number of takes per second with **Use Rates** selected.

Expires(/s) -- traces the total number of expires, or the number of expires per second with **Use Rates** selected.

Evicts(/s) -- traces the total number of evicts, or the number of evicts per second with **Use Rates** selected.

Response Time -- traces the average response time.

- Use Rates Select this check box to trace the rates (Gets/s, Puts/s, Takes/s, Expires/s, Evicts/s) instead of the total numbers (Gets, Puts, Takes, Expires, Evicts).
- 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 RangeSelect 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:
Restore to Now
Ok Apply Cancel

By default, the time range end point is the current time. To change the time range end point, click Calendar _____ and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

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

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

All Queries Table

This display allows you to view queries by domain, metaspace, and space and view the performance metrics for the queries. Clicking on a query in the table opens the "Query Summary" display.

Domain: All Do	omains 🗸 Metaspa	ace: All Metaspac	ces 🗸 Space: All Sp	aces 🗸	·	
Query Count:	4,254		Queries			Show Expire
Domain =	Timestamp =	Metaspace =	space_name =	QueryDuration =	query_status =	1
tas_domain	16-Mar-2018 13:14:21	ms1	test_space_1	52	2	key/10 = 10
tas_domain	16-Mar-2018 13:14:21	ms1	test_space_1	20	2	value like "valu
tas_domain	16-Mar-2018 13:14:21	ms1	test_space_1	20	2	value like "valu
tas_domain	16-Mar-2018 13:14:21	ms1	test_space_1	20	2	value like "valu
tas_domain	16-Mar-2018 13:14:21	ms1	test_space_1	19	2	value like "valu
tas_domain	16-Mar-2018 13:14:21	ms1	test_space_1	18	2	key/10 = 10
as domain	16-Mar-2018 13:14:21	ms1	test_space_1	17	2	key/10 = 10
tas domain	16-Mar-2018 13:14:21	ms1	test space 1	16	2	key/10 = 10
as domain	16-Mar-2018 13:14:21	ms1	test space 1	2	2	value like "value
as domain	16-Mar-2018 13:14:21	ms1	test space 1	2	2	value like "valu
as domain	16-Mar-2018 13:14:21	ms1	test space 1	2	2	value like "valu
as domain	16-Mar-2018 13:14:21	ms1	test space 1	2	2	value like "valu
tas domain	16-Mar-2018 13:14:21	ms1	test space 1	1	2	year(time) = 20
as domain	16-Mar-2018 13:14:21	ms1	test space 1	1	2	year(time) = 20
as domain	16-Mar-2018 13:14:21	ms1	test space 1	1	2	(key%10) in (0,
as domain	16-Mar-2018 13:14:21	ms1	test space 1	1		value not like "\
tas domain	16-Mar-2018 13:14:21	ms1	\$spacedef space	0	2	
as domain	16-Mar-2018 13:14:21	ms1	\$space state	0	2	
as domain	16-Mar-2018 13:14:21	ms1	\$members	0	2	
as domain	16-Mar-2018 13:14:21	ms1	\$space members	0		space name="
as domain	16-Mar-2018 13:14:21	ms1	Smembers	0	2	
as domain	16-Mar-2018 13:14:21	ms1	\$members	0	2	
as domain	16-Mar-2018 13:14:21	ms1	\$spacedef_space	0	2	
as domain	16-Mar-2018 13:14:21	ms1	\$space members	0		space_name="
as domain	16-Mar-2018 13:14:21	ms1	\$spacedef space	0	2	
ae domain	16-Mar-2018 13:14:21	ms1	Ceve etate	0	2	>

Title Bar (possible features are):	🐼 Data OK Data connection state. Red indicates the Data
 Open the previous and upper display. Open an instance of this display in a new window. Open the online help page for this display. 	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
Menu , Table open commonly accessed displays. 6,047 The number of items currently in the display.	and green Data OK icon is a strong indication that data is current and valid. Open the Alert Views - RTView Alerts Table display.

Note: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by the selected domain. Refer to TIBCO ActiveSpaces documentation for more information regarding these fields.

Filter By:

The display might include these filtering options:

Fields and Data:	
Space	Select the space for which you want to show data in the display.
Metaspace	Select the metaspace for which you want to show data in the display
Domain	Select the domain for which you want to show data in the display.

	Query Count	The total number of queries listed in the table.
	Show Expired	Select this toggle to display expired queries in the table.
Que	eries Table	
	Domain	The name of the domain containing the query.
	Timestamp	The date and time that the row in the table was last updated.
	Metaspace	The name of the metaspace containing the query.
	space_name	The name of the space containing the query.
	Query Duration	The duration, in seconds, of the query.*
	query_status	The status of the query.* 0 - Failed 1 - In progress 2 - Completed
	filter	The filter used in the query.*
	query_type	The type of query.*
	scan_type	Lists whether the query used a table scan or an index scan. st
	index_name	The name of the index being used in the query.*
	limit	Lists the maximum number of entries that can be returned when executing a query.*
	estimated_cost	The estimated execution time of the query.*
	actual_cost	The actual execution time of the query.*
	abort	When checked, denotes that the query was aborted.*
	StartTime	Start time of the query.
	EndTime	End time of the query.
	start_time	Internal start time of the query.*
	end_time	Internal end time of the query.*
	request_id	The request id of the query.*
	parent_request _id	The request id of the query's parent.*
	member_name	The name of the member node.*
	member_id	The id of the member node.*
	process_id	The process ID of the member node processing the query.*
	Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO Active Spaces > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.

Query Summary

This display allows you to view performance metrics for a particular query, as well as to view any related queries. Data only appears in this display when you select a query from the "All Queries Table".

(†			A	ctive Space	es Query Sumn	nary		16-1	Mar-2018 13:16	💠 Data OK 🚽	• 🕜
Domain: tas	_domain 🗸	Metaspac	e: ms	1	✓ Space: te	st_sp	ace_	1 🗸			
Domain	Timest		Mad		Selected Query	=	0			-	
tas_domain	E Timest 16-Mar-2018		ms1	aspace ₌ te	space_name est_space_1	Ξ	Que	eryDuration = 52	query_status	2 key/10 = 10	
<											
Space Info				Query Info							
Domain	tas_domain			Duration	52			Request lo	1: c009c8d1-1b	58-59d27f48-1	24-37a
Metaspace	me1			Status	2			Query Typ	e Query		
				Start Time	Oct 4, 2017 5:33:			Scan Typ	e TableScan		
Space	test_space_1							Index nam	e Keyindex		
-Member Inf	0			End Time	e Oct 4, 2017 5:34:	50 PM		Estimated Cos	st 10000000		
Name	ms1_as-agent-1			Limit	t 10000			Actual Cos	st 10000000		
ld	c009c8d1-1b58-	59d27f48-12	24	Abor	t	F	ilter	key/10 = 10	0		
Process Id	17664										
Related Que	ery Count: 1				Related Queries	Pa	arent	Request Id: c0	09c8d1-1b58-59)d57df5-132-48	
Domain				aspace =	space_name	Ξ	Que	ryDuration =	query_status		f
tas_domain	16-Mar-2018	3 13:16:25	ms1	te	est_space_1			52		2 key/10 = 10	
<											•

Title Bar (possible features are):	🔯 Data OK Data connection state. Red indicates the Data
 Open the previous and upper display. Open an instance of this display in a new window. Open the online help page for this display. 	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
Menu , Table open commonly accessed displays.	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.	Open the Alert Views - RTView Alerts Table display.

Note: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by the selected domain. Refer to TIBCO ActiveSpaces documentation for more information regarding these fields.

Filter By:

The display might include these filtering options:

Domain Select the domain for which you want to show data in the display.

M	letaspace	Select the metaspace for which you want to show data in the display.
S	pace	Select the space for which you want to show data in the display.
Fields	and Data:	
-	elected Juery	Lists the details of the query selected from the "All Queries Table".
Space	Info	
D	omain	The name of the domain in which the query resides.
M	letaspace	The name of the metaspace in which the query resides.
S	pace	The name of the space in which the query resides.
Memb	er Info	Note: You can click this region to open the "Member Summary" display.
Ν	lame	The name of the member node.*
I	d	The id of the member node.*
Р	rocess ID	The process ID of the member node processing the query.*
Query	Info	
D	uration	The duration, in seconds, of the query.*
S	itatus	The status of the query.* 0 - Failed 1 - In progress 2 - Completed
S	tart Time	Start time of the query.
E	nd Time	End time of the query.
Li	imit	Lists the maximum number of entries that can be returned when executing a query.*
Α	bort	When checked, denotes that the query was aborted. st
R	equest Id	The request id of the query.*
Q	uery Type	The type of query.*
S	can Type	Lists whether the query used a table scan or an index scan.*
I	ndex Name	The name of the index being used in the query.*
	stimated ost	The estimated execution time of the query.*
Α	ctual Cost	The actual execution time of the query.*
F	ilter	The filter used in the query.*
Relate Count	ed Query	The number of queries related to the selected query.
Paren	t Request Id	The request ID of the query's parent.
Relate	ed Queries	Lists the details of any related ("sibling") queries.

Members View

The displays in this view allow you to view the current and historical metrics for all members in a particular metaspace, view data for members within a particular space, and view data for all spaces for a particular member. The available displays in this View are:

- "All Members Table": A tabular view of all members in a particular metaspace.
- "All Members Heatmap": A heatmap view of all members in a particular metaspace.
- "Member Summary": This display allows you to view current and trending data for a single member for a particular metaspace.
- "Member Summary Process": This display allows you to view current and trending process statistics for a single member for a particular metaspace.
- "Member Summary -JVM": This display allows you to view current and trending JVM statistics for a single member for a particular metaspace.
- "Members by Space Table": A tabular view of all members in a particular space.
- "Members by Space Heatmap": A heatmap view of all members in a particular space.
- "Spaces by Member Table": A tabular view of all spaces for a particular member.
- "Member by Space Summary": This display allows you to view data for a selected member for a particular space.

All Members Table

The table in this display provides a view of all of the members in a particular metaspace and their associated metric data including domain, metaspace, 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 member in the "Member Summary" display

Member Count:	14		Members				
Domain =	Metaspace =	Member Name =	Alert Level	Alert Count=	Management Role :	Host Address =	Host Po
Production	retailV213	AlphaTestBed	0	0	MEMBER	192.168.200.134	6
Production	retailV213	as-agent-1	Õ	0	MEMBER	192.168.200.131	6
Production	retailV213	retail_get	Õ	0	MEMBER	192.168.200.131	6
Production	retailV213	retail put	õ	0	MANAGER	192.168.200.131	6
Production	retailV213	retail take	õ	0	MEMBER	192.168.200.131	6
Production	retailV214	as-agent-1	õ	0	MEMBER	192.168.200.74	6
Production	retailV214	retail get	õ	0	MEMBER	192.168.200.74	6
Production	retailV214	retail put	ŏ	0	MANAGER	192.168.200.74	6
Production	retailV214	retail take	Õ	0	MEMBER	192.168.200.74	6
Production	retailV216	as-agent-1	ŏ	0	MEMBER	192.168.200.71	6
Production	retailV216	as-agent-2	Õ	0	MEMBER	192.168.200.71	6
Production	retailV216	retail get	ŏ	0	MEMBER	192.168.200.71	6
Production	retailV216	retail put	Õ	0	MANAGER	192.168.200.71	6
Production	retailV216	retail_take	ŏ	0	MEMBER	192.168.200.71	6

Title Bar (possible features are):	🕼 Data OK Data connection state. Red indicates the Data
🗲 🔺 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Note: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by the selected domain. Refer to TIBCO ActiveSpaces documentation for more information regarding these fields.

Filter By:

Domain	Select the domain for which you want to view data.
Metaspace	Select the metaspace for which you want to view data.
Member Count	The resulting total number of members found in the filtered query, and listed in the Members table.
Members Table	
Domain	The name of the domain.

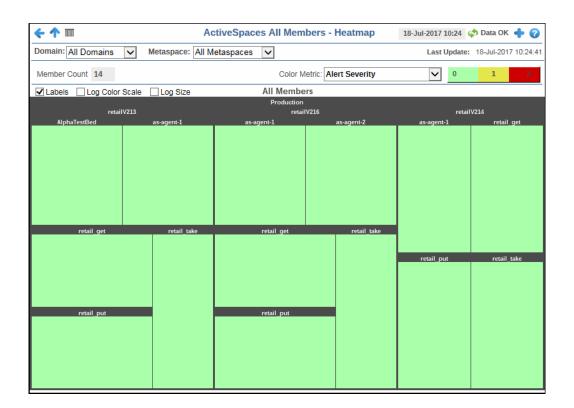
Metaspace	The name of the metaspace.
Member Name	The name of the member.
Alert Level	The current alert severity. Red indicates that one or more metrics exceeded their ALARM LEVEL threshold. Yellow indicates that one or more metrics exceeded their WARNING LEVEL
	• Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.
Alant Caust	Green indicates that no metrics have exceeded their alert thresholds. The total number of electro for the boot
Alert Count	The total number of alerts for the host.
Management Role	The member's role within the metaspace.
Host Address	The IP address of the host.*
Host Port	The port of the host.*
ProcessID	The process ID of the process being monitored. $*$
Process Name	The name of the process.*
NumSpaces	The number of spaces in which the metaspace member is a member. st
Entries	The number of entries associated with the member.*
Replicas	The number of replicas.*
Gets	The total number of "get" operations performed on the user-spaces defined on the metaspace.*
Gets/interval	The number of "get" operations performed on the user-spaces defined for the metaspace during the current polling interval.*
Gets/sec	The rate of "get" operations (per second) performed on the user-spaces defined for the metaspace.*
Puts	The total number of "put" operations performed on the user-spaces defined on the metaspace.*
Puts/interval	The number of "put" operations performed on the user-spaces defined for the metaspace during the current polling interval.*
Puts/sec	The rate of "put" operations (per second) performed on the user-spaces defined for the metaspace.*
Takes	The total number of "take" operations performed on the user-spaces defined on the metaspace.*
Takes/interval	The number of "take" operations performed on the user-spaces defined for the metaspace during the current polling interval.*
Takes/sec	The rate of "take" operations (per second) performed on the user-spaces defined for the metaspace.*
Expires	The total number of entries in the user-spaces defined on the metaspace that have expired.*
Expires/interval	The number of entries performed in the user-spaces defined for the metaspace that expired during the current polling interval.*
Expires/sec	The rate of entries in the user-spaces defined for the metaspace that expired (per second).*
Evicts	The total number of entries in the user-spaces defined on the metaspace that have been evicted.*
Evicts/interval	The number of entries performed in the user-spaces defined for the metaspace that were evicted during the current polling interval.*

Evicts/sec	The rate of entries in the user-spaces defined for the metaspace that were evicted (per second).*
Locks	The total number of locks in the user-spaces defined for the metaspace. *
Unlocks	The total number of unlocks in the user-spaces defined for the metaspace. st
Invokes	The remote invocation count.*
Queries	The total number of queries in the user-spaces defined for the metaspace. st
Misses	The total number of misses in the user-spaces defined for the metaspace. st
ToPersist	The ToPersist count, which indicates how many tuples are required to be persisted to the database if the write-behind feature is configured.*
Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO Active Spaces > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.
Join Time	The time that the member joined the space.
Timestamp	The date and time the row data was last updated.
sys_name	The operating system on which the member is running.*
cmd_name	Indicates the command used to start as-admin .*
user_name	The name of the user running the process.*
thread_count	The number of threads running for the process.*
res_mem_size	Indicates the amount of physical memory currently allocated to the member.*
mem_load	The percentage of memory being used.*
peak_res_mem_size	Indicates the peak size of the system resident memory allocated by the system.*
page_size	Indicates the current size of the system pagefiles allocated by the system. st
peak_page_size	Indicates the maximum size of the system pagefiles allowed by the system. st
process_cpu_load	Indicates the load on the CPU (CPU percentage).*
cpu_count	The number of CPUs running on the system.*
jvm_comm_heap_size	The committed JVM heap usage, in megabytes.*
jvm_max_heap_size	The maximum JVM heap usage, in megabytes.*
jvm_used_heap_size	The used JVM heap, in megabytes.*
jvm_comm_nonheap_size	The committed JVM non-heap memory usage, in megabytes.*
jvm_max_nonheap_size	The maximum JVM non-heap memory usage, in megabytes.*
jvm_used_nonheap_size	The used JVM non-heap memory, in megabytes.*
jvm_finalizing_count	The amount of memory freed by the finalize operation on the JVM. st
as_version	The current ActiveSpaces version running.*
JVMMemoryUsedPercent	The percentage of memory used by the JVM.*

All Members Heatmap

This heatmap display provides an easy-to-view interface that allows you to quickly identify the current status of each of your members for each available metric. You can view the members in the heatmap based on the following metrics: the current alert severity, the number of entries, the number of gets per second, the number of puts per second, the number of takes per second, the number of expires per second, the number of evictions per second, the percentage of CPU used, the percentage of memory used, and the percentage of JVM memory used. By default, this display shows the heatmap based on the **Alert Severity** metric.

You can use the **Labels** check-box \checkmark to include or exclude labels in the heatmap, and you can mouse over a rectangle to see additional metrics for a particular member. Clicking one of the rectangles in the heatmap opens the "Member Summary" display, which allows you to see additional details for the selected member.



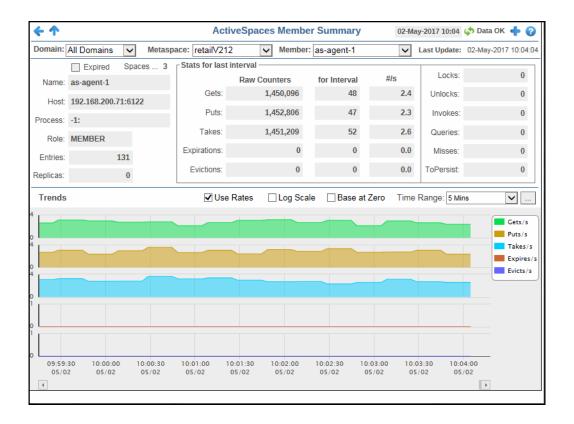
 Data OK Data connection state. Red indicates the Data Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the data source is connected. 23-Mar-2017 12:04 Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green Data OK icon is a strong indication that data is current and valid.
Open the Alert Views - RTView Alerts Table display.

Filte	r By:				
	Domain	Select the Domain for which you want to view data.			
	Metaspace	Select the metas	Select the metaspace for which you want to view data.		
Field	s and Data:				
	Last Update	The date and tim	ne in which the data in the display was last updated.		
	Member Count	The number of members found for the selected Domain/Metaspace combination.			
	Labels	Select this check box to display the names of the adapters at the top of each rectangle in the heatmap.			
	Log Color Scale	Select this check box to use a logarithmic scale, rather than a linear scale, to map from the selected metric value for a cell to the color for the cell. Log Scale provides another way to distribute and differentiate values that you might not be able to see on a linear scale due to the dominant nature of large values in a linear scale.			
	Log Size	Select this check box to use a logarithmic scale, rather than a linear scale, to map from the selected metric value for a cell to the size for the cell. Log Scale provides another way to distribute and differentiate values that you might not be able to see on a linear scale due to the dominant nature of large values in a linear scale.			
	Color Metric	Choose a metric	to view in the display.		
		Alert Severity	The current alert severity. Values range from 0 - 2 , as indicated in the color gradient bar , where 2 is the highest Alert Severity:		
			Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.		
			Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.		
			Green indicates that no metrics have exceeded their alert thresholds.		
		Entries	The total number of entries in the adapters. The color gradient • 6000 100 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 TasMemberEntriesHigh . The middle value in the gradient bar indicates the middle value of the range.		
		Gets/sec	The number of gets per second. The color gradient one of the second 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 TasMemberGetRateHigh . The middle value in the gradient bar indicates the middle value of the range.		
		Puts/sec	The number of puts per second. The color gradient bar •••••• shows the range of the value/color mapping. ated 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 TasMemberPutRateHigh . The middle value in the gradient bar indicates the middle value of the range.		
		Takes/sec	The number of takes per second. The color gradient 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 TasMemberTakeRateHigh . The middle value in the gradient bar indicates the middle value of the range.		
		Expires/sec	The number of expires per second. The color gradient bar shows the range of the value/color mapping. ated 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 TasMemberExpireRateHigh . The middle value in the gradient bar indicates the middle value of the range.		

Evicts/sec	The number of evictions 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 TasMemberEvictsRateHigh . The middle value in the gradient bar indicates the middle value of the range.
CPU %	The percentage of CPU used. The color gradient bar shows the range of the value/color mapping. ated 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 TasMemberCpuHigh . The middle value in the gradient bar indicates the middle value of the range.
Memory %	The percentage of memory used. The color gradient 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 TasMemberMemoryUsedHigh . The middle value in the gradient bar indicates the middle value of the range.
JVM Memory %	The percentage of JVM memory used. The color gradient bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the defined alert threshold of TasMemberJvmMemoryUsedHigh . The middle value in the gradient bar indicates the middle value of the range.

Member Summary

This display provides a view of the current and historical metrics for a single member. The trend graph in the bottom half of the display traces the current and historical total number of or rate data for gets, puts, takes, expires, and evictions.



Title Bar (possible features are):	🐼 Data OK Data connection state. Red indicates the Data
Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
💠 Open an instance of this display in a new window.	data source is connected.
 Open the online help page for this display. Menu , 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.	Open the Alert Views - RTView Alerts Table display.

Note: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by the selected domain. Refer to TIBCO ActiveSpaces documentation for more information regarding these fields.

Filter By:

The display might include these filtering options:

	Domain	Select the domain for which you want to show data in the display.	
	Metaspace	Select the metaspace for which you want to show data in the display.	
	Member	Select the space for which you want to show data in the display.	
Fiel	ds and Data:		
	Last Update	The date and time in which the data in the display was last updated.	
	Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO Active Spaces > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.	
	Spaces	The total number of spaces in which the member is a member.* Note: Clicking on this field opens the "Spaces by Member Table" display.	
	Name	The name of the member.	
	Host	The IP address of the host.	
	Process	The process ID and process name (ProcessID:ProcessName).*	
	Role	The role of the member.	
	Entries	The number of entries for the member.*	
	Replicas	The number of replicas for the member.*	
	Stats for last interval		

Gets	Raw Counters The total number of "get" operations performed on the user-spaces defined on the metaspace.*
	for Interval The number of "get" operations performed on the user-spaces defined for the metaspace during the current polling interval.*
	#/s The rate of "get" operations (per second) performed on the user-spaces defined for the metaspace.*

	Puts	Raw Counters The total number of "put" operations performed on the user-spaces defined on the metaspace.*
		for Interval The number of "put" operations performed on the user-spaces defined for the metaspace during the current polling interval.*
		#/s The rate of "put" operations (per second) performed on the user-spaces defined for the metaspace.*
	Takes	Raw Counters The total number of "take" operations performed on the user-spaces defined on the metaspace.*
		for Interval The number of "take" operations performed on the user-spaces defined for the metaspace during the current polling interval.*
		#/s The rate of "take" operations (per second) performed on the user-spaces defined for the metaspace.*
	Expirations	Raw Counters The total number of entries in the user-spaces defined on the metaspace that have expired.*
		for Interval The number of entries performed in the user-spaces defined for the metaspace that expired during the current polling interval.*
		#/s The rate of entries in the user-spaces defined for the metaspace that expired (per second).*
	Evictions	Raw Counters The total number of entries in the user-spaces defined on the metaspace that have been evicted.*
		for Interval The number of entries performed in the user-spaces defined for the metaspace that were evicted during the current polling interval.*
		#/s The rate of entries in the user-spaces defined for the metaspace that were evicted (per second).*
	Locks	The total number of locks in the user-spaces defined for the metaspace.*
	Unlocks	The total number of unlocks in the user-spaces defined for the metaspace.*
	Invokes	The remote invocation count.*
	Queries	The total number of queries in the user-spaces defined for the metaspace. *
	Misses	The total number of misses in the user-spaces defined for the metaspace.*
	ToPersist	The ToPersist count, which indicates how many tuples are required to be persisted to the database if the write-behind feature is configured.*
Trends Traces the following:		5
	Gets(/s) tra Use Rates sele	ces the total number of gets, or the number of gets per second with cted.
	Puts(/s) trac Use Rates sele	tes the total number of puts, or the number of puts per second with cted.
	Takes(/s) tr with Use Rates	races the total number of takes, or the number of takes per second selected.
		traces the total number of expires, or the number of expires per e Rates selected.
	Evicts(/s) tr with Use Rates	races the total number of evicts, or the number of evicts per second s selected.
	Use Rates	Select this check box to trace the rates (Gets/s , Puts/s , Takes/s , Expires/s , Evicts/s) instead of the total numbers (Gets , Puts , Takes , Expires , Evicts).

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 .

Select or Enter Date and Time:
Restore to Now
Ok Apply Cancel

By default, the time range end point is the current time. To change the time range end point, click Calendar _____ and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

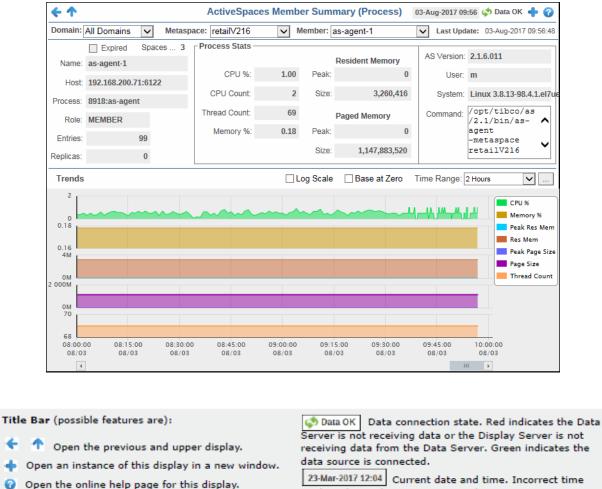
Use the navigation arrows \square \square to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

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

Member Summary - Process

This display provides a view of the current and historical process metrics for a single member. The trend graph in the bottom half of the display traces the current and historical process statistics for the selected member.

Note: These metrics are only available for members where system monitoring is enabled.



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: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by the selected domain. Refer to TIBCO ActiveSpaces documentation for more information regarding these fields.

Filter By:

Menu

displays.

6,047

*

The display might include these filtering options:

Table open commonly accessed

The number of items currently in the display.

Domain	Select the domain for which you want to show data in the display.
Metaspace	Select the metaspace for which you want to show data in the display
Member	Select the space for which you want to show data in the display.
Fields and Data:	

Last Update	The date and time in which the data in the display was last updated.
Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO Active Spaces > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.
Spaces	The total number of spaces in which the member is a member. Note: Clicking on this field opens the "Spaces by Member Table" display.
Name	The name of the member.
Host	The IP address of the host.*
Process	The process ID and process name (ProcessID:ProcessName).*
Role	The role of the member.
Entries	The number of entries for the member.*
Replicas	The number of replicas for the member.*

Process Stats

	CPU %	Indicates the load on the CPU (CPU percentage).*				
	CPU Count	The number of CPUs running on the system.*				
	Thread Count	The number of threads running for the process.*				
	Memory %	The percentage of memory being used.*				
	Resident Memory	Peak Indicates the peak size of the system resident memory allocated by the system.*				
		$\ensuremath{\textit{Size}}$ Indicates the amount of physical memory currently allocated to the member.*				
	Paged Memory	Peak Indicates the maximum size of the system pagefiles allowed by the system.*				
		Size Indicates the current size of the system pagefiles allocated by the system.*				
	AS Version	The current ActiveSpaces version running.*				
	User	The name of the user running the process.*				
	System	The operating system on which the member is running. st				
	Command	Indicates the command used to start the member process. st				
Trends		ng: es the percentage of CPU being used. traces the percentage of memory being used.*				
	-	n traces the peak size of the system resident memory allocated by				
	Res Mem tra member.*	aces the amount of physical memory currently allocated to the				
	Peak Page Siz system.*	\mathbf{ze} traces the maximum size of the system pagefiles allowed by the				
	Page Size tr system.*	aces the current size of the system pagefiles allocated by the				
	Thread Count	traces the number of threads running for the process. *				

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 .

Select or Enter Date and Time:
Restore to Now
Ok Apply Cancel

By default, the time range end point is the current time. To change the time range end point, click Calendar _____ and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

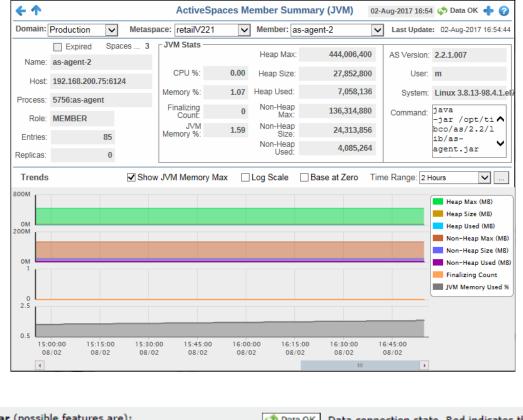
Use the navigation arrows \square to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

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

Member Summary -JVM

This display provides a view of the current and historical JVM statistics for a single member. The trend graph in the bottom half of the display traces the current and historical JVM metrics for the selected member.

Note: These metrics are only available for Java members where system monitoring is enabled.



Title Bar (possible features are):	💠 Data OK 🛛 Data connection state. Red indicates the Data		
 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 and 	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		
displays. c	current and valid.		
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.		

Note: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by the selected domain. Refer to TIBCO ActiveSpaces documentation for more information regarding these fields.

Filter By:

The display might include these filtering options:

Domain	Select the domain for which you want to show data in the display.
Metaspace	Select the metaspace for which you want to show data in the display.
Member	Select the space for which you want to show data in the display.
Fields and Data:	

Last Update	The date and time in which the data in the display was last updated.
Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO Active Spaces > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.
Spaces	The total number of spaces in which the member is a member.* Note: Clicking on this field opens the "Spaces by Member Table" display.
Name	The name of the member.
Host	The IP address of the host.*
Process	The process ID and process name (ProcessID:ProcessName).*
Role	The role of the member.
Entries	The number of entries for the member.*
Replicas	The number of replicas for the member.*
JVM Stats	

CPU %	The load on the CPU (CPU percentage).*
Memory %	The percentage of memory being used.*
Finalizing Count	The amount of memory freed by the finalize operation on the JVM.*
JVM Memory %	The percentage of Java memory used by the JVM.*
Неар Мах	The maximum JVM heap memory that can be used, in megabytes.*
Heap Size	The committed JVM heap size, in megabytes.*
Heap Used	The JVM heap memory currently being used, in megabytes. st
Non-Heap Max	The maximum JVM non-heap memory that can be used, in megabytes.*
Non-Heap Size	The committed JVM non-heap size, in megabytes.*
Non-Heap Size Non-Heap Used	The committed JVM non-heap size, in megabytes.* The JVM non-heap memory currently being used, in megabytes.*
Non-Heap	
Non-Heap Used	The JVM non-heap memory currently being used, in megabytes.*
Non-Heap Used AS Version	The JVM non-heap memory currently being used, in megabytes.* The current ActiveSpaces version running.*

Trends Traces the following:

Heap Max (MB)- traces the maximum JVM heap memory that can be used, in megabytes.*

Heap Size (MB)-- traces the maximum JVM heap usage, in megabytes.*

Heap Used (MB)-- traces the committed JVM heap size, in megabytes.*

Non-Heap Max (MB)-- traces the maximum JVM non-heap memory that can be used, in megabytes.*

Non-Heap Size (MB)-- traces the committed JVM non-heap size, in megabytes.*

Non-Heap Used (MB)-- traces the JVM non-heap memory currently being used, in megabytes.*

Finalizing Count-- traces the amount of memory freed by the finalize operation on the JVM.*

JVM Memory Used %-- traces the percentage of Java memory used by the JVM.*

- **Show JVM Memory Max** When selected, enables the Heap Max (MB) and Non-Heap Max (MB) metrics in the trend graph, which might be useful for removing the maximum metrics from the plot when they differ significantly from the used and committed values.
- 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 \square .



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 \square \square 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.

Members by Space Table

The table in this display provides a view of all of your members and their associated metric data including domain, metaspace, space, 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 member in the "Member by Space Summary" display.

Demoins D			veSpaces A					
Domain: Producti	ion 🗸	Metaspac	e: retailV212	~	Space: inver	ntory	\checkmark	
Member Count: 4				Membe	rs by Space			
Domain =	Metasp	ace =		Space	=	MemberName	Alert Severity	Alert Count = D
Production	retailV212	inv	entory		as	s-agent-1	C	0 SE
Production	retailV212	inv	entory		re	etail_get	Õ	0 SE
Production	retailV212	inv	entory		re	etail_put	0	0 SE
Production	retailV212	inv	entory		re	tail_take	۲	0 SE
	<							>
ar (possible fea	atures ar	·e):			📣 Data (nnection state	
							ng data or the	
Open the pr	evious a	nd uppe	r display.		-		the Data Serve	er. Green indic
	of this d	display in	n a new wir	ndow.	data sou	rce is conne	cted.	
en an instance								
en an instance en the online h					23-Mar-20	017 12:04	rrent date and	time Incorre

6,047 The number of items currently in the display. Open the Alert Views - RTView Alerts Table display.

Note: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by the selected domain. Refer to TIBCO ActiveSpaces documentation for more information regarding these fields.

current and valid.

Data

ta is

Filter By:

Domain	Select the domain for which you want to view data.
Metaspace	Select the metaspace for which you want to view data.
Space	Select the space for which you want to view data.
Member Count	The resulting total number of members found in the filtered query, which are listed in the Members by Space table.

Members by Space Table

mbers by Space Table	
Domain	The name of the domain.
Metaspace	The name of the metaspace.
Space	The name of the space.
Member Name	The name of the member.
Alert Severity	 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.
Distribution Role	The member's role within the space.*
Entries	The number of entries.*
% Capacity	The percentage of available entries used for the space.
Replicas	The number of replicas.*
Gets	The total number of "get" operations performed on the user-spaces defined on the metaspace. *
Gets/interval	The number of "get" operations performed on the user-spaces defined for the metaspace during the current polling interval.*
Gets/sec	The rate of "get" operations (per second) performed on the user-spaces defined for the metaspace.*
Puts	The total number of "put" operations performed on the user-spaces defined on the metaspace.*
Puts/interval	The number of "put" operations performed on the user-spaces defined for the metaspace during the current polling interval.*
Puts/sec	The rate of "put" operations (per second) performed on the user-spaces defined for the metaspace.*
Takes	The total number of "take" operations performed on the user-spaces defined on the metaspace.*
Takes/interval	The number of "take" operations performed on the user-spaces defined for the metaspace during the current polling interval.*
Takes/sec	The rate of "take" operations (per second) performed on the user-spaces defined for the metaspace.*
Expires	The total number of entries in the user-spaces defined on the metaspace that have expired. st
Expires/interval	The number of entries performed in the user-spaces defined for the metaspace that expired during the current polling interval.*

Expires/sec	The rate of entries in the user-spaces defined for the metaspace that expired (per second).*
Evicts	The total number of entries in the user-spaces defined on the metaspace that have been $evicted.*$
Evicts/interval	The number of entries performed in the user-spaces defined for the metaspace that were evicted during the current polling interval.*
Evicts/sec	The rate of entries in the user-spaces defined for the metaspace that were evicted (per second). *
Locks	The total number of locks in the user-spaces defined for the metaspace. st
Unlocks	The total number of unlocks in the user-spaces defined for the metaspace. st
Invokes	The remote invocation count.*
Queries	The total number of queries in the user-spaces defined for the metaspace. st
Misses	The total number of misses in the user-spaces defined for the metaspace. st
ToPersist	The ToPersist count, which indicates how many tuples are required to be persisted to the database if the write-behind feature is configured.*
ClientAvgGetMicros	The client's average "get" latency in microseconds.*
ClientAvgPutMicros	The client's average "put" latency in microseconds.*
ClientAvgTakeMicros	The client's average "take" latency in microseconds.*
ClientMaxGetMicros	The client's highest "get" latency in microseconds.*
ClientMaxPutMicros	The client's highest "put" latency in microseconds.*
ClientMaxTakeMicros	The client's highest "take" latency in microseconds.*
ClientTotalGetMillis	The client's cumulative total "get" latency in milliseconds for the current polling period.*
ClientTotalPutMillis	The client's cumulative total "put" latency in milliseconds for the current polling period.*
ClientTotalTakeMillis	The client's cumulative total "take" latency in milliseconds for the current polling period.*
ClientTotalMissMillis	The client's cumulative total "miss" latency in milliseconds for the current polling period.*
Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO Active Spaces > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.
Timestamp	The date and time the row data was last updated.

Members by Space Heatmap

This heatmap display provides an easy-to-view interface that allows you to quickly identify the current status of each of your members for each available metric. You can view the members in the heatmap based on the following metrics: the number of entries, the number of gets per second, the number of puts per second, the number of takes per second, and the number of expires per second, and the number of evictions per second. By default, this display shows the heatmap based on the **Entries** metric.

You can use the **Labels** check-box \checkmark to include or exclude labels in the heatmap, and you can mouse over a rectangle to see additional metrics for a member. Clicking one of the rectangles in the heatmap opens the "Member Summary" display, which allows you to see additional details for the selected member.

← ↑ Ⅲ	ActiveSpaces All	Men	nbers by Space - Heatmap	02-Ma	y-2017 11:28 🤇	🔊 Data OK 💠 🕜
Domain: Production	Metaspace: retailV212	~	Space: All Spaces	~	Last Update:	02-May-2017 11:28
Member Count 12		C	color Metric: Entries		▶ 0	5,000 10,0 0
Labels Log Color Scale	Members organize	d by	Space (size ~ log[#Entries])			
			oduction tailV212			
	inventor					customers
		1				stores
						· · ·
(nancible fastures and						

Title Bar (possible features are):	Solution of the Data connection state. Red indicates the Data
🗧 🏠 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
Open an instance of this display in a new window.	data source is connected. 23-Mar-2017 12:04 Current date and time. Incorrect time
 Open the online help page for this display. Menu , Table open commonly accessed displays. 	might indicate the Monitor stopped running. Correct time and green Data OK icon is a strong indication that data is
6,047 The number of items currently in the display.	current and valid. Image: Open the Alert Views - RTView Alerts Table display.

Filter By:

Domain Select the Domain for which you want to view data.

	Metaspace	Select the meta	space for which you want to view data.			
	Space	Select the space	e for which you want to view data.			
Field	is and Data:					
	Last Update	The date and tin	ne in which the data in the display was last updated.			
	Member Count	The number of r	members found for the selected Domain/Metaspace combination.			
	Labels		Select this check box to display the names of the adapters at the top of each rectangle in the heatmap.			
	Log Color Scale	from the selecte another way to	k box to use a logarithmic scale, rather than a linear scale, to map ed metric value for a cell to the color for the cell. Log Scale provides distribute and differentiate values that you might not be able to see e due to the dominant nature of large values in a linear scale.			
	Color Metric	Choose a metric	to view in the display.			
		Entries	The total number of entries in the adapters. The color gradient value/color mapping. The numerical values in the gradient bar range from 0 to the defined alert threshold of TasMemberEntriesHigh . The middle value in the gradient bar indicates the middle value of the range.			
		Gets/sec	The number of gets per second. The color gradient 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 TasMemberGetRateHigh . The middle value in the gradient bar indicates the middle value of the range.			
		Puts/sec	The number of puts per second. The color gradient bar one of the shows the range of the value/color mapping. ated 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 TasMemberPutRateHigh . The middle value in the gradient bar indicates the middle value of the range.			
		Takes/sec	The number of takes per second. The color gradient 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 TasMemberTakeRateHigh . The middle value in the gradient bar indicates the middle value of the range.			
		Expires/sec	The number of expires per second. The color gradient bar shows the range of the value/color mapping. ated 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 TasMemberExpireRateHigh . The middle value in the gradient bar indicates the middle value of the range.			
		Evicts/sec	The number of evictions 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 TasMemberEvictsRateHigh . The middle value in the gradient bar indicates the middle value of the range.			

Spaces by Member Table

The table in this display provides a view of all of your spaces (by member name) and the their associated metric data including domain, metaspace, space, 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 member in the "Member by Space Summary" display.

Domain: All Dom	ains 🗸 🛚	/letaspace: retailV212	Member: as-agent-1	\sim	
Member Count: 3		L			
			Spaces by Member		
Domain =	Metaspace		E Space	Alert Severity	Alert Count = Di
Production	retailV212	as-agent-1	customers		0 SE
Production	retailV212	as-agent-1	inventory		0 SE
Production	retailV212	as-agent-1	stores		0 SE
	<				>
(possible fea			Server is not recei	iving data or the (Display Server
		upper display. play in a new wind	receiving data from data source is con		r. Green indica
	elp page f	or this display. ommonly accessed	23-Mar-2017 12:04 might indicate the		running. Corre

Open the Alert Views - RTView Alerts Table display.

Note: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by the selected domain. Refer to TIBCO ActiveSpaces documentation for more information regarding these fields.

Filter By:

	Domain	Select the domain for which you want to view data.
	Metaspace	Select the metaspace for which you want to view data.
	Member	Select the space for which you want to view data.
Mem	iber Count	The resulting total number of members found in the filtered query, which are listed in the Spaces by Members table.
Spac	es by Member Table	
	Domain	The name of the domain.
	Metaspace	The name of the metaspace.
	Member Name	The name of the member.
	Space	The name of the space.
	Alert Severity	 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.
	Distribution Role	The member's role within the space.
	Entries	The number of entries.*
	% Capacity	The percentage of available entries used for the space.
	Replicas	The number of replicas.*
	Gets	The total number of "get" operations performed on the user-spaces defined on the metaspace.*
	Gets/interval	The number of "get" operations performed on the user-spaces defined for the metaspace during the current polling interval.*
	Gets/sec	The rate of "get" operations (per second) performed on the user-spaces defined for the metaspace. *
	Puts	The total number of "put" operations performed on the user-spaces defined on the metaspace.*
	Puts/interval	The number of "put" operations performed on the user-spaces defined for the metaspace during the current polling interval.*
	Puts/sec	The rate of "put" operations (per second) performed on the user-spaces defined for the metaspace. *
	Takes	The total number of "take" operations performed on the user-spaces defined on the metaspace.*
	Takes/interval	The number of "take" operations performed on the user-spaces defined for the metaspace during the current polling interval.*
	Takes/sec	The rate of "take" operations (per second) performed on the user-spaces defined for the metaspace.*
	Expires	The total number of entries in the user-spaces defined on the metaspace that have expired.*
	Expires/interval	The number of entries performed in the user-spaces defined for the metaspace that expired during the current polling interval.*

Expires/sec	The rate of entries in the user-spaces defined for the metaspace that expired (per second). $*$
Evicts	The total number of entries in the user-spaces defined on the metaspace that have been evicted.*
Evicts/interval	The number of entries performed in the user-spaces defined for the metaspace that were evicted during the current polling interval.*
Evicts/sec	The rate of entries in the user-spaces defined for the metaspace that were evicted (per second). *
Locks	The total number of locks in the user-spaces defined for the metaspace. st
Unlocks	The total number of unlocks in the user-spaces defined for the metaspace. st
Invokes	The remote invocation count.*
Queries	The total number of queries in the user-spaces defined for the metaspace. st
Misses	The total number of misses in the user-spaces defined for the metaspace. st
ToPersist	The ToPersist count, which indicates how many tuples are required to be persisted to the database if the write-behind feature is configured.*
ClientAvgGetMicros	The client's average "get" latency in microseconds.*
ClientAvgPutMicros	The client's average "put" latency in microseconds.*
ClientAvgTakeMicros	The client's average "take" latency in microseconds.*
ClientMaxGetMicros	The client's highest "get" latency in microseconds.*
ClientMaxPutMicros	The client's highest "put" latency in microseconds.*
ClientMaxTakeMicros	The client's highest "take" latency in microseconds.*
ClientTotalGetMillis	The client's cumulative total "get" latency in milliseconds for the current polling period.*
ClientTotalPutMillis	The client's cumulative total "put" latency in milliseconds for the current polling period.*
ClientTotalTakeMillis	The client's cumulative total "take" latency in milliseconds for the current polling period.*
ClientTotalMissMillis	The client's cumulative total "miss" latency in milliseconds for the current polling period.*
Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO Active Spaces > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.
Timestamp	The date and time the row data was last updated.

Member by Space Summary

This display provides a view of the current and historical metrics for a single member in a particular space. The trend graph in the bottom half of the display traces the current and historical total number of or rate data for gets, puts, takes, expires, and evictions.

Domain: All Do		metdS	oace: retailV2		✓ Space	e: inventory		✓ La	si opuale:	03-Aug-2017	10.00.2
	xpired		Stats for las		_				Locks:		0
Member:					Counters	for Interva					
as-agent-1		~	Gets:		3,979,546	4	1	2.1	Unlocks:		0
			Puts:		3,981,824	5	5	2.5	Invokes:		0
Role: SEE			Takes:		3,979,525	5	0	2.3	Queries:		0
			Expirations:		0		0	0.0	Misses:		0
Entries:	106		Evictions:		0		0	0.0	ToPersist		0
eplicas:	0										
Trends			⊻ Us	e Rates			e at Zero		ange: 2 Hou		Gets/s Puts/s Takes/:
											Gets/s Puts/s Takes/s Expires
5											Gets/s

Title Bar (possible features are):	on Data OK Data connection state. Red indicates the Data
🗲 👖 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Note: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by the selected domain. Refer to TIBCO ActiveSpaces documentation for more information regarding these fields.

Filter By:

The display might include these filtering options:

Fields and Data:	
Space	Select the space for which you want to show data in the display.
Metaspace	Select the metaspace for which you want to show data in the display.
Domain	Select the domain for which you want to show data in the display.

Last Update The date and time in which the data in the display was last updated.

Expired When checked, performance data has not been received within the time specified (in seconds) in the **Expire Time** field in the **Duration** region in the RTView Configuration Application > (Project Name) > **Solution Package Configuration** > **TIBCO Active Spaces** > **DATA STORAGE** tab. The **Delete Time** field (also in the **Duration** region) 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.

Member Select the member for which you want to see data.*

- **Role** The member's role within the space.*
- **Entries** The number of entries.*
- **Replicas** The number of replicas.*

Stats for last interval

Gets	Raw Counters The total number of gets for the space. for interval The number of gets for the current interval. #/s The number of gets received per second.
Puts	 Raw Counters The total number of puts for the space. for interval The number of puts for the current interval. #/s The number of puts received per second.
Takes	Raw Counters The total number of takes for the space. for interval The number of takes for the current interval. #/s The number of takes received per second.
Expirations	Raw Counters The total number of expirations for the space. for interval The number of expirations for the current interval. #/s The number of expirations received per second.
Evictions	Raw Counters The total number of evictions for the space. for interval The number of evictions for the current interval. #/s The number of evictions received per second.
Locks	The total number of locks in the user-spaces defined for the space.*
Unlocks	The total number of unlocks in the user-spaces defined for the space. *
Invokes	The remote invocation count.*
Queries	The total number of queries in the user-spaces defined for the space. *
Misses	The total number of misses in the user-spaces defined for the space. *
ToPersist	The ToPersist count, which indicates how many tuples are required to be persisted to the database if the write-behind feature is configured.*

Trends Traces the following:

Gets(/s) -- traces the total number of gets, or the number of gets per second with **Use Rates** selected.

Puts(/s)-- traces the total number of puts, or the number of puts per second with **Use Rates** selected.

Takes(/s) -- traces the total number of takes, or the number of takes per second with **Use Rates** selected.

Expires(/s) -- traces the total number of expires, or the number of expires per second with **Use Rates** selected.

Evicts(/s) -- traces the total number of evicts, or the number of evicts per second with **Use Rates** selected.

- Use Rates Select this check box to trace the rates (Gets/s, Puts/s, Takes/s, Expires/s, Evicts/s) instead of the total numbers (Gets, Puts, Takes, Expires, Evicts).
- 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 \square .

Select or Enter Date and Time:
Restore to Now
Ok Apply Cancel

By default, the time range end point is the current time. To change the time range end point, click Calendar _____ and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

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

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

CHAPTER 10 Solution Package for TIBCO BusinessEvents

The Monitor provides information about how TIBCO BusinessEvents clusters are configured and performing, presents historical data detailing rule execution times per inference node, heap and table sizes for storage nodes, and event, concept and channels statistics. Preconfigured alert conditions provide early warning when any of these gathered performance metrics indicate a situation which is nearing a critical state.

The Monitor can help to diagnose several critical conditions relevant to the health of TIBCO BusinessEvents, including:

- events flooding into the system at much higher-than-expected rates.
- rules firing at a much higher rate than expected causing CPU usage to spike.
- the backing store running inefficiently.
- BusinessEvents concepts being created at a much higher rate than expected causing evaluation or re-evaluation of rules.

This section describes how to install, configure, deploy, start the Solution Package for TIBCO® BusinessEvents®, and read and use the Solution Package for TIBCO® BusinessEvents® displays. See **README_sysreq.txt** for the full system requirements for RTView®.

This section includes:

- "Setup" on page 577
- "Configuration Parameters You Need" on page 578
- "Configure Data Collection" on page 578
- "Additional Configurations" on page 581
- "Troubleshoot" on page 588
- "TIBCO BusinessEvents Monitor Views/Displays" on page 589

Setup

- The memory setting for BusinessEvents projects must be set to **Cache**. The "in memory" memory management setting does not expose the MBeans queried by the Monitor. This means that your project must use a cluster of both inference and cache agents. Inference-only configurations are not supported, since the JMX MBean data is not available.
- Your BusinessEvents (inference and cache) engines must be JMX-enabled. For example, to start a simple BusinessEvents cluster on the command line, type:

start be-engine --propFile be-engine.tra -n TestCache --propVar jmx_port=58700 -c yourBeProjectCDD.cdd -u cache yourBeProjectEAR.ear

be-engine --propFile be-engine.tra -n TestInf --propVar jmx_port=58701 -c yourBeProjectCDD.cdd -u default yourBeProjectEAR.ear

Configuration Parameters You Need

To configure the Solution Package for TIBCO® BusinessEvents®make a note of the following values:

- PackageName=bemon
- ServerDirectory=miscmon
- AlertPrefix=Tbe

Configure Data Collection

This section describes how to configure data collection for TIBCO BusinessEvents Monitor. You configure the Data Servers by defining data source connections for each TIBCO BusinessEvents engine that you want to monitor in the RTView Configuration Application. There are two agent types that you can configure: Inference Agents and Cache Agents.

Note: Your BusinessEvents project must include a cache agent as well as inference agents. TIBCO does not expose the management MBeans for inference agent only configurations.

Before You Begin:

- Verify that your BusinessEvents engines are JMX-enabled.
- For each engine to be monitored, obtain the JMX port assigned to that engine.

To Configure the Data Connection

Use the RTView Configuration Application to configure your data collection:

1. Navigate to RTView Configuration Application > (MISCMON-LOCAL/Project Name) > Solution Package Configuration > TIBCO BusinessEvents > CONNECTIONS tab.

€ RTView®	MISCMON-LOCAL - Miscellaneou	s Monitor	
APROJECTS	TIBCO BusinessEvents		
Custom	CONNECTIONS	DATA COLLECTION	DATA STORAGE
Docker			
IBM DB2			
Microsoft SQL Server	To be	egin adding Connections, click	
MongoDB			7
MySQL Database			
Node.js			
Oracle Database			
Oracle Enterprise Manager			
RTView Manager			
RedHat JBoss			
TIBCO Active Spaces			
TIBCO Adapters			
TIBCO BusinessEvents			
TIBCO Hawk			
VMWare			
hostmon			

2. On the **CONNECTIONS** tab, click the \bigcirc icon to add connections to your BEMON engines. The **Add Connection** dialog displays.

TIBCO BusinessEvents		
CONNECTIONS	DATA COLLECTION	DATA STORAGE
		Add Connection
То	begin adding Connections,	Engine Name *
		Host *
		Port *
		Type * Version *
		Cluster Name (ver 4.0 only)
		* Indicates required field
		SAVE

3. Enter the **Engine Name**, the **Host**, the **Type**, the **Version**, and the **Cluster Name** (if Version selected was 4.0) for the engine to which you want to connect (to enable the Monitor to collect data) where:

Engine Name: the data source connection name used by the Monitor (it is not related to any TIBCO BusinessEvents configuration). Choose a descriptive name as the name appears in the Monitor displays for end-users. It should match the name specified in the first property.

Host: resolves to the address of the system where the TIBCO BusinessEvents engine is running. Specify a unique hostname/port combination for each JMX connection. The hostname can be an IP address or a name that is resolvable via DNS or other network name resolution method used on the host.

Port: the TCP port number assigned to the agent for monitoring via JMX. This port number is usually set in the engine's **.tra** file

(java.property.be.engine.jmx.connector.port=%jmx_port%) and on the command line (--propVar jmx_port=58700).

Type: Select the BusinessEvents engine type (**Cache** or **Inference**).

Version: Select the BusinessEvents Version for the engine.

Cluster Name: Specify the name of the cluster in which the engine resides. This field is only active if you selected version **4.0** in the **Version** field, and is intended to provide a solution if you have BusinessEvents nodes running on Java version 1.6.0_30 or earlier.

NOTE: The BusinessEvents Solution Package requires Java version 1.6.0_31 or later, as it depends on JMX support for wild-carded queries to auto-discover BE cluster names.

4. click Save.

Your newly created engine connection displays in the Connections tab.

CONNECTIONS	DATA COLLECTION	DATA STORAGE
BEengine1 myhost:6080 Version 4.0 Type: Cache MyCluste	er	/ 🗇 í

5. Repeat steps 2-4 to create any additional connections to BusinessEvents engines.

 If you want to modify the default values for the update rates for the BusinessEvents caches, you can update the default polling rates in RTView Configuration Application > DATA COLLECTION > Poll Rates.

TIBCO BusinessEvents *		
CONNECTIONS	DATA COLLECTION	DATA STORAGE
Poll Rates Set the rate in seconds at which to collect metric data Poll Rate 30		

Additional Configurations

This section describes the additional optional TIBCO BusinessEvents Monitor configurations:

"Enable Collection of Historical BEMON Data"

Enable Collection of Historical BEMON Data

You can specify the number of history rows to store in memory, the compaction rules, the duration before metrics are expired and deleted, and the different types of metrics that you want the Historian to store in the **Data Storage** tab in the RTView Configuration Application. This section contains the following:

- "Defining the Storage of In Memory BEMON History"
- "Defining Compaction Rules for BEMON"
- "Defining Expiration and Deletion Duration for BEMON Metrics"
- "Enabling/Disabling Storage of BEMON Historical Data"
- "Defining a Prefix for All History Table Names for BEMON Metrics"

Defining the Storage of In Memory BEMON History

You can modify the maximum number of history rows to store in memory in the Data Storage tab. The **History Rows** property defines the maximum number of rows to store for the TbeInferenceAgent, TbeObjectTable, TbeBackingStore, TbeNodeEvents, TbeAgentEvents, TbeNodeConcepts, and TbeClusterSummary caches. The default settings for **History Rows** is 50,000. To update the default settings:

- 1. Navigate to the RTView Configuration Application > (MISCMON-LOCAL/Project Name) > Solution Package Configuration > TIBCO BusinessEvents > DATA STORAGE tab.
- 2. In the Size region, click the History Rows field and specify the desired number of rows.

BCO BusinessEvents *			
CONNECTIONS	DATA COLLECTION	DATA STORA	AGE
Size Set the number of history rows to keep in m History Rows	smory		
Compaction Set the compaction rules for history. The Co Condense Interval 60	ndense Interval and Condense Raw Time are in seconds. Condense Raw Time 1200	Compaction Rules 1h - ;1d 5m ;2w 15m	
Duration Set the number of seconds between data up			
Expire Time	Delete Time 86400		
History Storage			
Select metrics the Historian will store in the	history database. Metrics that are not listed do not support storing his	story.	

Defining Compaction Rules for BEMON

Data compaction, essentially, is taking large quantities of data and condensing it using a defined rule so that you store a reasonably sized sample of data instead of all of your data, thus preventing you from potentially overloading your database. The available fields are:

- Condense Interval -- The time interval at which the cache history is condensed for the following caches: TbeInferenceAgent, TbeObjectTable, TbeBackingStore, TbeNodeEvents, TbeAgentEvents, TbeNodeConcepts, and TbeClusterSummary. The default is 60 seconds.
- Condense Raw Time -- The time span of raw data kept in the cache history table for the following caches: TbeInferenceAgent, TbeObjectTable, TbeBackingStore, TbeNodeEvents, TbeAgentEvents, TbeNodeConcepts, and TbeClusterSummary. The default is 1200 seconds.
- Compaction Rules -- This field defines the rules used to condense your historical data in the database for the following caches: TbeInferenceAgent, TbeObjectTable, TbeBackingStore, TbeNodeEvents, TbeAgentEvents, TbeNodeConcepts, and TbeClusterSummary. By default, the columns kept in history will be aggregated by averaging rows with the following rule 1h -;1d 5m;2w 15m, which means the data from 1 hour will not be aggregated (1h rule), the data over a period of 1 day will be aggregated every 5 minutes (1d 5m rule), and the data over a period of 2 weeks old will be aggregated every 15 minutes (2w 15m rule).
- 1. Navigate to the RTView Configuration Application > (MISCMON-LOCAL/Project Name) > Solution Package Configuration > TIBCO BusinessEvents > DATA STORAGE tab.
- 2. In the Compaction region, click the Condense Interval, Condense Raw Time, and Compaction Rules fields and specify the desired settings.

Note: When you click in the **Compaction Rules** field, the **Copy default text to clipboard** link appears, which allows you copy the default text (that appears in the field) and paste it into the field. This allows you to easily edit the string rather than creating the string from scratch.

BCO BusinessEvents *		
CONNECTIONS	DATA COLLECTION	DATA STORAGE
Size Set the number of history rows to keep in memory History Rows		
Compaction Set the compaction rules for history. The Condense Interval as Condense Interval 60	nd Condense Raw Time are in seconds. Condense Raw Time 1200	Compaction Rules 1h - ;1d 5m ;2w 15m
Duration Set the number of seconds between data updates before met Expire Time	rics are expired or deleted Delete Time	
120	86400	
History Storage Select metrics the Historian will store in the history database.	Metrics that are not listed do not support storing history.	

Defining Expiration and Deletion Duration for BEMON Metrics

The data for each metric is stored in a specific cache and, when the data is not updated in a certain period of time, that data will either be marked as expired or, if it has been an extended period of time, it will be deleted from the cache altogether. By default, metric data will be set to expired when the data in the cache has not been updated within 45 seconds. Also, by default, if the data has not been updated in the cache within 3600 seconds, it will be removed from the cache.

The caches impacted by the **Expire Time** and **Delete Time** properties are: TbeInferenceAgent, TbeClusterNode, TbeRtcTxnManagerReport, TbeObjectTable, TbeDbConnectionPool, TbeAvailability, TbeBackingStore, TbeNodeEvents, TbeAgentEvents, TbeNodeConcepts, TbeDestinationStatus, TbeChannelStatus, and TbeClusterSummary. To modify these defaults:

- 1. Navigate to the RTView Configuration Application > (MISCMON-LOCAL/Project Name) > Solution Package Configuration > TIBCO BusinessEvents > DATA STORAGE tab.
- **2.** In the **Duration** region, click the **Expire Time** and **Delete Time** fields and specify the desired settings.

CONNECTIONS	DATA COLLECTION	DATA STORAGE
Size		
Set the number of history rows to keep in	n memory	
History Rows		
50000		
Compaction Set the compaction rules for history. The	Condense Interval and Condense Raw Time are in seconds.	
Condense Interval	Condense Raw Time	Compaction Rules
60	1200	1h - ;1d 5m ;2w 15m
60	1200	1h - ;1d 5m ;2w 15m
60	1200	1h - ;1d 5m ;2w 15m
Duration		1h - ;1d 5m ;2w 15m
Duration Set the number of seconds between date	a updates before metrics are expired or deleted	1h - ;1d 5m ;2w 15m
Duration Set the number of seconds between data Expire Time	a updates before metrics are expired or deleted Delete Time	1h - ;1d 5m ;2w 15m
Duration Set the number of seconds between date	a updates before metrics are expired or deleted	1h - ;1d 5m ;2w 15m
Duration Set the number of seconds between data Expire Time	a updates before metrics are expired or deleted Delete Time	1h - ;1d 5m ;2w 15m
Duration Set the number of seconds between data Expire Time	a updates before metrics are expired or deleted Delete Time	1h - ;1d 5m ;2w 15m
Duration Set the number of seconds between data Expire Time	a updates before metrics are expired or deleted Delete Time	1h - ;1d 5m ;2w 15m

Enabling/Disabling Storage of BEMON Historical Data

The **History Storage** section allows you to select which metrics you want the Historian to store in the history database. By default, all historical data (in the TbeAgentEvents, TbeAvailability, TbeBackingStore, TbeClusterSummary, TbeInferenceAgent, TbeNodeConcepts, TbeNodeEvents, and TbeObjectTable caches) is saved to the database. To disable the collection of historical data, perform the following steps:

- 1. Navigate to the RTView Configuration Application > (MISCMON-LOCAL/Project Name) > Solution Package Configuration > TIBCO BusinessEvents > DATA STORAGE tab.
- **2.** In the **History Storage** region, (de)select the toggles for the various metrics that you (do not) want to collect. Blue is enabled, gray is disabled.

CO BusinessEvents *		
CONNECTIONS	DATA COLLECTION	DATA STORAGE
istory Storage elect metrics the Historian will store in the history database	Metrics that are not listed do not support storing history.	
Agent Events		
Availability		
Backing Store		
Cluster Summaries		
Interface Agents		
Node Concepts		
Node Events		
Object Tables		
Storage		
istory Table Name Prefix		
nter a value to prepend to the history table names for all metrics.	Note that this requires a change to your history database schema.	

Defining a Prefix for All History Table Names for BEMON Metrics

The **History Table Name Prefix** field allows you to define a prefix that will be added to the database table names so that the Monitor can differentiate history data between data servers when you have multiple data servers with corresponding Historians using the same solution package(s) and database. In this case, each Historian needs to save to a different table, otherwise the corresponding data server will load metrics from both Historians on startup. Once you have defined the **History Table Name Prefix**, you will need to create the corresponding tables in your database as follows:

- Locate the .sql template for your database under RTVAPM_HOME/tbemon/dbconfig and make a copy of template.
- Add the value you entered for the **History Table Name Prefix** to the beginning of all table names in the copied .sql template.
- Use the copied .sql template to create the tables in your database.

To add the prefix:

- 1. Navigate to the RTView Configuration Application > (MISCMON-LOCAL/Project Name) > Solution Package Configuration > TIBCO BusinessEvents > DATA STORAGE tab.
- 2. Click on the **History Table Name Prefix** field and enter the desired prefix name.

CONNECTIONS	DATA COLLECTION	DATA STORAGE
listory Storage elect metrics the Historian will store in the history database. I	Metrics that are not listed do not support storing history.	
Agent Events		
Availability		
Backing Store		
Cluster Summaries		
Interface Agents		
Node Concepts		
Node Events		
Object Tables		
Storage		
tistory Table Name Prefix	lote that this requires a change to your history database schema.	

Limitations for TIBCO BusinessEvents Installation

Applications using JMX to monitor applications on a server with the server's firewall enabled might experience connection problems. The JMX protocol allows initial contact on a known port, but subsequent communications might occur over a second randomly chosen port. Version 5 of TIBCO BusinessEvents has a fix that allows the follow-on communications to occur over the same port. However, BusinessEvents version 4.0 does not have this fix. BusinessEvents 4.0 installations should use a local agent to push the necessary MBean data to the central RTView Data Server, or use a "premain agent" as described here:

https://blogs.oracle.com/jmxetc/entry/connecting_through_firewall_using_jmx

Troubleshoot

This section includes:

- "Log Files," next
- "JAVA_HOME" on page 588
- "Permissions" on page 588
- "Network/DNS" on page 588
- "Verify Data Received from Data Server" on page 588
- "Verify Port Assignments" on page 589

Log Files

When a Monitor component encounters an error, it outputs an error message to the console and/or to the corresponding log file. If you encounter issues, look for errors in the following log files:

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

which are located in the **RTViewEnterpriseMonitor/emsample/servers/tbemon/logs** directory.

Logging is enabled by default. If you encounter issues with log files, verify the **logs** directory exists in the **RTViewEnterpriseMonitor/emsample/servers/tbemon** directory.

JAVA_HOME

If the terminal window closes after executing the **start_rtv** command, verify that JAVA_HOME is set correctly.

Permissions

If there are permissions-related errors in the response from the **start_rtv** command, check ownership of the directory structure.

Network/DNS

If any log file shows reference to an invalid URL, check your system's hosts file and confirm with your Network Administrator whether your access to the remote system is being blocked.

Verify Data Received from Data Server

If you encounter problems collecting data, restart the Data Server, start the Monitor, and go to the **Admin** tab and select **Architecture> RTView Cache Tables** in the navigation tree. Select **TBEMON-LOCAL** from the **Data Server** drop down list, and search for all caches that start with "TBEMON." Make sure these caches are populated (the number of **Rows** and **Columns** in the table should be greater than 0). If not, there might be a problem with the connection to the Data Server.

Verify Port Assignments

If the display server or Historian fail to connect to the Data Server or they receive no data, verify the ports are assigned correctly in your properties files and restart the Data Server.

TIBCO BusinessEvents Monitor Views/Displays

The following TIBCO Business Events Monitor Views (and their associated displays) can be found under **Components** tab **> Middleware > TIBCO BusinessEvents** once TIBCO BusinessEvents Monitor is installed.

This section includes:

- "Clusters / Nodes View"
- "Events / Concepts View"

Clusters / Nodes View

These displays present performance data for your BusinessEvents system. Displays in this View are:

- "Clusters"
- "Cluster Summary"
- "Cluster Nodes Table"
- "Cluster Nodes Heatmap"
- "Inference Node Summary"
- "Storage Node Summary"

Clusters

Use this display to check event, concept, and backing store metrics for all of your clusters. Consider keeping this display open to monitor your TIBCO BusinessEvents clusters in general. Each row in the table is a different cluster. Click on a cluster row to view additional cluster details (current and historical) in the "Cluster Summary" display. The summary display includes trend charts so that you can view key metrics over time. Sort the table columns when all the rows cannot fit on the screen. For example, sort the **Alert Status** column so that all nodes with red alerts (•) are listed at the top, or sort the **Expired** column so that all expired nodes are listed at the top.

<				BE Clust	ters - Table		06-Jul-2016 11:15	< Data OK 🛛 💠
Count 2 Clusters								
Cluster Name	Alert Severity	Alert Count	Member Count		Num Events Sent	Events Received Per Sec	Num Asserted From Channel Per Sec	Num Retract From Channel Pe
ckfdcache	6	0			0	4.52	4.51	
fdcache	()	. 0	2	0	0	0.00	0.00	

Title Bar (possible features are):	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
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Clusters Table

Each row in the table is a different cluster, and data in the row columns describe the cluster. **Note:** Row columns in this table with an asterisk (*) at the end of the column definition contain data that is provided by the TIBCO MBean interface. Refer to TIBCO documentation for more information regarding these columns.

Count:	The total number of clusters in the table.
Cluster Name	The name of the TIBCO BusinessEvents cluster.
Alert Severity	 The severity level of open alerts. Values range from 0 to 2, where 2 is the greatest Severity: One or more alerts exceeded their ALARM LEVEL threshold. One or more alerts exceeded their WARNING LEVEL threshold. No alert thresholds have been exceeded.
Alert Count	The total number of critical and warning alerts.

Member Count	The count of the number of nodes (both cache and inference) that have been collected. For example, for a cluster that has 3 inference nodes and two cache nodes, the Member Count for all 5 rows in the Cluster Table should be 5. If one of the rows shows a member count of one and the others show four, that is a clear indication that a node failed to join the cluster, and the corresponding node should be restarted. Note: The actual number of nodes in the cluster will not match the count in this column if one or more of the nodes do not have connection properties configured in the property file that is read by the data server at startup.
Num Events Received	The total number of events received.*
Num Events Sent	The total number of events sent.*
Events Received Per Sec	The rate of events received in the cluster.
Num Asserted From Channel Per Sec	The rate of events asserted into the Rete network via the channel.
Num Retracted From Channel Per Sec	The rate of events retracted/deleted from the Rete network via the channel.
Num Modified From Channel Per Sec	The rate of events modified in the Rete network via the channel.
Num Rules Fired Rate	The rate of rules fired in the cluster.
Concept Max Get Time	The longest time taken for a "get" operation for any node in the cluster since the cluster was started.*
Concept Max Put Time	The longest time taken for a "put" operation for any node in the cluster since the cluster was started.*
Concept Max Remove Time	The longest time taken for a "remove" operation for any node in the cluster since the cluster was started.*
Concept Max Operation Time	The longest time taken for a concept operation (get/put/remove) for any node in the cluster since the cluster was started.*
Concept Gets/ sec	The rate of "get" operations in the cluster.
Concept Puts/ sec	The rate of "put" operations in the cluster.
Concept Removes/sec	The rate of "remove" operations in the cluster.
Concept Operations/sec	The rate of operations (gets/puts/removes) in the cluster.
Backing Store Max Erase Time	The longest time taken for an "erase" operation in the Backing Store for any node in the cluster.*
Backing Store Max Load Time	The longest time taken for a "load" operation in the Backing Store for any node in the cluster.*
Backing Store Max Store Time	The longest time taken for a "store" operation in the Backing Store for any node in the cluster.*
Backing Store Max Operation Time	The longest time taken to perform an operation (erase/load/store) in the Backing Store for any node in the cluster.*
Backing Store Erases/sec	The rate of "erases" in the Backing Store.

Backing Store Loads/sec	The rate of "loads" into the Backing Store.
Backing Store Stores/sec	The rate of "stores" into the Backing Store.
Backing Store Operations/sec	The rate of operations (erases/loads/stores) in the Backing Store.
Source	The name of the data server from which the data was collected.
Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO BusinessEvents > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.
Timestamp	The date and time, relative to the Data Server, that data was last collected for the engine.

Cluster Summary

Use this display to view configuration and utilization data for a single cluster. Select a cluster to view Rete statistics, cache metrics, Backing Store data, and trend data for the cluster.

← ↑	Node Ta	ble			BE Clust	ter Summary			05-Jul-2016 17:19	e 💠 D	ata OK 🛛 💠 🌔
Cluster: ckfdcache 🔽			•						Last Updat	e: 05-J	ul-2016 17:19:2
		Expired		te Stats	#/sec	Cache	#/sec	max time/op	Backing	Store (B #/sec	S) max time/op
N Event	odes s	2		Events serted:	4.49	Gets	0.00	0.00	Loads	0.00	0.00
Re	ceived:	282,915	Ret	racted:	4.49	Puts	0.00	59.55	Stores	0.00	0.00
	Sent:	C	M	odified:	0.00	Removes	0.00	0.00	Erases	0.00	0.00
Receive	ed/sec:	4.54	Rule	s Fired:	3.59	Total ops	0.00	59.55	Total ops	0.00	0.00
					Cac BS o	es/sec : 3.7 he Ops/sec : 0.0 ps/sec : 0.0 nax time/op : 0.0					Cache Ops/se BS ops/sec BS max time/
) 7:14:30 07/05	17:15: 07/0			7:16:00 07/05	17:16:30 07/05	17:17:00 07/05	17:17:30 07/05	17:18:0 07/05			
4											

Title Bar (possible features are): 🕼 Data OK 🛛 Data connection state. Red indicates the Data Server is not receiving data or the Display Server is not 🗲 👖 Open the previous and upper display. receiving data from the Data Server. Green indicates the data source is connected. Open an instance of this display in a new window. 23-Mar-2017 12:04 Current date and time. Incorrect time Open the online help page for this display. might indicate the Monitor stopped running. Correct time Menu , Table open commonly accessed and green Data OK icon is a strong indication that data is displays. current and valid. 6,047 The number of items currently in the display. Open the Alert Views - RTView Alerts Table display.

Filter By:

The display might include these filtering options:

Cluster Choose a cluster for which you want to see metrics.

Last Update The date and time the data was last updated in the display.

Fields and Data

This display includes:

Note: Fields with an asterisk (*) at the end of the field definition contain data that is provided by the TIBCO MBean interface. Refer to TIBCO documentation for more information regarding these fields.

Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO BusinessEvents > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.						
Nodes	Lists the number of nodes on the cluster.						
Events	Received	The number of events received since the last data update.*					
	Sent	The number of events sent since the last data update.*					
	Received/ sec	The rate of events received in the cluster.					
Rete Stats	Events Asserted (#/sec)	The rate of events asserted into the Rete network.					
	Retracted (#/sec)	The rate of events retracted/deleted from the Rete network.					
	Modified (#/sec)	The rate of events modified in the Rete network.					
	Rules Fired (#/ sec)	The rate of rules fired in the Rete network.					
Cache	Gets (#/ sec)	The rate of "get" operations in the L1 cache.					
	Gets (max time/op)	The longest time taken for a "get" operation for any node in the cluster since the cluster was started.*					
	Puts (#/ sec)	The rate of "put" operations in the cache.					
	Puts (max time/op)	The longest time taken for a "put" operation for any node in the cluster since the cluster was started.*					
	Removes (#/sec)	The rate of "removes" in the cache.					
	Removes (max time/op)	The longest time taken for a "remove" operation for any node in the cluster since the cluster was started.*					
	Total ops (#/sec)	The rate of operations (gets/puts/removes) in the cache.					
	Total ops (max time/op)	The longest time taken for an operation (get/put/remove) for any node in the cluster since the cluster was started.*					
Backing Store (BS)	Loads (#/ sec)	The rate of "load" operations into the backing store.					
	Loads (max time/op)	The longest time taken for a "load" operation in the backing store for any node in the cluster.*					
	Stores (#/sec)	The rate of "store" operations in the backing store.					
	Stores (max time/op)	The longest time taken for a "store" operation in the backing store for any node in the cluster. $*$					
	Erases (#/sec)	The rate of "erase" operations in the backing store.					

Erases (max time/op)	The longest time taken for an "erase" operation in the backing store for any node in the cluster.*
Total ops (#/sec)	The rate of operations (loads/stores/erases) in the backing store.

Total ops (max time/op) The longest time taken to perform an operation (erase/load/store) in the backing store for any node in the cluster.*

Cluster Trends Shows the following metrics for the selected cluster.

Events/sec -- Traces the rate of events received in the cluster.

Rules/ sec -- Traces the rate of rules in the cluster.

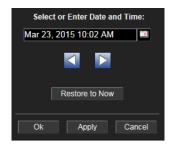
Cache Ops/ sec -- Traces the rate of cache operations in the cluster.

BS ops/sec-- Traces the rate of backstore operations in the cluster.

BS max time/op-- Traces the average maximum time per backstore operation.

- **Log Scale** This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option.
- **Base at** When this option is checked, zero is set as the Y axis minimum for all graph traces.

Time
RangeSelect a time range from the drop down menu varying from 2
Minutes to Last 7 Days, or display All Data. To specify a time
range, click the button.



By default, the time range end point is the current time. To change the time range end point, click the subtron 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 **The time period** to move forward or backward one time period. **Note:** The time period is determined by your selection from the **Time Range** drop-down menu.

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

Cluster Nodes Table

Use this display to view configuration and utilization data for nodes in a cluster.

ሩ ተ 🗾		BE	E Cluste	r Nodes	- Table		06-	Jul-2016 11:16	< Data	а ОК 🔶 😨
Cluster: ckfdcad	che 💌									
lode Count:	4		Clu	ister No	des					
Cluster Name	Node	Alert Serverity	Alert Count	Member Count	Auto Startup	Backing Store Enabled	Cache Aside	Serialization Optimized	Storage Enabled	Cache
ckfdcache ckfdcache	new51Cache new51Inf		0 0	2		ע ע	2 2			DISTRIBUT
•	III									1

 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. 	 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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Filter By:

The display might include these filtering options:

Cluster Choose a cluster for which you want to see metrics.

Cluster Nodes Table

Each row in the table is a different node. Data in the row columns describe the node.

Note: Row columns in this table with an asterisk (*) at the end of the column definition contain data that is provided by the TIBCO MBean interface. Refer to TIBCO documentation for more information regarding these columns.

Node Count:	The total number of clusters in the table.
Cluster Name	The name of the TIBCO BusinessEvents cluster.
Node	The name of the node.

RTView Enterprise Monitor® for TIBCO® User's Guide

Alert Severity	The severity level of open alerts. Values range from 0 to 2 , where 2 is the greatest Severity:
	One or more alerts exceeded their ALARM LEVEL threshold.
	One or more alerts exceeded their WARNING LEVEL threshold.
	No alert thresholds have been exceeded.
Alert Count	The total number of critical and warning alerts.
Member Count	The number of neighbors seen by a given node. This value is obtained directly from each node in the cluster. This value should always match the total "Member Count" in the corresponding row of the Clusters table. If they do not match, the node did not join the cluster properly and, hence, the cluster should be restarted.
Auto Startup	When checked (true), this feature is enabled.
Backing Store Enabled	When checked (true), this feature is enabled.*
Cache Aside	When checked (true), this feature is enabled.*
Serialization Optimized	When checked (true), this feature is enabled.*
Storage Enabled	When checked (true), this feature is enabled.*
Cache Type	The type of TIBCO BusinessEvents cache.*
BE Version	The approximate TIBCO BusinessEvents version, as configured by the connection property. The exact version information is not available via JMX.
Cache Node?	When checked (true), the node is a storage node. Otherwise, it is an inference node. This column is added by the Monitor rather than read from the JMX interface.
Node ID	A unique string that identifies the node.
Host	The IP address of the host to which the node is connected.
Port	The port number of the host to which the node is connected.
URL	Uniform Resource Locater, used as an alternative way to specify a JMX connection. When set, the Host and Port columns are blank (and vice versa).
% CPU Used	The amount of CPU, in percent, used by the node. This value is derived from the java.lang.OperatingSystem MBean.
Неар-Мах	The maximum amount of memory, in megabytes, that can be used by the JVM for heap space. This value is provided by standard Java MBeans.
Heap-Used	The current amount of memory, in megabytes, in use by the JVM for heap space. This value is provided by standard Java MBeans.
NonHeap Max	The maximum amount of memory, in megabytes, that can be used by the process (not counting heap usage). This value is provided by standard Java MBeans.
NonHeap Used	The current amount of memory, in megabytes, in use by the process (not counting heap usage). This value is provided by standard Java MBeans.
Host OS	The operating system on the host where the node is running.
Connection String	The connection string for the node, which can be the IP address and port of the host that the node is connected to, or the Uniform Resource Locater (which is used as an alternative way to specify a JMX connection).
Connected	When checked (true), the node is currently connected to the Data Server via JMX.

Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO BusinessEvents > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.
Timestamp	The date and time, relative to the Data Server, that data was last collected for the node.

Cluster Nodes Heatmap

This display allows you to view utilization data for all nodes in a cluster in a heatmap format. You can view heatmap data for **All Nodes**, **Inference** nodes, or **Cache** nodes by selecting the desired option from the **Nodes** drop down list. When you click on the heatmap for one of the nodes, the detailed data for that particular node displays in the "Inference Node Summary" display if you selected an inference node, or in the "Storage Node Summary" display if you selected a cache node.



Title Bar (possible features are):	State OK Data connection state. Red indicates the Data
Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
Open an instance of this display in a new window.	data source is connected. 23-Mar-2017 12:04 Current date and time. Incorrect time
 Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.	Open the Alert Views - RTView Alerts Table display.

Filter By:

The display might include these filtering options:

Cluster	Choose a cluster for which y	you want to see metrics.			
Last Update	The date and time that the				
Node Count	The total number of nodes in the display.				
Nodes		which you want to view metrics. You can select from All che . Your selection in this drop down determines the available drop down.			
Labels	Select this option to display	labels in the heatmap for each of the nodes.			
Log	a wide range of values. For e majority of your data is on a visible in non-log scale grap	ic scale. Use Log Scale to see usage correlations for data with example, if a minority of your data is on a scale of tens, and a a scale of thousands, the minority of your data is typically not hs. Log Scale makes data on both scales visible by applying an actual values to the data.			
Color Metric	has a color gradient bar that cluster, where each rectangl current values of the metric associated "Storage Node	e heatmap display. The default is Alert Severity. Each Metric t maps values to colors. The heatmap organizes the nodes by e represents a node. Mouse-over any rectangle to display the s for the cluster. Click on a rectangle to drill-down to the Summary" display for a detailed view of metrics for that ble options in this drop down change depending on your down.			
	Nodes: All The following of Nodes drop do	ptions are available when All Nodes is selected from the own.			
	Alert Severity	The maximum alert level in the item (index) associated with the rectangle. Values range from 0 to 2 , as indicated in the color gradient bar 1 , where 2 is the greatest Alert Severity .			
		2 Metrics that have exceeded their specified ALARMLEVEL threshold and have an Alert Severity value of 2 are shown in red. For a given rectangle, this indicates that one or more metrics have exceeded their alarm threshold.			
		1 Metrics that have exceeded their specified WARNINGLEVEL threshold and have an Alert Severity value of 1 are shown in yellow. For a given rectangle, this indicates that one or more metrics have exceeded their warning threshold.			
		0 Metrics that have not exceeded either specified threshold have an Alert Severity value of 0 and are shown in green. For a given rectangle, this indicates that no metrics have exceeded a specified alert threshold.			
	Alert Count	The total number of alarm and warning alerts in a given item (index) associated with the rectangle.			
		The color gradient bar $\boxed{0}$ $\boxed{13}$ shows the range of the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the middle value of the range.			
	JVM % CPU Used	The total percentage of JVM CPU used in a given item (index) associated with the rectangle. The color gradient bar • 20 100 shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from 0 to the alert threshold of JvmCpuPercentHigh , which is 75 . The middle value in the gradient bar indicates the middle value of the range (the default is 38).			

Nodes:	JVM % Memory Used	The total percentage of JVM Memory Used in a given item (index) associated with the rectangle. The color gradient bar • • • • • • • • • • • • • • • • • • •
Inference	Memory Used,	the following options are also available when Inference is e Nodes drop down.
	Received Events Rate	The rate of events received in a given item (index) associated with the rectangle. The color gradient bar associated with the rectangle. The color gradient bar associated with the rectangle of the value/color mapping. By default, the numerical values in the gradient bar range from 0 to the alert threshold of TbeNodeChanRecvdRateHigh , which is 95 . The middle value in the gradient bar indicates the middle value of the range (the default is 48).
	Rules Fired Rate	The rate of rules fired in a given item (index) associated with the rectangle. The color gradient bar 1 20 1 1 shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from 0 to the alert threshold of TbeNodeRuleFiringRateHigh , which is 95 . The middle value in the gradient bar indicates the middle value of the range (the default is 48).
	Total Rules Fired	The total number of rules fired in a given item (index) associated with the rectangle. The color gradient bar ⁰ 64,310 128,621 shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from 0 to the maximum count of rules fired in the heatmap. The middle value in the gradient bar indicates the middle value of the range.
Nodes: Cache	Memory Used,	ert Severity, Alert Count, JVM % CPU Used, and JVM % the following options are also available when Cache is e Nodes drop down.
	Backing Store Reads/sec	The rate of reads from the backing store in a given item (index) associated with the rectangle. The color gradient bar • • • • • • • • • • • • • • • • • • •
	Backing Store Writes/sec	The rate of writes to the backing store in a given item (index) associated with the rectangle. The color gradient bar • • • • • • • • • • • • • • • • • • •
	Backing Store Deletes/sec	The rate of deletes from the backing store in a given item (index) associated with the rectangle. The color gradient bar • • • • • • • • • • • • • • • • • • •

Concept Gets/ sec	The rate of "gets" in a given item (index) associated with the rectangle. The color gradient bar a sociated with the range of the value/color mapping. By default, the numerical values in the gradient bar range from 0 to the alert threshold of TbeNodeConceptsGetRateHigh , which is 95 . The middle value in the gradient bar indicates the middle value of the range (the default is 48).
Concept Puts/ sec	The rate of "puts" in a given item (index) associated with the rectangle. The color gradient bar a shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from 0 to the alert threshold of TbeNodeConceptsPutRateHigh , which is 95 . The middle value in the gradient bar indicates the middle value of the range (the default is 48).
Concept Removes/sec	The rater of "removes" in a given item (index) associated with the rectangle. The color gradient bar • 20 10 shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from 0 to the alert threshold of TbeNodeConceptsRemoveRateHigh , which is 95 . The middle value in the gradient bar indicates the middle value of the range (the default is 48).
Object Table Size	The number of objects maintained in the cache in a given item (index) associated with the rectangle. The color gradient bar 1 20 1 1 shows the range of the value/ color mapping. By default, the numerical values in the gradient bar range from 0 to the alert threshold of TbeNodeObjectTableSize , which is 10,000 . The middle value in the gradient bar indicates the middle value of the range (the default is 5,000).

Inference Node Summary

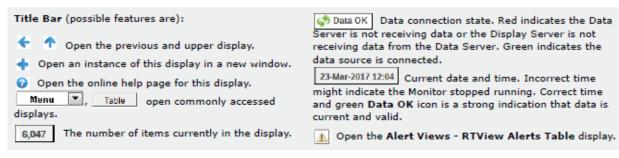
Use this display to view configuration and utilization data for a single inference node. View a list of all agents on the node, a Run-To-Completion Transaction Manager Report, and trend graphs tracing the rule execution rate for agents on the node. The rule execution rate is relative to the overall CPU and heap utilization for the engine's JVM.

NOTE: An inference node (also known as an engine or processing unit) is the container where one or more inference agents run. Generally, the agents in a given node implement different rule sets, and distributing nodes on different hosts provides fault tolerance and load balancing for the cluster. For details, refer to TIBCO documentation.

Choose a single cluster or **All Clusters** and a node from the drop-down menus.

Change the trend graph **Time Range** to "zoom in" on the graph and see more detail or "zoom out" from the graph to see larger trends over time. To change the time range, click Open Time Range , choose the date and time, and then click **OK**.





Filter By:

The display might include these filtering options:

Cluster	Choose a cluster for which you want to view metrics.
Node	Choose a node for which you want to view metrics.
Fields and Da	ata:
Last Up	date The date and time the data in the display was last updated.
Cluster Name:	The name of the TIBCO BusinessEvents cluster with which the node is a member.
BE Vers	sion: The approximate TIBCO BusinessEvents version, as configured by the connection property. The exact version information is not available via JMX.
Node I	D: A unique string that identifies the node.

Connection:	The JMX connection method specified in the connection property for a given engine. It is displayed as either a combination of the host and port fields (<host>:<port></port></host>), or the URL. This convention saves space on the display by avoiding empty fields. This information is provided as a convenience for those rare occasions where a user might wish to view the data directly in jconsole.
% CPU:	The percent of CPU used by the engine process. This value is provided by standard Java MBeans.
Heap used:	The current amount of memory, in megabytes, in use by the JVM for heap space. This value is provided by standard Java MBeans.
Heap max	The maximum amount of memory, in megabytes, that can be used by the JVM for heap space. This value is provided by standard Java MBeans.
Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO BusinessEvents > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.
Auto Startup	When checked (true), this feature is enabled.
Cache Aside	When checked (true), this feature is enabled.
Backing Store Enabled	When checked (true), this feature is enabled.
Storage Enabled	When checked (true), this feature is enabled.
Serialization Optimized	When checked (true), this feature is enabled.
TXN Manager R	eport

RTC TXN Manager Report

Note: Fields in this display with an asterisk (*) at the end of the field definition contain data that is provided by the TIBCO MBean interface. Refer to TIBCO documentation for more information regarding these fields.

Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO BusinessEvents > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.
Avg Action Txn Millisec	The average amount of time taken for an action transaction, in milliseconds.*
Avg Cache Queue Wait Time Millisec	The average cache queue wait time, in milliseconds.*
Avg Cache Txn Millisec	The average amount of time taken for a cache transaction, in milliseconds.*
Avg DB Ops Batch Size	The average database operation batch size.*
Avg DB Queue Wait Time Millisec	The average database queue wait time, in milliseconds.*
Avg DB Txn Millisec	The average amount of time taken for a database transaction, in milliseconds. $\!\!\!\!\!*$

Avg Successful Txn Time Millisec	The average amount of time taken for a successful transaction, in milliseconds.*
Last DB Batch Size	The size of the last database batch.*
Pending Actions	The total number of pending actions.*
Pending Cache Writes	The total number of pending cache writes.*
Pending DB Writes	The total number of pending database writes.*
Pending Events to Ack	The total number of pending events that need to be acknowledged.*
Pending Locks to Release	The total number of pending locks that need to be released.*
Total DB Txns Completed	The total number of database transactions that have been completed.*
Total Errors	The total number of errors.*
Total Successful Txns	The total number of successful transactions.*

Agents for this Node Table

Each row in the table is an agent associated with the node, with data in the row columns describing the agent.

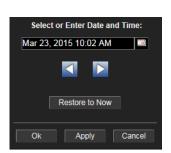
Note: Row columns in this table with an asterisk (*) at the end of the column definition contain data that is provided by the TIBCO MBean interface. Refer to TIBCO documentation for more information regarding these columns.

Agent Count:	The number of agents currently in the table.
Agent ID	The agent's ID.
Agent Class	The agent's class. See TIBCO documentation for more information.
Туре	The type of agent (Inference, Cache, Query, or Dashboard).*
Current State	The current state of the agent.*
Started	When checked, denotes that the agent is started.*
Suspended	When checked, denotes that the agent is suspended. $m{*}$
Concurrent	When checked, denotes that it is a concurrent agent.*
Queue Capacity	The queue capacity for the agent.*
Queue Size	The queue size for the agent.*
Thread Count	The total number of threads for the agent.*
Total # Rules Fired	The total number of rules fired for the agent.*
Rules Fired	The number of rules fired.*
Rules/sec	The rate of rules fired for the agent.

Avg Receiv Time	ve See TIBCO documentation for more information.*
Avg Txn Commit Ti	The average amount of time taken to commit a transaction.* me
Cache Que Remaining	The total amount of remaining space on the cache queue.*
DB Ops Queue Remaining	The total amount of remaining space on the DB Operations queue.*
Hit Ratio	See TIBCO documentation for more information.*
Job Rate	See TIBCO documentation for more information.*
L1 Cache N Size	fax The maximum size of the L1 cache.*
L1 Cache S	Size The current size of the L1 cache.*
Max Active	See TIBCO documentation for more information.*
# Event Threads	The total number of currently active event threads.*
# Jobs	The total number of currently active jobs.*
Priority	See TIBCO documentation for more information.*
Read Only	See TIBCO documentation for more information.*
Txn Comm Count	it The number of transactions committed by the agent.*
Txn Receiv Count	ve The number of transactions received by the agent.*
Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO BusinessEvents > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.
Timestam	p The date and time, relative to the Data Server, that data was last collected for the agent.
Trend Graph	Shows metrics for the selected node.
	% CPU Traces the amount of CPU used, in percent, by the node.
	Rules/sec Traces the number of rules processed, per second, by the agent.
	Heap-max Traces the maximum amount of heap space, in bytes, used by the node since the agent was started.
	Heap-used Traces the current amount of heap space, in bytes, used by the agent.
	Rules/sec for Agent Choose an agent from the drop-down menu.

Log ScaleThis option should be used when the range of your data
is very broad. When checked, the values are displayed
using a logarithmic scale rather than using the actual
values so that data on the extreme ends of the scale
can be viewed more effectively. For example, if you
have data that ranges from the tens to the thousands,
the data in the range of the tens will be neglected
visually if you do not check this option.Base at ZeroWhen this option is checked, zero is set as the Y axis
minimum for all graph traces.Time RangeSelect a time range from the drop down menu varying
from 2 Minutes to Last 7 Days, or display All Data.

To specify a time range, click the



button.

By default, the time range end point is the current time. To change the time range end point, click the button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

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

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

Storage Node Summary

Use this display to view configuration details for a single cache node, the database connection pool status, as well as a list of all caches that are backed by the backing store (database). Also view trend graphs that trace utilization metrics such as CPU and heap memory usage.

NOTE: A storage node (also known as a cache node) provides fast access to events and concepts required during each RTC by the inference engines. Storage nodes also serve as buffers for reads and writes between the cluster and the backing store. For details, refer to TIBCO documentation.

Choose a single cluster or **All Clusters** and a node from the drop-down menus.

Change the trend graph **Time Range** to "zoom in" on the graph and see more detail or "zoom out" from the graph to see larger trends over time. To change the time range click Open Time Range , choose the date and time, then click **OK**.

		_			BE Cache	_				2.9		901 🦈 Dat	
luster: All Clu	sters	Node:	new51Cache			2					Last Upd	late: 20-Apr	-2016 16:31
luster Name:	ckfdcache			Expir	ed		DB Connec	tion Pool —					
BE Version:	v5.x			V Auto	Startup		Pool State	Available (Using Primar	n			
Node ID:	7f000001-e4	12		V Cath	e Aside		Auto	i a la	allover and				
					ing Store Ena	bled	Auto Failover		allover 0 Sec interval 0 Sec				
Connection:		144:58700			ge Enabled		Cache Size	8	Connection: Available	8			
% CPU:	0.44			Seria	lization Optin	nized							
Heap used:	46.5	Heap max: 1,0	015.7						Connection in Us	Ş U			
						Backing S	tore						
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_gen_Concep _gen_Events		ations 🖬		0.00	0.00	0	0		0 0		0	0.00	0.00
gen_Events				0.00	0.00	0	0		0 0		0	0.00	0.00
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Object Table	Trends							Log Scale	🖉 Base at	Zero Tir	ne Range:	5 Mins	
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													Heap (MB)
"													
50													
a													
16:27:00	16:27:30				16:29:00	16:29:10	16:30:00			11:00	16:31:30		
04/20	04/20	04/	/20 04/	20	04/20	04/20	04/20	04/	0 0	4/20	04/20		



Filter By:

The display might include these filtering options:

Cluster:	Choose a cluster to see metrics for.
Node:	Choose a node to see metrics for.
de and Data	

Fields and Data

Last Update	The date and time the data was last updated in the display.
Cluster Name:	The name of the TIBCO BusinessEvents cluster with which the node is a member.
BE Version:	The approximate TIBCO BusinessEvents version, as configured by the connection property. The exact version information is not available via JMX.
Node ID:	A unique string that identifies the node.

Connection:	The JMX connection method specified in the connection property for a given engine. It is displayed as either a combination of the host and port fields (<host>:<port></port></host>), or the URL. This convention saves space on the display by avoiding empty fields. This information is provided as a convenience for those rare occasions where a user might wish to view the data directly in jconsole.
% CPU:	The amount of CPU, in percent, used by the node. This value is provided by standard Java MBeans.
Heap used:	The current amount of memory, in megabytes, in use by the JVM for heap space. This value is provided by standard Java MBeans.
Heap Max:	The maximum amount of memory, in megabytes, that can be used by the JVM for heap space. This value is provided by standard Java MBeans.
Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO BusinessEvents > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.
Auto Startup	When checked (true), this feature is enabled.
Cache Aside	When checked (true), this feature is enabled.
Backing Store Enabled	When checked (true), this feature is enabled.
Storage Enabled	When checked (true), this feature is enabled.
Serialization Optimized	When checked (true), this feature is enabled.

DB Connection Pool

Values describe status of the pool of database connections used by the cache agent to move data between the local caches and the database.

Note: Fields in this region with an asterisk (*) at the end of the field definition contain data that is provided by the TIBCO MBean interface. Refer to TIBCO documentation for more information regarding these fields.

Pool State	The state of the database connection pool.*
Auto Failover	The number of times auto failover has occurred.*
Failover Interval	The number of seconds taken for failover to take place.*
Cache Size	The cache size.*
# Connections Available	The total number of connections available.*
# Connections in Use	The total number of connections currently in use.*

Backing StoreTable

A cache node manages access to current events and concepts, buffering as necessary between local memory and a database. The Backing Store table provides a list of caches and the database select/ insert/delete statistics for each cache.

Note: Row columns in this table with an asterisk (*) at the end of the column definition contain data that is provided by the TIBCO MBean interface. Refer to TIBCO documentation for more information regarding these columns.

Cache Name	The name of the cache.*
Active	When checked, denotes that the cache is active.*
Delete Avg Time	The average amount of time taken for a "delete" ("erase") operation in the Backing Store for the cache. $*$

The average amount of time taken for a "load" operation in the Backing Store Load Avg Time for the cache.* The average amount of time taken for a "store" operation in the Backing Store **Store Avg Time** for the cache.* **Delete Total** The total number of "delete" operations in the Backing Store for the cache.* Load Total The total number of "load" operations in the Backing Store for the cache.* Store Total The total number of "store" operations in the Backing Store for the cache.* Deletes The number of "delete" operations during the last polling interval.* The number of "load" operations during the last polling interval.* Loads Stores The number of "store" operations during the last polling interval.* Deletes/sec The rate of "delete" operations in the node. Loads/sec The rate of "load" operations in the node. Stores/sec The rate of "store" operations in the node. **Object Table Trends** Shows metrics for the selected cluster/node combination: % CPU -- Traces the amount of CPU used, in percent, by the engine. Table Size -- Traces the number of unique objects cached in the local index table. Ext ID Tbl Size -- Traces the number of entries in the table of external IDs used as indexes by the backing store.

Max Heap (MB)-- Traces the maximum amount of memory, in megabytes, that can be used by the JVM for heap space.

Heap (MB) -- Traces the current heap space, in megabytes, in use by the JVM.

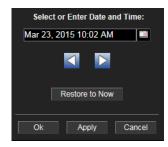
Log Scale This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option.

Base at Zero

When this option is checked, zero is set as the Y axis minimum for all graph traces.

Time Range

Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click the **second second sec**



By default, the time range end point is the current time. To change the time range end point, click the button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

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

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

Events / Concepts View

These displays present performance data for your BusinessEvents system. Displays in this View are:

- "Agent Events"
- "Agent Event Summary"
- "Event Cache Hits"
- "Event Hit Summary"
- "Concept Cache Hits"
- "Concept Hit Summary"
- "Channels"
- "All Inference Agents"
- "All RTC Reports"

Agent Events

View run-time statistics for a selected group of agents. With TIBCO BusinessEvents, events are cached when they are out of scope, and deleted or persisted to the backing store when they are no longer useful. Clicking on a row in the table displays access patterns over time for the event in the "Agent Event Summary" display.

NOTE: Events cause rules to execute in the BusinessEvents Rete network. Events can be created by external phenomena, such as the arrival of a JMS message, or internally when rules are processed. When an event enters the Rete network, it causes a run-to-completion cycle which continues until no further rules can be processed. Each named event that can be handled by a BusinessEvents application is specified at build time in BusinessEvents studio. For details, refer to TIBCO documentation.

Sort the table columns when all the rows cannot fit on the screen. For example, sort the **Expired** column so that all expired nodes are listed at the top.

(BE Events - Table	06-Jul-2016 11:	21 🗳 Data OK 🕂 🕖
Cluster: ckfdcache	Node: new51Inf	Agent: 0 🔽	Last Upd	ate: 06-Jul-2016 11:20:53
vent Count: 5		Agent Events		
Event	Avg Time Avg Tin Pre RTC in RT		# Misses in L1 Cache # Recovered	# Asserted # Asserted from Agents from Chann
AccountOperations		00 0.00 CACHE 0	0 0	0
oreatenecount		00 0.00 CACHE 0	0 0	0
Debit	1.43 18.		0 0	0 73,61
Deposit	1.23 21		0 0	0 73,6
Unsuspend	1.31 15.	57 0.00 CACHE 0	0 0	0 36,81
< III				

Title Bar (possible features are):	🔹 Data OK Data connection state. Red indicates the Data
 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. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Filter By:

The display might include these filtering options:

- **Cluster:** Select the cluster containing the node and agent for which you want to view metrics.
- **Node:** Select a node containing the agent for which you want to view metrics.
- **Agent** Select the agent for which you want to view metrics.

Fields and Data:

Last Update: The date and time the data on the display was last updated.

Agent Events Table:

Each row in the table is a different event. Data in the row columns describe the event. The following fields are added by Monitor collection. The assertions/sec, modified/sec, and retracted/sec metrics are calculated from the corresponding counters as the delta between two successive samples divided by the polling interval.

Note: Row columns in this table with an asterisk (*) at the end of the column definition contain data that is provided by the TIBCO MBean interface. Refer to TIBCO documentation for more information regarding these columns.

Event Count:	The total number of events in the table.
Event	The name of the event.
Avg Time Pre RTC	The average amount of time taken for the event to begin its run to completion cycle.*
Avg Time in RTC	The average amount of time taken for the event to complete (once it has started) its run to completion cycle.*
Avg Time Post RTC	The average amount of time taken by the event after its run to completion cycle has ended.*
Cache Mode	Lists the mode used by the event, which can be either CACHE (only) or MEMORY (only).*
# Hits in L1 Cache	The number of times data has been searched for in the L1 cache since the last data update.*
# Misses n L1 Cache	The number of times data has been searched for in the L1 cache, but was not found, since the last data update.*
# Recovered	The number of times data is not found in the L1 cache, but is found in a different cache, since the last data update.*
# Asserted from Agents	The number of times the event was asserted by an agent into the Rete network. $\boldsymbol{*}$
# Asserted from Channel	The number of times the event was asserted into the Rete network via the channel.*
# Modified from Agents	The number of times the event was modified by an agent in the Rete network. ${f *}$
# Modified from Channel	The number of times the event was modified in the Rete network via the channel.* $\$
# Retracted from Agents	The number of times the event was retracted/deleted by an agent from the Rete network.*
# Retracted from Channel	The number of times the event was retracted/deleted from the Rete network via the channel.*
L1 Cache Hits/sec	The rate of L1 cache hits.
L1 Cache Misses/sec	The rate of L1 cache misses.
# Recovered /sec	The rate of recovered data.
Assertions/ sec (Agent)	The rate of event assertions into the Rete network by the agent.
Assertions/ sec (Channel)	The rate of event assertions into the Rete network via the channel.
Modifies/ sec (Agent)	The rate of event modifications in the Rete network by the agent.

Modifies/ sec (Channel)	The rate of event modifications in the Rete network via the channel.
Retractions/ sec (Agent)	The rate of event retractions/deletions from the Rete network by the agent.
Retractions/ sec (Channel)	The rate of event retractions/deletions from the Rete network via the channel.
Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO BusinessEvents > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.
Timestamp	The date and time, relative to the Data Server, that data was last collected for the engine.

Agent Event Summary

View detailed performance metrics for an agent's event. You can view cache, RTC, event statistics by channel, and event trend data over a specified period of time.

(BE Age	Agent Event Summary 05-			16 17:33 👘	Data OK 💠 🍘		
Cluster: ckfdcache	e 🔽 Node:	new51Inf	▼ /	Agent: 0 🔽	Last Update: 05-Jul-2016 17:				
Event: Account	Operations 🔽	in DTO:	0.00		Total	Per Interval	Per Second		
Cache Mode:	CACHE	in RTC:	0.00	Asserted:	0	0	0.00		
Cache Hits:	0	Pre RTC:	0.00	Retracted:	0	0	0.00		
Cache Misses:	0	Post RTC:	0.00	Modified:	0	0	0.00		
Event Trends		✓ Use Rates		.og Scale 📃 Base	e at Zero Time Ra	ange: 5 Mins	Time in RTC Asserted/sec		
							Retracted/sec		
0			1	7:32:00 07/05					
'				Time in RTC : 0.0					
。				Asserted/sec : 0.0 Retracted/sec : 0.0					
				Modified/sec : 0.0					
		7:30:00 07/05	17:3 07/		07/05	17:33:00 07/05			
4									

Title Bar (possible features are):	🔯 Data OK Data connection state. Red indicates the Data
🔶 🛧 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Filter By:

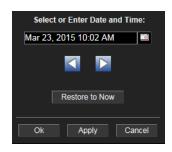
The display might include these filtering options:

Note: Fields in this display with an asterisk (*) at the end of the column definition contain data that is provided by the TIBCO MBean interface. Refer to TIBCO documentation for more information regarding these fields.

Cluster:	Select the cl	uster for which you want to see metrics.							
Node:	Select the n	ode for which you want to see metrics.							
Agent	Select the ag	gent for which you want to see metrics.							
Last Update	The date and	d time in which the data was last updated.							
Expired	the amount is 120 secor \$tbeRowEx	ed (true), the Monitor has not received a response from the event for of time specified by the \$tbeRowExpirationTime property (the default nds). When the amount of time specified by the spirationTimeForDelete property elapses (the default is one day), the s deleted from the cache and display.							
Event	The name of	f the event.							
Cache Mode	Lists the mo (only).*	de used by the event, which can be either CACHE (only) or MEMORY							
Cache Hits	The number update.*	of times data has been searched for in the L1 cache since the last data							
Cache Misses		The number of times data has been searched for in the L1 cache, but was not found, since the last data update.*							
Avg Time	in RTC	The average amount of time taken for the event to complete (once it has started) its run to completion cycle.*							
	Pre RTC	The average amount of time taken for the event to begin its run to completion cycle.*							
	Post RTC	The average amount of time taken by the event after its run to completion cycle has ended.*							
Event Stats by Channel	Asserted Total	The total number of times the event was asserted into the Rete network via the channel.*							
	Asserted Per Interval	The number of times the event was asserted into the Rete network via the channel since the last data update.*							
	Asserted Per Second	The rate of event assertions into the Rete network via the channel.							
	Retracted Total	The total number of times the event was retracted/deleted from the Rete network via the channel.*							

	Retracted Per Interval	The number of event retractions/deletions from the Rete network.
	Retracted Per Second	The rate of event retractions/deletions from the Rete network via the channel.
	Modified Total	The total number of times the event was modified in the Rete network via the channel.*
	Modified Per Interval	The number of event modifications in the Rete network via the channel.
	Modified Per Second	The rate of event modifications in the Rete network via the channel.
Expired	seconds) in Configuratio TIBCO Busi Duration re	ed, performance data has not been received within the time specified (in the Expire Time field in the Duration region in the RTView n Application > (Project Name) > Solution Package Configuration > nessEvents > DATA STORAGE tab. The Delete Time field (also in the gion) allows you to define the amount of time (in seconds) in which the emoved from the table if there is no response.
Event Trends		cs for the selected event:
	Time in F	RTC Traces the event spends in the run to completion cycle.
		(/sec) Traces the number of events asserted into the Rete network (or f event assertions per second depending on Use Rates setting).
		d(/sec) Traces the number events retracted from the Rete network (or ent retractions per second depending on Use Rates setting).
		(/sec) Traces the number of events modified in the Rete network (or ents modified per second depending on Use Rates setting).
	Use Rates	When selected, this toggle allows you to view data in the trend graph in counts per second (asserted count per second, retracted count per second, and modified count per second) instead of the default counts per selected interval (asserted count, retracted count, modified count).
	Log Scale	This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option.

- Base at
ZeroWhen this option is checked, zero is set as the Y axis minimum for all
graph traces.
- Time
RangeSelect a time range from the drop down menu varying from 2 Minutes
to Last 7 Days, or display All Data. To specify a time range, click the
button.



By default, the time range end point is the current time. To change the time range end point, click the button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21**, **2011 12:24 PM**.

Use the navigation arrows **The Transform** 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 $\ensuremath{\textbf{Restore to Now}}$ to reset the time range end point to the current time.

Event Cache Hits

View cache performance metrics per event for a single cluster or All Clusters.

NOTE: Events cause rules to execute in the BusinessEvents Rete network. Events can be created by external phenomena, such as the arrival of a JMS message, or internally when rules are processed. When an event enters the Rete network, it causes a run-to-completion cycle which continues until no further rules can be processed. Each named event that can be handled by a BusinessEvents application is specified at build time in BusinessEvents studio. For details, refer to TIBCO documentation.

Choose a single cluster or **All Clusters** and a node from the drop-down menus.

Sort the table columns when all the rows cannot fit on the screen. For example, sort the **Expired** column so that all expired nodes are listed at the top.

(I	BE Event	Cache H	its - Tabl	e	06-Jul-2016	6 10:39	< Data OK	+ 0
luster: All Clusters	▼ Node: new5	1Inf	•			Last U	lpdate:	06-Jul-2016	10:39:19
vent Count: 5		Node-Le	evel Even	t Cache	Hits				
Event	Node	Cache Size	Get Avg Time	Put Avg Time	Remove Avg Time	Gets / sec	Puts / sec	Removes / sec	Get Count
AccountOperations	new51Inf	0	0.00	0.00	0.00	0.00	0.00	0.00	
	new51Inf	0	0.00	0.00	0.00	0.00	0.00	0.00	
Debit	new51Inf	0	0.00	0.00	0.00	0.00	0.00	0.00	
Deposit	new51Inf	0	0.00		0.00	0.00	0.00		
Jnsuspend	new51Inf	0	0.00	0.00	0.00	0.00	0.00	0.00	
•									

Title Bar (possible features are):	🔄 Data OK Data connection state. Red indicates the Data
 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. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Filter By:

The display might include these filtering options:

- **Cluster:** Select a cluster for which you want to see metrics.
- **Node:** Select a node for which you want to see metrics.
- Last The date and time the data was last updated. Update

Node-Level Event Statistics Table:

Each row in the table is a different event, with data in the row columns describing the event. **Note:** Row columns in this table with an asterisk (*) at the end of the column definition contain data that is provided by the TIBCO MBean interface. Refer to TIBCO documentation for more information regarding these columns.

Event Count:	The total number of events in the table.
Event	The name of the event.
Node	The name of the node.
Cache Size	The size of the event's cache.*
Get Avg Time	The average time taken for a "get" event for the node.*
Put Avg Time	The average time taken for a "put" event for the node.*
Remove Avg Time	The average time taken for a "remove" event for the node.*
Gets/sec	The rate of "get" operations for the event.
Puts/sec	The rate of "put" operations for the event.
Removes/ sec	The rate of "remove" operations for the event.
Get Count	The total number of "get" operations for the event.*
Put Count	The total number of "put" operations for the event.*
Remove Count	The total number of "remove" operations for the event.*
Num Handles In Store	The number of handles in the Backing Store for the event.*
Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO BusinessEvents > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.
Timestamp	The date and time, relative to the Data Server, that data was last collected for the engine.

Event Hit Summary

View detailed event performance metrics for a single cluster or **All Clusters**, a node, and an event.

NOTE: Events cause rules to execute in the BusinessEvents Rete network. Events can be created by external phenomena, such as the arrival of a JMS message, or internally when rules are processed. When an event enters the Rete network, it causes a run-to-completion cycle which continues until no further rules can be processed. Each named event that can be handled by a BusinessEvents application is specified at build time in BusinessEvents studio. For details, refer to TIBCO documentation.

BE Event Summary 06-Jul-2016 10:47 🛛 🛷 Data OK 💠 😨 Cluster: All Clusters Node: new51Inf Event: AccountOperations Last Update: 06-Jul-2016 10:47:50 Cache Access Stats Avg Cache Access Time Expired **Total Hits** Hits Hits/sec Get 0.00 Cache Size: 0 0 0.00 Get: 0.00 Handles in Store: 0 Put: 0.00 0 0 Put Remove: 0.00 0 0 0.00 Remove: 🔲 Log Scale 🔲 Base at Zero Time Range: 5 Mins **Cache Access Trends** • 🔽 Use Rates Gets/sec Puts/sec Removes/see 0.5 10:46:50 07/06 Gets/sec : 0.0 k Puts/sec : 0.0 Removes/sec : 0.0 0 5 0.5 10:48:00 10:43:30 10:44:00 10:44:30 10:45:00 10:45:30 10:46:00 10:46:30 10:47:00 10:47:30 43.00 07/06 07/06 07/06 07/06 07/06 07/06 07/06 07/06 07/06 07/06

Choose a single cluster or **All Clusters**, a node and an event from the drop-down menus.

 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.
u,uw	Open the Alert Views - KIVIew Alerts Table display.
displays.	and green Data OK icon is a strong indication that data is current and valid.

Filter By:

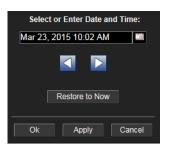
The display might include these filtering options:

Note: Fields in this display with an asterisk (*) at the end of the field definition contain data that is provided by the TIBCO MBean interface. Refer to TIBCO documentation for more information regarding these fields.

- **Cluster:** Select a cluster containing the node and event for which you want to see metrics.
- **Node:** Select a node containing the event for which you want to see metrics.
- **Event** Select the event for which you want to see metrics.
- Last The date and time in which the data was last updated. Update

Expired	(in second Configurat > TIBCO I the Durat	cked, performance data has not been received within the time specified s) in the Expire Time field in the Duration region in the RTView ion Application > (Project Name) > Solution Package Configuration BusinessEvents > DATA STORAGE tab. The Delete Time field (also in ion region) allows you to define the amount of time (in seconds) in row will be removed from the table if there is no response.								
Cache Size	The size of	the cache.*								
Handles in Store	The numbe	he number of handles in the Backing Store for the event.*								
Avg Cache Access Time	Get	The average time taken for a "get" operation.*								
	Put	The average time taken for a "put" operation.*								
	Remove	The average time taken for a "remove" operation.*								
Cache Access Stats	Get Total Hits	The total number of "get" operations for the event.*								
	Get Hits	The number of "get" operations for the event since the last data update.*								
	Get Hits/sec	The rate of "get" operations for the event.								
	Put Total Hits	The total number of "put" operations for the event.*								
	PutHits	The number of "put" operations for the event since the last data update.*								
	Put Hits/sec	The rate of "put" operations for the event.								
	Remove Total Hits	The total number of "remove" operations for the event.*								
	Remove Hits	The number of "remove" operations for the event since the last data update.*								
	Remove Hits/ sec	The rate of "remove" operations for the event.								
Cache Access Trends	Gets(/s	trics for the selected cluster/node/event combination: sec) Traces the number of "gets" (or rate of "gets" per second ng on Use Rates setting) for the event.								
		Sec) Traces the number of "puts" (or rate of "puts" per second ng on Use Rates setting) for the event.								
	Remove second of	es(/sec) Traces the number of "removes" (or rate of "removes" per depending on Use Rates setting) for the event.								
	Use Rates	When selected, this toggle allows you to view data in the trend graph in counts per second ("get" operations count per second, "put" operations count per second) instead of the default counts per selected interval ("get" operations count, "put" operations count, "remove" operations count).								

- Log Scale This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option.
- **Base at** When this option is checked, zero is set as the Y axis minimum for all graph traces.
- Time
RangeSelect a time range from the drop down menu varying from 2 Minutes
to Last 7 Days, or display All Data. To specify a time range, click the
button.



By default, the time range end point is the current time. To change the time range end point, click the button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows **The Use** 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 $\ensuremath{\textbf{Restore to Now}}$ to reset the time range end point to the current time.

Concept Cache Hits

View a list of concepts and their run-time statistics. Choose a single cluster or **All Clusters** and a node from the drop-down menus.

Sort the table columns when all the rows cannot fit on the screen. For example, sort the **Expired** column so that all expired nodes are listed at the top.

(BE Conce	pts - Tak	le		06-JI	ul-2016 10:50) 🗳 Da	ta OK + 💮
Cluster:	All Clusters	▼ Node	new510	Cache	•					Last Updat	e: 06-Jul-	2016 10:50:21
oncept Count 1 Node Level Concept Statistics												
	Concept	Cache Size	Get Avg Time	Put Avg Time	Remove Avg Time	Gets / sec	Puts / sec	Removes / sec	Get Count	Put Count	Remove Count	Num Handles In Store
Account		11	0.00	7.09	0.00	0.00	0.00	0.00		11		
•												+

Convex is not vession	ing data or the Display Server is not the Data Server. Green indicates the
 Open the previous and upper display. Open an instance of this display in a new window. Open the online help page for this display. Many Total 	
6,047 The number of items currently in the display. (A) Open the Aler	t Views - RTView Alerts Table display.

Filter By:

The display might include these filtering options:

Cluster:	Choose a cluster to see metrics for.
Node:	Choose a node to see metrics for.

Last The date and time the data was last updated. **Update**

Node-Level Concept Statistics Table:

Each row in the table provides statistics regarding data access for a given BusinessEvents concept. **Note:** Row columns in this table with an asterisk (*) at the end of the column definition contain data that is provided by the TIBCO MBean interface. Refer to TIBCO documentation for more information regarding these columns.

Concept Count:	The total number of concepts in the table.
Concept	The name of the concept.
Cache Size	The size of the concept's cache.*
Get Avg Time	The average time taken for a "get" operation.*
Put Avg Time	The average time taken for a "put" operation.*
Remove Avg Time	The average time taken for a "remove" operation.*
Gets/sec	The rate of "gets" for the concept.
Puts/sec	The rates of "puts" for the concept.
Removes/ sec	The rate of "removes" for the concept.
Get Count	The total number of "gets" for the concept.*
Put Count	The total number of "puts" for the concept.*
Remove Count	The total number of "removes" for the concept.*
Num Handles In Store	The number of handles in the Backing Store for the concept.*
Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO BusinessEvents > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.
Timestamp	The date and time, relative to the Data Server, that data was last collected for the concept.

Concept Hit Summary

Use this display to view current and historic data for a single concept. Data in this display can be useful if your BusinessEvents system uses Cache object management. When Cache object management is used, concepts with a sufficiently long time to live (TTL) setting are cached.

Cache reference patterns for certain concepts may be related to incoming events (for example, customer purchase orders with associated inventory queries). The trend charts show the cache activity of such concepts, and might be useful in diagnosing the behavior of your application over time.

Choose a single cluster or **All Clusters**, a node and a concept from the drop-down menus. Change the trend graph **Time Range** to "zoom in" on the graph and see more detail or "zoom out" from the graph to see larger trends over time.

Cluster:	All Clusters	💌 🔽 No	de: new510	Cache	Concep	ot: Account			Last Update:	06-Jul-2016 10:52:51
		Expired	Avg Cache	Access Time	e Cache A	ccess Stat	ts			
Ca	ache Size:	11	Get	0.00	Get	Total Hits	0	Hits 0	Hits/se	ec 0.00
landles	in Store:	0	Put	7.09	Put		11	0		0.00
			Remove:	0.00	Remove:		0	0		0.00
Cache	Access Trer	nds			se Rates	Log Scale	e 🔲 Bas	e at Zero Time	e Range: 5	Mins 🔽
										Gets/sec
										Puts/sec Removes/s
								0:52:21 07/06		
, L									D.O	
								Removes/sec :	0.0	
0 0:48:00 07/06	10:48:30 07/06	10:49:00 07/06	10:49:30 07/06	10:50:00 07/06		0:51:00	10:51:30 07/06	10:52:00	10:52:30 07/06	10:53:00 07/06
4	07/06	07/06	07/06	07/06	07/06	07/06	07/06	07/06	07/06	•



Filter By:

fFields in this table with an asterisk (*) at the end of the field definition contain data that is provided by the TIBCO MBean interface. Refer to TIBCO documentation for more information regarding these fields. The display might include these filtering options:

- **Cluster:** Select a cluster containing the node and concept for which you want to see metrics.
- **Node:** Select a node containing the concept for which you want to see metrics.

Concept Select the concept for which you want to see metrics.

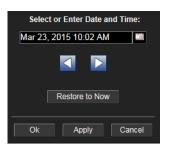
Fields and Data:

Note: Fields in this table with an asterisk (*) at the end of the field definition contain data that is provided by the TIBCO MBean interface. Refer to TIBCO documentation for more information regarding these fields.

Last The date and time in which the data was last updated in the display. Update

Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO BusinessEvents > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.						
Cache Size	The size of	f the cache.*					
Handles in Store	The numb	er of handles in the Backing Store.*					
Avg Cache Access Time	Get	The average time taken for a "get" operation.*					
	Put	The average time taken for a "put" operation.*					
	Remove	The average time taken for a "remove" operation.*					
Cache Access Stats	Get Total Hits	The total number of "get" operations for the concept.*					
	Get Hits	The number of "get" operations for the concept since the last data update.*					
	Get Hits/sec	The rate of "get" operations for the concept.					
	Put Total Hits	The total number of "put" operations for the concept.*					
	PutHits	The number of "put" operations for the concept since the last data update.*					
	Put Hits/sec	The rate of "put" operations for the concept.					
	Remove Total Hits	The total number of "remove" operations for the concept.*					
	Remove Hits	The number of "remove" operations for the concept since the last data update.*					
	Remove Hits/ sec	The rate of "remove" operations for the concept.					
Cache Access Trends	Gets(/s	trics for the selected cluster/node/concept combination: sec) Traces the number of "get" operations (or rate of "get" operations ng on Use Rates setting) for the concept.					
		sec) Traces the number of "put" operations (or rate of "put" operations ng on Use Rates setting) for the concept.					
		es(/sec) Traces the number of "remove" operations (or rate of " operations depending on Use Rates setting) for the concept.					
	Use Rates	When selected, this toggle allows you to view data in the trend graph in counts per second ("get" operations count per second, "put" operations count per second, and "remove" operations count per second) instead of the default counts per selected interval ("get" operations count, "put" operations count, "remove" operations count).					

- Log Scale This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option.
- **Base at** When this option is checked, zero is set as the Y axis minimum for all graph traces.
- Time
RangeSelect a time range from the drop down menu varying from 2 Minutes
to Last 7 Days, or display All Data. To specify a time range, click the
button.



By default, the time range end point is the current time. To change the time range end point, click the state button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows **Sector** 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 $\ensuremath{\textbf{Restore to Now}}$ to reset the time range end point to the current time.

Channels

Use this display to view a list of destinations, which are sources and sinks of events. Destinations are potentially bi-directional, and the table indicates whether events are sent or received.

NOTE: Channels provide a class wrapper for destinations, and make it possible to enable or disable a group of destinations with one operation.

Choose a single cluster or **All Clusters** and a node from the drop-down menus. Each row in the table is a different destination URI. Click a row to view channel details in the **Channels** table.

←	BE Channel Status 06-Jul-2016 10:56 💠 Data OK						
Cluster: All Clusters 💽 Node:	new51Inf		Last Update:	06-Jul-2016 10:55:51			
estination Count 1 Destinations							
Destination URI	Suspended Num Events	Num Events Received	Received Rate Expired	Timestamp			
/Channels/HTTP/AllOps	_ 177,216	0 4.52	0.00	06-Jul-2016 10:55			
Channel Count: 1 Channels							
- Channel URI	State Expired						
/Channels/HTTP	Started 📃						

Title Bar (possible features are):	🐼 Data OK Data connection state. Red indicates the Dat				
🗲 个 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the				
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.				
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.				

Filter By:

The display might include these filtering options:

Cluster: Choose a cluster to see metrics for.

Node: Choose a node to see metrics for.

Destinations Table

Each row in the able provides data for a particular destination.

Note: Row columns in this table with an asterisk (*) at the end of the column definition contain data that is provided by the TIBCO MBean interface. Refer to TIBCO documentation for more information regarding these columns.

Destination Count:	The total number of destinations in the table.
Destination URI	The Uniform Resource Identifier (URI) for the destination.*

Suspended	Denotes whether the destination is suspended.*
Num Events Received	The number of events received by the destination.*
Number of Events Sent	The number of events sent by the destination.*
Received Events Rate	The rate of events received by the destination.
Received Rate Last Interval	The rate of events received.
Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO BusinessEvents > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.
Timestamp	The date and time, relative to the Data Server, that data was last collected for the destination.

Channels Table

Each row in the able provides data for a particular channel.

Note: Row columns in this table with an asterisk (*) at the end of the column definition contain data that is provided by the TIBCO MBean interface. Refer to TIBCO documentation for more information regarding these columns.

Channel Count:	The total number of channels in the table.
Channel URI	The Uniform Resource Identifier (URI) for the channel.*
State	The current state of the channel.*
Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO BusinessEvents > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.

All Inference Agents

Use this display to compare agent metrics across deployed engines and verify that the cluster is properly load-balanced. View a list of all the inference agents deployed in each cluster. You can view agent data for a single cluster or all clusters.

The data in this display is identical to the data provided for a single engine in the "Cluster Summary" display, except that it is aggregated across all inference nodes.

Choose a single cluster or **All Clusters** from the drop-down menus. Each row in the table is a different agent.

(All BE Infer	ence Agents		0	6-Jul-2016 10:57	< Data OK	+ 6
uster: All Clu	isters 💌								
ent Count: 2									
Cluster	Node	Agent	Agent Name	Туре	Current	Started	Suspended	Concurrent	Que
ckfdcache	new51Inf	0	inference-class	INFERENCE		v			1
dcache	newbe4inference	1	inference-class	Inference	Activated	M			1

 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. 	 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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Filter By:

The display might include these filtering options:

Cluster: Select the cluster for which you want to see metrics, or select **All Clusters** to see metrics for all clusters.

Table

Each row in the table provides details for an agent.

Note: Row columns in this table with an asterisk (*) at the end of the column definition contain data that is provided by the TIBCO MBean interface. Refer to TIBCO documentation for more information regarding these columns.

Agent Count:	The number of agents currently in the table.
Cluster	The name of the TIBCO BusinessEvents cluster.
Node	The name of the node.
Agent ID	A unique string that identifies the agent.

Agent Name	The name of the agent.
Туре	The type of agent (Inference, Cache, Query, or Dashboard).*
Current State	The current state of the agent.*
Started	When checked, denotes that the agent is started.*
Suspended	When checked, denotes that the agent is suspended. st
Concurrent	When checked, denotes that it is a concurrent agent.*
Queue Capacity	The queue capacity for the agent.*
Queue Size	The queue size for the agent.*
Thread Count	The total number of threads for the agent.*
Total # Rules Fired	The total number of rules fired for the agent.*
Rules/sec	The rate of rules fired for the agent.
Avg Receive Time	See TIBCO documentation for more information.*
Avg Txn Commit Time	The average amount of time taken to commit a transaction.*
Cache Queue Remaining	The total amount of remaining space on the cache queue.*
DB Ops Queue Remaining	The total amount of remaining space on the DB Operations queue.*
Hit Ratio	See TIBCO documentation for more information.*
Job Rate	See TIBCO documentation for more information.*
L1 Cache Max Size	The maximum size of the L1 cache.*
L1 Cache Size	The current size of the L1 cache.*
Max Active	See TIBCO documentation for more information.*
# Event Threads	The total number of currently active event threads.*
# Jobs	The total number of currently active jobs.*
Priority	See TIBCO documentation for more information.*
Read Only	See TIBCO documentation for more information.*
Txn Commit Count	The number of transactions committed by the agent.*
Txn Receive Count	The number of transactions received by the agent.*

the destination.

Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO BusinessEvents > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.
Timestamp	The date and time, relative to the Data Server, that data was last collected for

All RTC Reports

Use this display to compare RTC metrics across deployed engines. View a list of all the inference engine RTC reports. You can view reports for a single cluster or all clusters.

The data in this display is identical to the data provided for a single engine in the "Cluster Summary" display, except that it is aggregated across all inference nodes.

Choose a single cluster or **All Clusters** from the drop-down menus. Each row in the table is a different node.

Cluster: All Clusters		• 🕜
RTC Txn Manager Reports		
Cluster Node Avg Action Avg Cache Queue Avg Cache Avg DB Ops Avg DB Qi Avg DB Avg	g Successfu	ul I
ckfdcache new51Inf 0.00 0.00 0.00 1.00 0.00 8.45	8.3	
ckdcache newbaint 0.00 0.00 0.00 1.00 0.00 8.45 fdcache newbe4inferend 0.00 0.0	0.0	00
✓ III		•



Filter By:

The display might include these filtering options:

Cluster: Select the cluster for which you want to see metrics, or select **All Clusters** to see metrics for all clusters.

RTC Txn Manager Reports Table

Each row in the table is a different report. Data in the row columns describe the report.

Note: Row columns in this table with an asterisk (*) at the end of the column definition contain data that is provided by the TIBCO MBean interface. Refer to TIBCO documentation for more information regarding these columns.

Report Count:	The number of reports currently in the table.
Cluster	The name of the TIBCO BusinessEvents cluster.
Node	The name of the node.
Avg Action Txn Millisec	The average amount of time taken for an action transaction, in milliseconds. st
Avg Cache Queue Wait Time Millisec	The average cache queue wait time, in milliseconds.*
Avg Cache Txn Millisec	The average amount of time taken for a cache transaction, in milliseconds.*
Avg DB Ops Batch Size	The average database operation batch size.*
Avg DB Queue Wait Time Millisec	The average database queue wait time, in milliseconds.*
Avg DB Txn Millisec	The average amount of time taken for a database transaction, in milliseconds.* $\$
Avg Successful Txn Time Millisec	The average amount of time taken for a successful transaction, in milliseconds.*
Last DB Batch Size	The size of the last database batch.*
Pending Actions	The total number of pending actions.*
Pending Cache Writes	The total number of pending cache writes.*
Pending DB Writes	The total number of pending database writes.*
Pending Events to Ack	The total number of pending events that need to be acknowledged. st
Pending Locks to Release	The total number of pending locks that need to be released.*
Total DB Txns Completed	The total number of database transactions that have been completed.*

Total Successful Txns	The total number of successful transactions.*
Total Errors	The total number of errors.*
Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO BusinessEvents > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.
Timestamp	The date and time, relative to the Data Server, that data was last collected for the destination.

CHAPTER 11 Solution Package for TIBCO Adapters

The Solution Package for TIBCO Adapters[™] is an easy to configure and use monitoring system that gives you extensive visibility into the health and performance of your TIBCO Adapters and the applications that rely on them.

The Monitor enables TIBCO Adapters users to continually assess and analyze the health and performance of their infrastructure and gain early warning of issues with historical context. It does so by aggregating and analyzing key performance metrics across all adapters and presents the results, in real time, through meaningful dashboards as data is collected.

Users also benefit from predefined dashboards and alerts that pin-point critical areas to monitor in most environments, and allow for customization of thresholds to let users fine-tune when alert events should be activated.

The Monitor also contains alert management features so that the life cycle of an alert event can be managed to proper resolution. All of these features allow you to know exactly what is going on at any given point, analyze the historical trends of the key metrics, and respond to issues before they can degrade service levels in high-volume, high-transaction environments.

This section includes:

- "Configuration Parameters You Need"
- "Configure Data Collection"
- "Additional Configurations"
- "Troubleshoot"
- "TIBCO Adapters Monitor Views/Displays"

Configuration Parameters You Need

To configure the Solution Package for TIBCO Adapters[™] make a note of the following values:

- PackageName=tadmon
- ServerDirectory=miscmon
- AlertPrefix=Tad

Configure Data Collection

The Monitor uses TIBCO Hawk to monitor TIBCO Adapters by connecting to Adapter MicroAgents. You need to define a connection to Hawk in the RTView Configuration Application for each Hawk domain containing the adapter you want to monitor. You also need to define the names of the systems hosting the adapters that you want to monitor and add a cache configuration for each adapter that you want to monitor.

You will need the following information for each adapter in order to create the data connection:

- Domain: name of the domain.
- Agent Name: name of the agent defined when the adapter is set up.
- Method of Transport (Rendezvous (rvd) or EMS): RTView supports two types of connections to Hawk, Rendezvous (rvd) and EMS, which are defined when the adapter is set up.

To create the data connection, perform the following steps:

1. Navigate to the RTView Configuration Application > (Project Name/MISCMON-LOCAL) > Solution Package Configuration > TIBCO Adapter > CONNECTIONS tab.

<i>s</i> RTView [®]	ISCMON-LOCAL - Miscellaneous Monitor :
🕂 HOME 🔛 SAVE	TIBCO Adapters
IBM DB2	CONNECTIONS DATA COLLECTION DATA STORAGE
Microsoft SQL Server	i i i i i i i i i i i i i i i i i i i
MongoDB	Classpaths (Required)
MySQL Database	Directories containing TBCC Jars. The TIBCO Hawk and TIBCO Rendezvous jars are required to connect to TIBCO Hawk. The TIBCO Mis inste receipted to connect to TIBCO Hawk agents running on EMS transports.
Node.js	In order to connect to TIBCO Hawk agents running on a TIBCO Rendezvous transport, you must also add the TIBCO Rendezvous bin directory to PATH on Windows and to LD_LIBRARY_PATH on Unix.
Oracle Database	Directory Containing TIBCO Hawk Jars
Oracle Enterprise Manager	ex: /libco/hawk/5.2/lb or c'libco/hawk/5.2/lb Always enclose environment variables in %, ex: %MY_ENV_VAR%
RTView Host Agent	Directory Containing TIBCO Rendezvous Jars
RTView Manager	ex: /hboot/bn/8.3/lb or o:t/boot/bn/8.3/lb . Always enclose environment variables in %, ex: %MY_ENV_VAR%
RedHat JBoss	Directory Containing TIBCO EMS Jars
TIBCO Active Spaces	Directory Containing TIDCO Emis Jaris
TIBCO Adapters	ex:hbcolems/8.2/lb or c:tbbcolems/8.2/lb Always enclose environment variables in %, ex: %MY_ENV_VAR%
TIBCO BusinessEvents	
TIBCO Hawk	Connections
VMWare	To begin adding Connections, click 🔶

2. In the **CONNECTIONS** tab, specify the **Classpaths** for the TIBCO Hawk jar files, the TIBCO Rendezvous jar files, and the TIBCO EMS jar files.

CMON-LOCAL - Miscella	aneous Monitor	
BCO Adapters		
CONNECTIONS	DATA COLLECTION	DATA STORAGE
In order to connect to TIBCO Hawk agents runn PATH on Windows and to LD_LIBRARY_PATH Directory Containing TIBCO Hawk Jars ex: /tbco/hawk/5.2/lib or c:tbco/hawk/5.2/lib Alway Directory Containing TIBCO Rendezvous Jars ex: /tbco/tbrv/8.3/lib or c:tbco/tbrv/8.3/lib Always Directory Containing TIBCO EMS Jars	TIBCO Hawk agents running on EMS transports, ing on a TIBCO Rendezvous transport, you must also a on Unix. ys enclose environment variables in %, ex. %MY_ENV_VAR9	
Connections		
To begin	adding Connections, click	. 🕣

3. Click the 📀 icon.

The **Add Connection** dialog displays.

Add Connection
Domain *
Transport Type *
Agents *
Enter agent name(s)
Multiple agent names can be separated by commas, Tab or Enter
Adapter Types *
Files Database WebSphere MQ SAP (TIBCO Business Studio)
Custom adapter name(s)
Custom adapter names can be separated by commas, Tab or Enter
* Indicates required field
SAVE CANCEL

4. For TIBCO Hawk domains running on **EMS** transports, specify the connection information and click **Save** where:

Add Connection		
Domain *		
MyDomain		
Transport Type *		
EMS	~	
URL*		
tcp://myhost:7222		
ex: tcp://myhost:7222 or tcp://myotherhost:7222,tcp://myo	therhost2:7222	
Username	Password	
MyUsername	***	Θ
Agents * MyAgent ×		
Multiple agent names can be separated by commas, Tab or	r Enter	
Adapter Types *		
🔽 Files 🔽 Database 🗌 WebSphere I	MQ SAP (TIBCO Business Studio)	
MyCustom 🗙		
Custom adapter names can be separated by commas, Tab o	or Enter	
* Indicates required field		
SAVE CANCEL		

Domain: Enter the name of the domain.

Transport Type: Select EMS from this drop down list.

URL: Enter the complete URL for the EMS connection.

Username: The username is used when creating the EMS connection. This field is optional.

Password: This password is used when creating the EMS connection. This field is optional. By default, the password entered is hidden. Click the \odot icon to view the password text.

Agents: Enter the associated agents. The agent name displays in the field after entering the name and typing a comma or by clicking the Tab or Enter key. You can enter more than one agent in the field. Once the agent is specified, you can delete the agent by clicking the **X** next to their name.

Adapter Types: Select the type of adapter or enter a custom adapter name. You can specify any custom adapter types using the associated field. The custom adapter name displays in the field after entering the name and typing a comma or by clicking the **Tab** or **Enter** key. You can enter more than one custom adapter in the field. Once the adapter is specified, you can delete the adapter by clicking the **X** next to their name.

For TIBCO Hawk domains running on **Rendezvous** transports, specify the connection information and click **Save** where:

Add Connection	
Domain *	
MyrvdDomain	
Transport Type *	
Rendezvous 🔻	-
Service *	
7474	
ex. 7474	
Network *	Daemon *
:	7474
ex: ; Agents *	ex: tcp:7474
MyrvdAgent1 🗙	
Multiple agent names can be separated by commas, Tab or En	er
Adapter Types *	
Files 🗹 Database 🗌 WebSphere MQ	SAP (TIBCO Business Studio)
MyCustomRvdAdapt1 🗙	
Custom adapter names can be separated by commas, Tab or En	ter
* Indicates required field	
SAVE CANCEL	

Domain: Enter the name of the domain.

Transport Type: Select Rendezvous from this drop down list.

Service: Enter the Service for the Rendezvous connection.

Network: Enter the Network for the Rendezvous connection.

Daemon: Enter the Daemon for the Rendezvous connection.

Agents: Enter the associated agents. The agent name displays in the field after entering the name and typing a comma or by clicking the Tab or Enter key. You can enter more than one agent in the fields. Once the agent is specified, you can delete the agent by clicking the **X** next to their name.

Adapter Types: Select the type of adapter or enter a custom adapter name. You can specify any custom adapter types using the associated field. You can specify any custom adapter types using the associated field. The custom adapter name displays in the field after entering the name and typing a comma or by clicking the **Tab** or **Enter** key. You can enter more than one custom adapter in the field. Once the adapter is specified, you can delete the adapter by clicking the **X** next to their name.

5. If you want to modify the default values for the update rates for the TIBCO Adapters caches, you can update the default polling rates in RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO Adapters > DATA COLLECTION > Poll Rates.

Modify the value for the **Poll Rate** field to modify the default polling rate for the TadAdapterServiceInformation, TadVersion, TadHostInformation, TadStatus, and TadAdapterQuality caches.

CONNECTIONS	DATA COLLECTION	DATA STORAGE
oll Rates		
et the rate in seconds at which to collect me Poll Rate	etric data	
20		

6. SAVE your changes in the RTView Configuration Application (upper left-hand corner), and then stop and restart your project to apply your changes.

Additional Configurations

You can specify the number of history rows to store in memory, the compaction rules, the duration before metrics are expired and deleted, and the different types of metrics that you want the Historian to store in the **DATA STORAGE** tab in the RTView Configuration Application. This section contains the following:

- "Defining the Storage of In Memory TADMON History"
- "Defining Compaction Rules for TADMON"
- "Defining Expiration and Deletion Duration for TADMON Metrics"
- "Enabling/Disabling Storage of TADMON Historical Data"
- "Defining a Prefix for All History Table Names for TADMON Metrics"

Defining the Storage of In Memory TADMON History

You can modify the maximum number of history rows to store in memory in the **DATA STORAGE** tab. The **History Rows** property defines the maximum number of rows to store for the TadStatus and TadAdapterQuality caches. To update the default settings:

- Navigate to the RTView Configuration Application > (Project Name/MISCMON-LOCAL) > Solution Package Configuration > TIBCO Adapter > DATA STORAGE tab.
- 2. In the Size region, click the History Rows field and specify the desired number of rows.

CO Adapters *		
CONNECTIONS	DATA COLLECTIO	DN DATA STORAG
ize It the number of history rows to History Rows 50000	o keep in memory	
	ory. The Condense Interval and Condense R	aw Time are in seconds.
t the compaction rules for hist	ory. The Condense Interval and Condense R Condense Raw Time	taw Time are in seconds. Compaction Rules
compaction et the compaction rules for hist Condense Interval		
It the compaction rules for hist Condense Interval 60 uration It the number of seconds betw	Condense Raw Time	Compaction Rules 1h - ;1d 5m ;2w 15m
t the compaction rules for hist Condense Interval 60 uration	Condense Raw Time 1200 een data updates before metrics are expired	Compaction Rules 1h - ;1d 5m ;2w 15m

Defining Compaction Rules for TADMON

Data compaction, essentially, is taking large quantities of data and condensing it using a defined rule so that you store a reasonably sized sample of data instead of all of your data, thus preventing you from potentially overloading your database. The available fields are:

- **Condense Interval** -- The time interval at which the cache history is condensed. The default is 60 seconds. The following cache is impacted by this setting: TadStatus.
- **Condense Raw Time** -- The time span of raw data kept in the cache history table. The default is 1200 seconds. The following cache is impacted by this setting: TadStatus.
- Compaction Rules -- This field defines the rules used to condense your historical data in the database. By default, the columns kept in history will be aggregated by averaging rows with the following rule 1h -;1d 5m;2w 15m, which means the data from 1 hour will not be aggregated (1h rule), the data over a period of 1 day will be aggregated every 5 minutes (1d 5m rule), and the data over a period of 2 weeks old will be aggregated every 15 minutes (2w 15m rule). The following cache is impacted by this setting: TadStatus.
- Navigate to the RTView Configuration Application > (Project Name/MISCMON-LOCAL) > Solution Package Configuration > TIBCO Adapter > DATA STORAGE tab.
- 2. In the Compaction region, click the Condense Interval, Condense Raw Time, and Compaction Rules fields and specify the desired settings.

CO Adapters *		
CONNECTIONS	DATA COLLECTION	DATA STORAGE
Size et the number of history rows to History Rows	keep in memory	
Compaction		
Compaction let the compection rules for histo Condense Interval		In seconds. Compaction Rules 1h - ;1d 5m ;2w 15m
et the compaction rules for histo	Condense Raw Time	Compaction Rules
eit the compaction rules for histo Condense Interval	Condense Raw Time	Compaction Rules

Defining Expiration and Deletion Duration for TADMON Metrics

The data for each metric is stored in a specific cache and, when the data is not updated in a certain period of time, that data will either be marked as expired or, if it has been an extended period of time, it will be deleted from the cache altogether. The **Expire Time** field, which sets the expire time for the TadStatus, TadVersion, TadHostInformation,

TadAdapterServiceInformation, and TadAdapterQuality caches, defaults to 120 seconds. The **Delete Time** field, which sets the expire time for the TadStatus, TadVersion,

TadHostInformation, TadAdapterServiceInformation, and TadAdapterQuality caches, defaults to 3600 seconds. To modify these defaults:

- Navigate to the RTView Configuration Application > (Project Name/MISCMON-LOCAL) > Solution Package Configuration > TIBCO Adapter > DATA STORAGE tab.
- 2. In the **Duration** region, click the **Expire Time** and **Delete Time** fields and specify the desired settings.

CONNECTIONS	DATA COLLECTIO	DATA STORAG
ize et the number of history rows to History Rows 50000	keep in memory	
et the compaction rules for histo	ry. The Condense Interval and Condense Ra Condense Raw Time	aw Time are in seconds. Compaction Rules
ompaction at the compaction rules for histo Condense Interval 60		

Enabling/Disabling Storage of TADMON Historical Data

The **History Storage** region allows you to select which metrics you want the Historian to store in the history database. By default, historical Adapters data is not saved to the database. To enable/disable the collection of historical data, perform the following steps:

- 1. Navigate to the RTView Configuration Application > (Project Name/MISCMON-LOCAL) > Solution Package Configuration > TIBCO Adapter > DATA STORAGE tab.
- 2. In the **History Storage** region, select the toggle for the Adapter metrics if you want to collect/deselect for the Adapter metrics if you do not want to collect. Blue is enabled, gray is disabled.

CO Adapters *		
CONNECTIONS	DATA COLLECTIO	N DATA STORAGE
Compaction Set the compaction rules for history.	The Condense Interval and Condense Ra	w Time are in seconds.
Condense Interval	Condense Raw Time	Compaction Rules
60	1200	1h - ;1d 5m ;2w 15m
120		
Expire Time 120	Delete Time 3600	
History Storage elect metrics the Historian will stor	o in the history database. Metrics that are	not listed do not support storing history.
Adapters		
Untran Table Mana Deafler		
History Table Name Prefix		

Defining a Prefix for All History Table Names for TADMON Metrics

The **History Table Name Prefix** field allows you to define a prefix that will be added to the database table names so that the Monitor can differentiate history data between data servers when you have multiple data servers with corresponding Historians using the same solution package(s) and database. In this case, each Historian needs to save to a different table, otherwise the corresponding data server will load metrics from both Historians on startup. Once you have defined the **History Table Name Prefix**, you will need to create the corresponding tables in your database as follows:

- Locate the .sql template for your database under RTVAPM_HOME/tadmon/dbconfig and make a copy of it.
- Add the value you entered for the **History Table Name Prefix** to the beginning of all table names in the copied .sql template.
- Use the copied .sql template to create the tables in your database.

To add the prefix:

- 1. Navigate to the RTView Configuration Application > (Project Name/MISCMON-LOCAL) > Solution Package Configuration > TIBCO Adapter > DATA STORAGE tab.
- 2. Click on the **History Table Name Prefix** field and enter the desired prefix name.

	DATA COLLECTIO	DATA STORAGE
Compaction Set the compaction rules for history.	. The Condense Interval and Condense Ra	aw Time are in seconds.
Condense Interval	Condense Raw Time	Compaction Rules
60	1200	1h - ;1d 5m ;2w 15m
History Storage		
	e in the history database. Metrics that are	not listed do not support storing history.
	e in the history database. Metrics that are	not listed do not support storing history.

Troubleshoot

This section includes:

- "Log Files"
- "JAVA_HOME"
- Permissions"
- Network/DNS"
- "Verify Data Received from Data Server"
- "Verify Port Assignments"

Log Files

When a Monitor component encounters an error, it outputs an error message to the console and/or to the corresponding log file. If you encounter issues, look for errors in the following log files:

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

which are located in the **RTViewEnterpriseMonitor/emsample/servers/miscmon/logs** directory.

Logging is enabled by default. If you encounter issues with log files, verify the **logs** directory exists in the **RTViewEnterpriseMonitor/emsample/servers/miscmon** directory.

JAVA_HOME

If the terminal window closes after executing the **start_rtv** command, verify that JAVA_HOME is set correctly.

Permissions

If there are permissions-related errors in the response from the **start_rtv** command, check ownership of the directory structure.

Network/DNS

If any log file shows reference to an invalid URL, check your system's hosts file and confirm with your Network Administrator whether your access to the remote system is being blocked.

Verify Data Received from Data Server

If you encounter problems collecting data, restart the Data Server, start the Monitor, and go to the **Admin** tab and select **Architecture> RTView Cache Tables** in the navigation tree. Select **MISCMON-LOCAL** from the **Data Server** drop down list, and search for all caches that start with "Tad." Make sure these caches are populated (the number of **Rows** and **Columns** in the table should be greater than 0). If not, there might be a problem with the connection to the Data Server.

Verify Port Assignments

If the display server or Historian fail to connect to the Data Server or they receive no data, verify the ports are assigned correctly in your properties files and restart the Data Server.

TIBCO Adapters Monitor Views/Displays

The following TIBCO Adapters Monitor Views (and their associated displays) can be found under **Components** tab > **Middleware** > **TIBCO Adapters** once the Solution Package for TIBCO Adapters[™] is installed.

This section contains the following:

- "All Adapters View": The displays in this View allow you to view the current and historical metrics for all adapters in a heatmap or tabular format.
- "Single Adapter View": The displays in this View allow you to view the current and historical metrics for a single adapter in a tabular format.

All Adapters View

These displays provide detailed data for all adapters. Displays in this View are:

- "All Adapters Heatmap": A heatmap view of all adapters in a heatmap format and their associated metrics.
- "All Adapters Table": A tabular view of your adapters and their associated metrics.

All Adapters Heatmap

This heatmap display provides an easy-to-view interface that allows you to quickly identify the current status of each of your adapters for each available metric. You can view the adapters in the heatmap based on the following metrics: the current alert severity, the current alert count, the delta messages received, the messages received rate, the messages sent rate, the delta messages sent, and the increase in errors from the previous polling period. By default, this display shows the heatmap based on the **Alert Severity** metric.

You can use the **Names** check-box N to include or exclude labels in the heatmap, and you can mouse over a rectangle to see additional metrics for an adapter. Clicking one of the rectangles in the heatmap opens the "Adapter Summary" display, which allows you to see additional details for the selected adapter

+			All Adapters - He	atmap	23-Aug-2017 10:52 🗳	b Data OK	F 🕐
						Count: 4	
Show	Expired	Vames	Log Auto	Metric: Alert Severity	/ 💙 0	1	
			Adapters by Agent where C	Color = Metric			
			SLHOST15(sl_qa)				
Conta	ner_Read_Write.Cor	tainer Reader	Container_Read_Write.ContainerWriter Trans	fer, Records <u>Via</u> BW FARead	der Transfer_Reoord	s vis Bwifaw	iter

Title Bar (possible features are):	🐼 Data OK Data connection state. Red indicates the Data
🗲 🔺 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. 	data source is connected. 23-Mar-2017 12:04 Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time
Menu , Table open commonly accessed displays.	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.	▲ Open the Alert Views - RTView Alerts Table display.

Fields and Data:

Count		dapters included in the display. This number can change if you toggle eck box on and off.			
Show: Expired	Select this check recently (expired	< box to display those adapters whose data has not been updated d).			
Show: Names	Select this check rectangle in the	< box to display the names of the adapters at the top of each 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.				
Auto	maximum range	auto-scaling. When auto-scaling is activated, the color gradient bar's displays the highest value.			
Metric		trics auto-scale automatically, even when Auto is not selected.			
Metric		to view in the display.			
	Alert Severity	The current alert severity. Values range from 0 - 2 , as indicated in the color gradient equal bar, where 2 is the highest Alert Severity:			
		Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.			
		Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.			
		Green indicates that no metrics have exceeded their alert thresholds.			
	Alert Count	The total number of critical and warning unacknowledged alerts in the adapters. The color gradient $\begin{tabular}{ c c } \hline \begin{tabular}{ c c$			
	Delta Msgs Rcvd	The increase in the number of messages received (per second) from the previous polling period to the current polling period. The color gradient • • • • • • • • • • • • • • • • • • •			

Rate Msgs Rcvd	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 TadAdapterMsgsRcvdRateHigh . 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 of the range.
Delta Msgs Sent	The increase in the number of messages sent (per second) from the previous polling period to the current polling period. The color gradient o o bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum number of messages sent. The middle value in the gradient bar indicates the middle value of the range. The Auto check box does not impact this metric.
Rate Msgs Sent	The number of message sent per second. The color gradient bar bar shows the range of the value/color mapping. ated 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 TadAdapterMsgsSentRateHigh . 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
Delta Errors	of the middle value of the range. The increase in the number of errors from the previous polling period to the current polling period. The color gradient <u>b</u> 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 TadAdapterDeltaErrorsHigh . 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 Adapters Table

The table in this display provides a view of all of your adapters and their associated metric data including agent, application instance, 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 adapter in the "Adapter Summary" display

f 🕴	2		All Adapt	ters - Table		23-Aug-	2017 10:56 🗳	🔊 Data OK 🕂	• 6
Show: 🖪	Expired							Count: 4	
A	gent 🗉	Aŗ	plication Instance	Ξ	Alert ₌ Level	Alert _≣ Count	Messages _≣ Received	Delta Msgs Received	R
LHOST1	15(sl_qa)	Transfer_Records_Via_BV	V.FAWriter		()		0		
LHOST1	15(sl_qa)	Container_Read_Write.Co			6		0		
		Transfer_Records_Via_BV			6		0	0	
		Container Read Write.Co			6		0		
<									>

Title Bar (possible features are):	Stata OK Data connection state. Red indicates the Data
 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 	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
displays.	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.	Open the Alert Views - RTView Alerts Table display.

Note: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by the selected adapter. Refer to TIBCO Adapter documentation for more information regarding these fields.

Fields and Data:

Show: Expired	Select this check box to display adapters that have expired data in the table.
Count	The total number of adapters listed in the All Adapters Table .
All Adapters Table:	
Agent	The name of the agent.
Application Instance	The name of the application instance.

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.
Messages Received	The number messages received.*
Delta Messages Received	The increase in the number of messages received (from the previous polling period to the current polling period).*
Rate Messages Received	The number of messages received per second.*
Messages Sent	The total number of messages sent.*
Delta Msgs Sent	The increase in the number of messages sent (from the previous polling period to the current polling period). *
Rate Msgs Sent	The number of messages sent per second.*
New Errors	The number of new errors received since the last polling update.*
Total Errors	The total number of errors.*
Delta Total Errors	The increase in the number total errors (from the previous polling period to the current polling period). *
Rate Total Errors	The number of errors per second.*
Adapter Name	The name of the adapter.*
Last Restart	The date and time the adapter was last restarted.*
Process ID	The process ID of TIBCO Adapter you are running.*
Expired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO Adapters > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.
Timestamp	The date and time the row data was last updated.

Single Adapter View

This display allows you to view the current and historical metrics for a single adapter. The available display in this View is:

 "Adapter Summary": This display allows you to view current and trending data for a single adapter for a particular agent.

Adapter Summary

This display provides a view of the current and historical metrics for a single adapter. You can view message statistics, adapter service information, and host information for a specific instance. The trend graph in the bottom half of the display traces the current and historical delta messages received, delta messages sent, and delta errors.

< ^			Si	ngle Adapter - Su	mmary	23	-Aug-2017 11:01	< Data OK + 💮
Agent: SLHC)ST15(sl_qa)	✓ Instance	e: Container_	_Read_Write.Contain	erReader	ب ا	.ast Update: 2	3-Aug-2017 11:01:23
					Adap	ter Service lı	nformation	
Expired	🌀 Alert State	Alert Cou	nt O	Service Name = PublicationService	container	Subject	≡ # Mes	sages Type 0 Publisher
PID 1994	76 Last Restart	t 22-May-20	017 06:46:00					
⊢Message S	tats							
	Totals	Deltas	Rates			Host Informa	ntion	
Received	0	0	0.00	Name	E		Value	
Sent	0	0	0.00	Application Name Application Instance			ad_Write-Contai	
Errors	268,011	1	0.05	Application State		RUNNING		~
Delta Tren	ds		Use Rates	s 📃 Log Scale	🖌 Base	at Zero Tir	me Range: 5 M	ins 🗸
۰ <u>–</u>								Delta Msgs Rcvd
								Delta Msgs Sent
0 L							_	Delta Errors
0								
0								
10	:57:00	10:58:00		10:59:00	11:00:00		11:01:00	
	8/23	08/23		08/23	08/23		· ·	
0	8/23	08/23		08/23	08/23		08/23	Image: A start of the start

 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. G047 The number of items currently in the display. 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. 	Title Bar (possible features are):	Data OK Data connection state. Red indicates the Data Server is not receiving data or the Display Server is not
 Open the online help page for this display. Menu , Table open commonly accessed displays. Table open commonly accessed displays. 	Open the previous and upper display.	-
6,047 The number of items currently in the display. (A) Open the Alert Views - RTView Alerts Table display.	 Open the online help page for this display. Menu , Table open commonly accessed 	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
	6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Note: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by the selected adapter. Refer to TIBCO Adapter documentation for more information regarding these fields.

Filter By:

The display might include these filtering options:

Agent Select the agent for which you want to show data in the display.

I	nstance	Select the instance for which you want to show data in the display.			
	s and Data:				
	ast Update	The date and time in which the data in the display was last updated.			
E	xpired	When checked, performance data has not been received within the time specified (in seconds) in the Expire Time field in the Duration region in the RTView Configuration Application > (Project Name) > Solution Package Configuration > TIBCO Adapters > DATA STORAGE tab. The Delete Time field (also in the Duration region) 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.			
A	lert State	The current alert	•		
		Yellow indicate threshold.	that one or more metrics exceeded their ALARM LEVEL threshold. The sthat one or more metrics exceeded their WARNING LEVEL		
	lert Count	The total number	es that no metrics have exceeded their alert thresholds.		
_	PID	The process ID of			
	ast Restart		e the instance was last restarted.*		
M	lessage Stats				
		Received	Totals The total number of messages received.* Deltas The increase in the number of messages received since the last polling update.* Rates The number of messages received per second.*		
		Sent	Totals The total number of messages sent.*		
			Deltas The increase in the number of messages sent since the last polling update.*		
			Rates The number of messages sent per second.*		
		Errors	Totals The total number of errors that have occurred.* Deltas The increase in the number of errors since the last polling update.*		
	dantar Sarvia	o Information	Rates The number of errors occurring per second.*		
A	Mapler Servic	e Information	The name of the convice *		
		Service Name	The name of the service.*		
		Subject	The name of the subject.*		
		# Messages	The current number of messages.*		
		Туре	The type of adapter service.*		
н	Host Information				
		Name	The name of the host.*		
		Value	The host's value.*		

Trends Graph Traces the following:

Delta Msgs Rcvd -- traces the increase in the number of messages received since the last polling update, or the rate of messages received with **Use Rates** selected.

Delta Msgs Sent -- traces the increase in the number of messages sent since the last polling update, or the rate of messages sent with **Use Rates** selected.

Delta Errors -- traces the increase in the number of errors since the last polling update, or the rate of errors with **Use Rates** selected.

Use Rates Select this toggle to trace the rates (Msgs Rcvd/sec, Msgs Sent/ sec, and Errors/sec) instead of the delta numbers (Delta Msgs Rcvd, Delta Msgs Sent, and Delta Errors).

- 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 \square b to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

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

CHAPTER 12 Solution Package for TIBCO FTL

This chapter describes how to install, configure, deploy, read and use the Solution Package for TIBCO FTL displays, and also describes other optional features specific to TIBCO FTL Monitor. This chapter includes the following:

This section includes:

- "Configuration Parameters You Need"
- "Configure Data Collection"
- "Troubleshoot"
- "TIBCO FTL Monitor Views/Displays"

Configuration Parameters You Need

- PackageName=tftlmon
- ServerDirectory=tftlmon
- AlertPrefix=Tftl

Configure Data Collection

Then use the RTView Configuration App to do the following in the order provided:

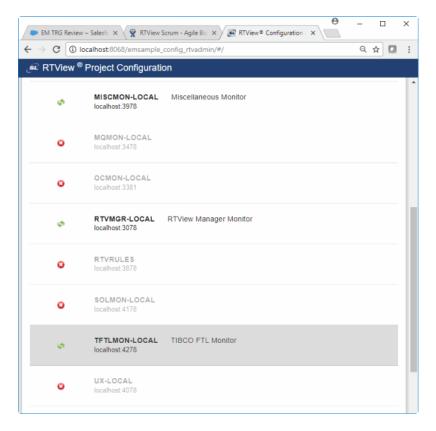
- "Configure CONNECTIONS": Set Java environment and provide server details to establish connection. This step is required.
- "Setup DATA COLLECTION": Set the poll rate interval for data updates and enable/disable autodiscover. This step is optional.
- "Configure DATA STORAGE": Set rules for how data is stored, as well as when data is reduced, expired and deleted. This step is optional.

Configure CONNECTIONS

This step is required.

To configure data connections for the Solution Package for TIBCO FTL:

1. "Open the RTView Configuration Application" and select TIBCO FTL from the Solution Pack Configuration list.



2. On the **CONNECTIONS** tab, provide the full path to the directory containing the TIBCO FTL jar files in the **Classpath** field. Use forward slashes in path name. Enclose environment variables with **%%** (even on UNIX). This is required to connect to TIBCO FTL. For example:

/tibco/ftl/5.2/lib

or

c:\tibco\ftl\5.2\lib

3. In the Connections tab, click \bigcirc .

The Add Connection dialog opens.

Add Connect	ion	
Connection Name *		
Primary URL *		
ex. http://myhost:8080		
Backup URL		
ex. http://myhost:8090		
Primary Cores	Backup Cores	
1	1	
Username		
Password	Θ	•
* Indicates required fie	ld	
SAVE	CANCEL	

- **4.** In the **Add Connection** dialog, make the following entries to connect to a TIBCO FTL realm server:
 - **Name**: The name for the connection. This entry is required. Use a semicolon-separated list format for multiple connections.
 - Primary URL: The primary URL for the connection (for example, http:// myhost:8080).
 - Backup URL: The failover URL for the primary connection (for example, http:// myhost:8090).
 - **Primary Cores**: The number of primary cores.
 - **Backup Cores**: The number of backup cores.
 - Username: (optional)
 - Password: (optional)

5. Save.

The newly created connection displays in the **Connections** section.

6. Repeat these instructions for each TIBCO FTL to be monitored.

Proceed to "Setup DATA COLLECTION," next, to specify the poll rate for data collection. Note that you can also "Setup DATA COLLECTION" later.

Setup DATA COLLECTION

This step is optional.

Use the RTView Configuration Application to configure data collection for the Solution Package for TIBCO FTL.

To configure data collection for the Solution Package for TIBCO FTL:

- 1. "Open the RTView Configuration Application" and select TIBCO FTL from the Solution Pack Configuration list.
- 2. Choose the DATA COLLECTION tab.

TIBCO FTL					
CONNECTIONS	DATA COLLECTION	DATA STORAGE			
Poll Rates Set the rate in seconds at which to collect Poll Rate 60	metric data				

3. Enter the **Poll Rate** interval, in seconds, for collecting metric data for all TIBCO FTL caches. The caches impacted by this field are TftlClient, TftlMetrics, TftlServer, TftlSatellite, TftlGroupServer and TftlGroupServerGroup.

4. Save your settings.

Proceed to (optionally) "Configure DATA STORAGE," next, to set rules for reducing the amount of cached data. Note that you can also "Configure DATA STORAGE" later.

Configure DATA STORAGE

This step is optional.

Use the RTView Configuration Application to configure the reduction of data stored in cache history tables for the Solution Package for TIBCO FTL. You can also set the amount of time to wait for a response before expiring or deleting cached history data.

To configure data storage for the Solution Package for TIBCO FTL:

1. "Open the RTView Configuration Application" and select TIBCO FTL from the Solution Pack Configuration list.

2. Choose the DATA STORAGE tab.

CONNECTIONS	DAT	A COLLECTION	DATA STORAGE
		-	
Size Set the number of history rows t History Rows 50000	o keep in memory		
Compaction Set the compaction rules for his Condense Interval	tory. The Condense Interval and Condense Raw Time	Condense Raw Time are in seconds. Compaction Rules	History Time Span
60	1200	1h - ;1d 5m ;2w 15m	15d
Desite			
	veen data updates before metric Server Expire Time	s are expired or deleted Delete Time	
Set the number of seconds between time 120	Server Expire Time	Delete Time	
Set the number of seconds between the seconds between the second	Server Expire Time	Delete Time 3600	
Set the number of seconds betw Expire Time 120 History Storage Select metrics the Historian will Advisories	Server Expire Time	Delete Time 3600	

- **3.** Under **Size**, enter the maximum number of **History Rows** to keep in the history table. The caches impacted by this field are TftlClient, TftlServer, TftlEvent, TftlAdvisory and TftlMetrics. Note that this limits the total number of rows in the history table regardless of the specified **History Time Span**.
- **4.** Under **Compaction**, make the following entries to schedule reduction of cached history data:
 - **Condense Interval**: The time interval, in seconds, at which cached history data is condensed. The caches impacted by this field are TftlClient, TftlServer and TftlMetrics.
 - Condense Raw Time: The time interval, in seconds, at which raw cached history data is condensed. The caches impacted by this field are TftlClient, TftlServer and TftlMetrics.
 - Compaction Rules: Specifies the frequency for condensing data. The caches impacted by this field are TftlClient, TftlServer, TftlMetrics and TftlGroupServer. Use the following format:

1h - ;1d 5m ;2w 15m

 History Time Span: The duration of time to retain a row of cached data based on its date received timestamp.

The cache trims its History table by removing rows with timestamps that are older than the limit specified here. Specify the duration in seconds or specify a number followed by a single character indicating the desired time interval (e.g. 15m for 15 minutes). The format is a number followed by one of the following valid characters:

- y years (365 days)
- M months (31 days)
- w weeks (7 days)
- d days
- h hours
- m minutes
- s seconds

Example: 1M

Note that this setting only determines the duration of rows kept in the History table by the cache data source. It does not affect database storage, if any, associated with the cache.

The caches impacted by this field are TftlClient, TftlServer, TftlEvent, TftlAdvisory and TftlMetrics.

- **5.** Under **Duration**, make the following entries to set the amount of time that must pass before a row in the cache table is marked **Expired** or deleted:
 - Expire Time: The number of seconds to wait for a cache table row response between data updates before marking a cache table row Expired. The default value is blank, which specifies no expiration time. Note: The cache data source checks this value at approximately 10 second intervals, therefore the time limit specified could be exceeded by up to 10 seconds. The caches impacted by this field are TftlClient, TftlMetrics, TftlSatellite, TftlGroupServer, TftlGroupServerGroup, TftlClientAvailability and TftlServerAvailability.
 - Server Expire Time: The number of seconds to wait for a server response between data updates before marking the server Expired. The default value is blank, which specifies no expiration time. Note: The server data source checks this value at approximately 10 second intervals, therefore the time limit specified could be exceeded by up to 10 seconds. The TftlServer cache is impacted by this field.
 - Delete Time: The number of seconds to wait for a server response between data updates before deleting a cache table row. This value should specify a longer time interval than that specified for Expire Time. The default value is blank, which specifies no deletion time. The caches impacted by this field are TftlClient, TftlAdvisory and TftlMetrics.
- **6.** Under **History Storage**, choose (toggle to enable/disable) the types of data you want the Historian to store for the Solution Package:
- **7. History Table Name Prefix**: Enter a prefix that will prepend the data you just chose to store in the history table. The prefix should be descriptive. For example, FTL.

The **History Table Name Prefix** field allows you to define a prefix that will be added to the database table names so that the Monitor can differentiate history data between data servers when you have multiple data servers with corresponding Historians using the same solution package(s) and database. In this case, each Historian needs to save to a different table, otherwise the corresponding data server will load metrics from both Historians on startup. Once you have defined the History Table Name Prefix, you will need to create the corresponding tables in your database as follows:

- Locate the .sql template for your database under RTVAPM_HOME/tftl/dbconfig and make a copy of it.
- Add the value you entered for the History Table Name Prefix to the beginning of all table names in the copied .sql template.
- Use the copied .sql template to create the tables in your database.
- **8.** SAVE your project settings (choose \equiv if SAVE is not visible, or expand your browser width).
- **9.** Repeat this step for each host you wish to monitor.

Troubleshoot

This section includes:

- Log Files," next
- "JAVA_HOME" on page 661
- "Permissions" on page 662
- "Network/DNS" on page 662
- "Verify Data Received from Data Server" on page 662
- "Verify Port Assignments" on page 662

Log Files

When a Monitor component encounters an error, it outputs an error message to the console and/or to the corresponding log file. If you encounter issues, look for errors in the following log files:

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

which are located in the **RTViewTIBCOMonitor/em-tibco/servers/tftlmon/logs** directory.

Logging is enabled by default.

JAVA_HOME

If the terminal window closes after executing the **start_rtv** command, verify that JAVA_HOME is set correctly.

Permissions

If there are permissions-related errors in the response from the **start_rtv** command, check ownership of the directory structure.

Network/DNS

If any log file shows reference to an invalid URL, check your system's hosts file and confirm with your Network Administrator whether your access to the remote system is being blocked.

Verify Data Received from Data Server

If you encounter problems collecting data, restart the Data Server, start the Monitor, and go to the **Admin** tab and select **Architecture> RTView Cache Tables** in the navigation tree. Select **TFTLMON-LOCAL** from the **Data Server** drop down list, and search for all caches that start with **Tftl**. Make sure these caches are populated (the number of **Rows** and **Columns** in the table should be greater than 0). If not, there might be a problem with the connection to the Data Server.

Verify Port Assignments

If the Display server or Historian fail to connect to the Data Server or they receive no data, verify the ports are assigned correctly in your properties files and restart the Data Server.

TIBCO FTL Monitor Views/Displays

The following Solution Package for TIBCO FTL Views (and their associated displays) can be found under **Components** tab > **Middleware** > **TIBCO FTL** once the Solution Package for TIBCO FTL is installed:

- "FTL Servers"
- "FTL Clients"
- "FTL Events"

FTL Servers

These displays present performance metrics and alert status for all FTL servers. Displays are:

- "All Servers Heatmap": Heatmap shows server and alert status for all FTL servers in all realms.
- "All Servers Table": Table shows all available utilization metrics for all FTL servers.
- "All Group Servers Table": Table shows the status and ID of all FTL Group Servers.
- "All Satellites Table": Table shows the status and ID of all satellites.
- "Server Summary": Current and historical metrics for a single FTL server.

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. You can view the servers in the heatmap based on the following metrics: the current alert severity, the current alert count, the total number of clients, the current amount of CPU being used, the current amount of memory being used for processing, the current amount of virtual memory being used for processing, and the number of inbox send faults. By default, this display shows the heatmap based on the **Alert Severity** metric.

Each heatmap rectangle represents a server. The rectangle color indicates the most critical alert state. You can click on a rectangle to drill-down to the "Server Summary" display and view metrics for that server. Clicking on the I icon in the upper left hand corner of the display toggles between the commonly accessed **Table** and **Heatmap** displays. You can also mouse-over the rectangles to view more details about host performance and status.

← ∎		All FTL Realm	Servers - Heatmap	26-Oct-2	2017 16:15 💠	Data OK 💠 🕜
		Names	Log Auto Metric:	Alert Severity	✓ 0	1 2
Count: 3	3	Servers, whe	re Color = Metric			
	Realm1	Rea	m1_Sat1		Realm1_Sat2	

Fields and Data

This display includes:

- **Names** Select to display the names of servers on the hosts.
- **Log** This option enables visualization on a logarithmic scale, and should be used when the range in your data is very broad. For example, if you have data that ranges from the tens to the thousands, then data in the range of tens will be neglected visually if you do not check this option. This option makes data on both extreme ranges visible by using the logarithmic of the values rather than the actual values.
- Auto When checked, the values of the selected metric are auto-scaled to its highest defined value. When unchecked, the values of the selected metric display based on the threshold defined for the alert associated with the selected metric. Selecting Auto helps to visualize the range of the values currently present for the selected metric. All metrics that have not been associated in the heatmap defaults with alerts use a monochromatic color gradient bar (whites and greens). All metrics that have been associated in the heatmap defaults with alerts use a multi-chromatic color gradient bar (reds, yellows, white, and greens).
- **Metric** Select the metric driving the heatmap display. The default is Alert Severity. Each **Metric** has a color gradient bar that maps values to colors. The heatmap organizes the servers by host, where each rectangle represents a server. Mouse-over any rectangle to display the current values of the metrics for the Server. Click on a rectangle to drill-down to the associated "Server Summary" display for a detailed view of metrics for that particular server.
 - Alert Severity The maximum alert level in the item (index) associated with the rectangle. Values range from 0 to 2, as indicated in the color gradient bar Severity.

2 Metrics that have exceeded their specified **ALARMLEVEL** threshold and have an Alert Severity value of **2** are shown in red. For a given rectangle, this indicates that one or more metrics have exceeded their alarm threshold.

1 Metrics that have exceeded their specified **WARNINGLEVEL** threshold and have an Alert Severity value of **1** are shown in yellow. For a given rectangle, this indicates that one or more metrics have exceeded their warning threshold.

 ${\bf 0}$ Metrics that have not exceeded either specified threshold have an Alert Severity value of ${\bf 0}$ and are shown in green. For a given rectangle, this indicates that no metrics have exceeded a specified alert threshold.

Alert Count The total number of alarm and warning alerts in a given item (index) associated with the rectangle.

The color gradient bar **13 14** shows the range of the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the middle value of the range.

- **CPU Usage** The total amount of CPU used. The color gradient bar 10 115 116 shows the range of the value/color mapping. 1 ne numerical values in the gradient bar range from **0** to the defined alert threshold of **TftlServerCpuUsageHigh**. The middle value in the gradient bar indicates the middle value of the range.

Memory	The current memory being used. The color gradient bar 5.5555 1112 shows the range of the value/color mapping. The numerical values in the gradient bar range from 0 to the defined alert threshold of TftlServerMemoryHigh . The middle value in the gradient bar indicates the middle value of the range.
V(irtual) Memory	The current virtual memory being used. The color gradient bar <u>10566</u> 210 shows the range of the value/color mapping. The numerical values in the gradient bar range from 0 to the defined alert threshold of TftlServerVirtualMemoryHigh . The middle value in the gradient bar indicates the middle value of the range.
#Inbox Faults	The total number of inbox faults. The color gradient bar 1 1 1 1 1 1 1 1 1 1

All Servers Table

Investigate detailed utilization metrics for all FTL servers. The **All Servers Table** contains all metrics available for servers, including the number of current client connections. Each row in the table describes a different server, and clicking on a table row drills-down to the "Server Summary" display allowing you to view metrics for that particular server. Clicking the **s** icon in the upper left hand corner of the display toggles between the commonly accessed **Table** and **Heatmap** displays. You can click a column header to sort column data in numerical or alphabetical order.

÷ 🕱	All FTL Servers - Table 26-Oct-2017 16:40 💠 Data OK 💠 😭			+ 0			
Count: 3 All Servers Table							
Connection	Current Realm Server =	Alert Level =	Alert Count =	On Backup =	Backup Server Status =	% CPU ≞	Client (
	192.168.200.227:8050	۲	0		OK	0.70	
	192.168.200.228:8050	۲	0		OK	0.40	
Realm1_Sat2	192.168.200.229:8050	۲	0		OK	2.00	
<							>

 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 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Note: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by TIBCO FTL. Refer to the TIBCO FTL documentation for more information regarding these fields.

Fields and Data

This display includes:

Count The total number of active, inactive, and standby FTL servers. Column values are for the server except where noted. **Inactive Servers** are shown in dark red. **Standby Servers** are shown in blue. **Inactive Servers** are shown in dark gray. **Active Backup Servers** are shown in yellow.

All Servers Table

Connection	The name of the connection.
Current Realm Server	The IP address and port number for the currently connected realm server.
Alert Level	The maximum alert level in the item (index) associated with the rectangle. Values range from 0 to 2, as indicated in the color gradient bar, where 2 is the greatest Alert Severity.
	One or more alerts have exceeded their specified ALARMLEVEL threshold, have an Alert Severity value of 2, and are shown in red.
	One or more alerts have exceeded their specified WARNINGLEVEL threshold, have an Alert Severity value of 1, and are shown in yellow.
	No alerts have exceeded an alert threshold, which have an Alert Severity value of 0 , and are shown in green.
Alert Count	The number of alerts currently on the server.
On Backup	When checked, the server is in backup server mode. st
Backup Server Status	The current backup server status.*
%CPU	The percent CPU used on the server.*

Client Count	The number of clients currently connected to the server.* Note that the client count might not match the number of clients found in the "All Clients Table", possibly due to the following:
	• One client might have one or more group joins resulting in a higher client count. For example, if a client has two group joins, CLIENT_COUNT equals 3, but will only be listed as a single client in the "All Clients Table".
	 A TIBCO bridge could have one or more logical bridges running inside the bridge process, which could result in an increased CLIENT_COUNT even though there is actually only one client.
	 Other FTL services could get a Client ID and, hence, be included in the CLIENT_COUNT even though they are not necessarily clients.
Clients Running	The number of connected clients on the server that currently have a status of RUNNING (which can be less than or equal to the client count).*
Cumulative Client Connects	The total number of clients the server has connected since the server was last started. *
Process Peak RSS (KB)	The maximum RSS memory used, in kilobytes.*
Process RSS (KB)	The current RSS memory used, in kilobytes.*
Process VM (KB)	The current virtual memory used, in kilobytes.*
#Bridge Servers	The number of bridge servers connected.*
#EFTL Clusters	The number of EFTL clusters connected.*
#Group Clients	The number of group clients connected.*
#Group Servers	The number of group servers connected.*
#Persistence Servers	The number of persistence servers connected.*
#Satellites	The number of satellites connected.*
Inbox Send Faults	The total number of faults when sending messages to inbox subscribers.*
Delta Inbox Send Faults	The number of faults when sending messages to inbox subscribers since the last data update.
Rate Inbox Send Faults	The rate of faults when sending messages to inbox subscribers
User CPU Time	Total amount of time the CPU spent, in microseconds, processing object code for users.*
System CPU Time	Total amount of time the CPU spent, in microseconds, processing operating system calls.*
Clients Destroyed	The total number of destroyed clients since the server was last started.*
Client Exceptions	The total number of client exceptions since the server was last started.*
Clients Needing Restart	The total number of clients that had to reconnect since the server was last started.*
Clients Off-line	The number of clients currently offline.*
Clients Out of Sync	The number of clients currently out of sync.*

Client Reconnects	The total number of clients that had to reconnect since the server was last started.*
Client Time-outs	The total number of clients connections that time out due to inactivity since the server was last started.*
Primary Realm Server	The configured primary realm server.*
Backup Realm Server	The configured secondary realm server.*
Server ID	The unique server ID.*
Uptime	The number of days, hours and minutes since the server was last started.*
Version	The FTL version on the server.*

- Source The source of the incoming data.
- Expired

When checked (Expired=true), monitoring data for the FTL Server row has not been received within the time specified for expiration, which is defined (in seconds) using the **\$tftlServerRowExpirationTime** substitution located in the **conf\rtvapm_tftlmon.properties** file. If the row has been expired for an extended period of time, the **\$tftlRowExpirationTimeForDelete** substitution determines when the row will be deleted from the cache that drives the display. The default values for the substitutions are 10 and 3600 seconds respectively, meaning that each of the FTL Server rows will have Expired set to true after 10 seconds of inactivity and that expired FTL Server rows will be removed from the cache after 3600 seconds (one hour) of inactivity.

To edit the default/current values, copy the lines below from **rtvapm_tftlmon.properties** file, paste them into the **sample.properties** file, and modify the lines in the sample.properties file:

CACHE / HISTORIAN SETTINGS sl.rtview.sub=\$tftlServerRowExpirationTime:10 sl.rtview.sub=\$tftlRowExpirationTimeForDelete:0 The date and time this row of data occurred in FTL.* **Data Timestamp**

Timestamp The date and time this row of data was last updated in RTView.

All Group Servers Table

This display allows you to view the status of all FTL group servers, see their parent realm, and see which are primary and secondary backup servers. Each row in the table is a different parent realm, and clicking on a table row drills-down to the "Clients by Group" display allowing you to view detailed metrics for that group. You can click a column header to sort column data in ascending or descending order.

Server: Realm1 Coup Server Status Parent Realm server_mode server_state Expired Timestamp a Realm1 Primary RUNNING 24-Oct-2017 17:06:02 24-Oct-2017 17:06:02	< 🛧 🖼		All	FTL Group	Servers - Ta	ble	24-Oct-201	7 17:06 🔯 Data	ок 🔶 🕜
Parent Realm = server_mode = server_state = Expired = Timestamp =	Server:	Realm1	•						
Parent Realm 🗉 server_mode 🗉 server_state 🗉 Expired 🗉 Timestamp 🗉	Count: 1			Group Se	rver Status				
lealm1 Primary RUNNING _ 24-Oct-2017 17:06:02		-			er_state 🗉		-		Ξ
	Realm1	Prima	ry	RUNNING			24-Oct-2	017 17:06:02	
	e Bar (p	ossible features are):						
e Bar (possible features are):	1 op	en the previous an	d upper display.						
e Bar (possible features are): Image: Data OK Data connection state. Red indicates the D Server is not receiving data or the Display Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the D	Open ar	n instance of this di	splay in a new w	vindow.	-				
 Open the previous and upper display. Open an instance of this display in a new window. 	-			ised	might indica and green D	ite the Mon ata OK ico	itor stoppe	ed running. C	orrect tim
 Open the previous and upper display. Open an instance of this display in a new window. Open the online help page for this display. Ienu , Table open commonly accessed 	047 Th	e number of items o	currently in the o	display.	🚹 Open ti	ne Alert Vie	ews - RTV	iew Alerts 1	T able disp

Note: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by TIBCO FTL. Refer to the TIBCO FTL documentation for more information regarding these fields.

Filter By:

Server:	Select the server for which you want to view data, or select All Group Servers to view data for all servers.
Count	The total number of group servers. Inactive Servers are shown with a dark gray background and Backup Servers are shown with a yellow background.

Group Server Status Table

•	
server_mode	The server mode. The server could be running as a primary server, acting as a backup server or running as a satellite. Valid values are:*
	Primary the server is running as a primary server.
	Secondary the server is acting as a secondary server.
server_state	The current server state. Valid values are:*
	Running the server is up and running.
	Stopped the server is stopped.
Expired	 When checked (Expired=true), monitoring data for the FTL Server row has not been received within the time specified for expiration, which is defined (in seconds) using the \$tftlServerRowExpirationTime substitution located in the conf\rtvapm_tftlmon.properties file. If the row has been expired for an extended period of time, the \$tftlRowExpirationTimeForDelete substitution determines when the row will be deleted from the cache that drives the display. The default values for the substitutions are 10 and 3600 seconds respectively, meaning that each of the FTL Server rows will have Expired set to true after 10 seconds of inactivity and that expired FTL Server rows will be removed from the cache after 3600 seconds (one hour) of inactivity. To edit the default/current values, copy the lines below from rtvapm_tftlmon.properties file, paste them into the sample.properties file, and modify the lines in the sample.properties file:

	# CACHE / HISTORIAN SETTINGS
	<pre>sl.rtview.sub=\$tftlServerRowExpirationTime:10</pre>
	<pre>sl.rtview.sub=\$tftlRowExpirationTimeForDelete:0</pre>
Timestamp	The date and time this row of data was last updated in RTView.

All Satellites Table

View the status, ID, and parent realm of all satellites. Each row in the table is a different satellite, and clicking on a table row drills-down to the "Server Summary" display allowing you to view performance metrics for the server hosting the satellite. You can click a column header to sort column data in ascending or descending order.

(† 🕱				All FTL Sat	tellites - Table	•	24-Oct-2017 17:07	🔹 💠 Data OK	+ 0
Server:	Realm1	•							
Count: 2				All Sate	llites Table				
Parent R	ealm 🗉	Satell	ite ₌	Satelli	te Label 🛛 🔋	Satellite Statu	SE	Satellite Ul	JID
Realm1		Realm1_Sat1		192.168.200.22	29:8050	Running	d28a50aa-a0	a8-44f0-b3ea	-8da9359
Realm1		Realm1_Sat2		192.168.200.22	29:8050	Running	d28a50aa-a0	a8-44f0-b3ea	-8da9359
4									•
e Bar (po	ssible f	eatures are):			📣 Data OK	Data connec	tion state. Re	d indicate	s the Da

Title Bar (possible features are):	🚯 Data OK 🛛 Data connection state. Red indicates the Data
 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. 	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.
6,047 The number of items currently in the display.	▲ Open the Alert Views - RTView Alerts Table display.

Note: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by TIBCO FTL. Refer to the TIBCO FTL documentation for more information regarding these fields.

Filter By:

Server Select the server for which you want to view data.

Count The total number of table of satellite servers associated with the selected server. If the satellite server is not running, the row background is shown in yellow. When the satellite server is inactive (**Expired**=**true**) the row is shown in dark gray.

All Satellites Table

Parent Realm The name of the host server for the satellite.*

- Satellite The satellite IP address and port number.*
- SatelliteThe server state. Valid values are:*StatusRunning -- the satellite is up and running.
 - **Stopped** -- the satellite is stopped.
- **Satellite UUID** The unique ID for the satellite.*

Expired When checked (Expired=true), monitoring data for the row has not been received within the time specified for expiration, which is defined (in seconds) using the **\$tftlServerRowExpirationTime** substitution located in the **conf\rtvapm_tftImon.properties** file. If the row has been expired for an extended period of time, the **\$tftlRowExpirationTimeForDelete** substitution determines when the row will be deleted from the cache that drives the display. The default values for the substitutions are 10 and 3600 seconds respectively, meaning that each of the rows will have Expired set to true after 10 seconds of inactivity and that expired FTL Server rows will be removed from the cache after 3600 seconds (one hour) of inactivity.

To edit the default/current values, copy the lines below from **rtvapm_tftImon.properties** file, paste them into the **sample.properties** file, and modify the lines in the **sample.properties** file:

sl.rtview.sub=\$tftlServerRowExpirationTime:10
sl.rtview.sub=\$tftlRowExpirationTimeForDelete:0

Timestamp The date and time this row of data was last updated in RTView.

Server Summary

This display allows you to investigate performance issues for the selected server. You can track current and historical performance metrics for a single FTL server and view how many components (satellites, EFTL clusters; bridge, group and persistence servers) the server hosts.

Alert State 🔲 Expired 🔲 on Backup	Clients Current Clients:	5	Process % CPU:	2.0	
	Running Clients:	5	Total Peak RSS:	1,045.3	(MB
Realm Server: 192.168.200.227:8050	Cumulative Connections:	32,915	RSS:	1,045.3	(MB
Label: 192.168.200.227:8050	Destroyed:	0	Virtual Memory:	1,948.4	(MB
FTL Version: 5.2.1 V4	Exceptions:	0	Components Bridge Servers:	0	
Backup Server: 192.168.200.227:8060	Needs Restart:	0	EFTL Clusters:	0	
Backup Status: OK	Off Line:	0	Group Clients:	0	
Dackup Status.	Out of Sync:	0	Group Servers:	2	
Up Time: 0 days 00:47	Timed Out:	0	Persistence Servers:	0	
Inbox Faults: 948	Reconnects:	0	Satellites:	1	
				% CPU Peak RSS RSS Process VM Inbox Send Fai	ults /
0 1 11:42:00 10/24 10/24	11:44:00 11:45:00 10/24 10/24		10/24 10	17:00 1/24	

🔽 👖 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: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by TIBCO FTL. Refer to the TIBCO FTL documentation for more information regarding these fields.

Filter By:	
Server	Select the FTL Server for which you want to view data.
Server Metr	ics
Alert Sta	 The maximum alert level on the server: One or more alerts have exceeded their specified ALARMLEVEL threshold. One or more alerts have exceeded their specified WARNINGLEVEL threshold. No alerts have exceeded an alert threshold.
Expired	When checked (Expired=true), monitoring data for the FTL Server row has not been received within the time specified for expiration, which is defined (in seconds) using the \$tftlServerRowExpirationTime substitution located in the conf\rtvapm_tftlmon.properties file. If the row has been expired for an extended period of time, the \$tftlRowExpirationTimeForDelete substitution determines when the row will be deleted from the cache that drives the display. The default values for the substitutions are 10 and 3600 seconds respectively, meaning that each of the FTL Server rows will have Expired set to true after 10 seconds of inactivity and that expired FTL Server rows will be removed from the cache after 3600 seconds (one hour) of inactivity. To edit the default/current values, copy the lines below from rtvapm_tftImon.properties file, paste them into the sample.properties file, and modify the lines in the sample.properties file: ####################################
	<pre>sl.rtview.sub=\$tftlServerRowExpirationTime:10 sl.rtview.sub=\$tftlRowExpirationTimeForDelete:0</pre>
on Back	up When checked, this server has a backup server.*
Realm S	erver The server IP address or host name.*
Label	The server label.*
FTL Vers	ion The FTL version on the server.*
Backup Server	The IP address and port of the backup server.*
Backup Status	The current backup server status.*
Up Time	The number of days, hours and minutes since the server was last started.*
Inbox Fa	The total number of faults when sending messages to inbox subscribers.*
Satellite	s The number of satellites.*
Clients	
Current Clients	The number of clients currently on the server.*
Running Clients	The number of clients currently active on the server.*
Cumulat Client Connect	started.*
Destroy	ed The total number of destroyed clients since the server was last started.*

	Exceptions	The total number of client exceptions since the server was last started.*
	Needs Restart	The total number of clients that had to reconnect since the server was last started. *
	Offline	The number of clients currently offline.*
	Out of Sync	The number of clients currently out of sync.*
	Timed out	The total number of clients connections that timed out due to inactivity since the server was last started.*
	Reconnects	The total number of clients that had to reconnect since the server was last started.*
Pro	ocess	
	% CPU	The amount of CPU used, in percent.*
	Peak RSS	The maximum RSS memory used, in kilobytes.*
	RSS	The current RSS memory being used, in megabytes.*
	Virtual Memory	The current virtual memory being used, in megabytes.*
Со	mponents	
	Bridge Servers	The number of bridge servers connected.*
	EFTL Clusters	The number of EFTL clusters connected.*
	Group Clients	The number of group clients connected.*
	Group Servers	The number of group servers connected.*
	Persistence Servers	The number of persistence servers connected.*
	Satellites	The number of satellites connected.*

Performance Metrics Trends

Traces the following for the selected server:

% CPU -- The percent CPU used.

Peak RSS -- The maximum amount of RSS memory used.

RSS -- The RSS memory used.

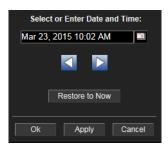
Process VM -- The current virtual memory used.

Inbox Send Faults/sec -- The rate of faults when sending messages to inbox subscribers (per second).

Log Scale

This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option.

- **Base at Zero** When this option is checked, zero is set as the Y axis minimum for all graph traces.
- Time RangeSelect a time range from the drop down menu varying from 2
Minutes to Last 7 Days, or display All Data. To specify a time
range, click the button.



By default, the time range end point is the current time. To change the time range end point, click the button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

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

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

FTL Clients

These displays present performance metrics and alert status for FTL clients. Available displays are:

- "All Clients Heatmap": Shows alert status for all FTL clients in all realms in a heatmap format.
- "All Clients Table": Shows all available utilization metrics for all FTL clients on a selected server in a tabular format.
- "Clients by Group": Lists all FTL clients by group with member details and CPU utilization in a tabular format.
- "Client Summary": Displays current and historical metrics for a single FTL client.
- "Client Metrics": Provides details about metric calculations for each FTL client.

All Clients Heatmap

This heatmap allows you to view the status and alerts of all FTL clients. You can view the clients in the heatmap based on the following metrics: the current alert severity, the current alert count, the current CPU usage, the rate of messages received, and the rate of messages sent.

Each heatmap rectangle represents a client, and clicking on a client drills-down to the "Client Summary" display allowing you to view metrics for that client. The rectangle color indicates the most critical alert state. Clicking on the I icon in the upper left hand corner of the display toggles between the commonly accessed **Table** and **Heatmap** displays. You can also mouse-over the rectangles to view more details about host performance and status.

< ↑ ■	All FTL Clie	nts - Heatmap	25-Oct-2017 1	0:39 💠 Data OK	+ 🕜
Server: All Servers	Names	Log Auto Metric	Alert Severi 🔻	0 1	2
Count: 8	Clients, where	e Color = Metric			
Realm1		Realm1_Sat1		Realm1_Sat2	
Bar (possible features are):		🔹 Data OK Data co Server is not receivi	ing data or the	e Display Serv	er is not
Open the previous and upp Open an instance of this display Open the online help page for the mu , Table open commiss.	in a new window. is display. nonly accessed	receiving data from data source is conne 23-Mar-2017 12:04 Cu might indicate the M and green Data OK current and valid.	ected. urrent date an Ionitor stoppe	d time. Incorr d running. Co	ect time rrect time
7 The number of items currer	ntly in the display.	👔 Open the Alert	Views - RTV	iew Alerts Ta	able displa

Filter By:

Server Choose the server for which you want to view data.

Fields and Data

This display includes:

Names Select this check box to display the names of clients.

Log This option enables visualization on a logarithmic scale, and should be used when the range in your data is very broad. For example, if you have data that ranges from the tens to the thousands, then data in the range of tens will be neglected visually if you do not check this option. This option makes data on both extreme ranges visible by using the logarithmic of the values rather than the actual values.

- Auto When checked, the values of the selected metric are auto-scaled to its highest defined value. When unchecked, the values of the selected metric display based on the threshold defined for the alert associated with the selected metric. Selecting Auto helps to visualize the range of the values currently present for the selected metric instead of the threshold of the alert that has been associated with the metric. All metrics that have not been associated in the heatmap defaults with alerts use a monochromatic color gradient bar (whites and greens). All metrics that have been associated in the heatmap defaults use a multi-chromatic color gradient bar (reds, yellows, white, and greens).
- **Metric** Select the metric driving the heatmap display. The default is Alert Severity. Each **Metric** has a color gradient bar that maps values to colors. Each rectangle represents a client. Mouse-over any rectangle to display the current values of the metrics for the client. Click on a rectangle to drill-down to the associated "Client Summary" display for a detailed view of metrics for that particular client.
 - Alert Severity The maximum alert level in the item (index) associated with the rectangle. Values range from 0 to 2, as indicated in the color gradient bar , where 2 is the greatest Alert Severity.

2 Metrics that have exceeded their specified **ALARMLEVEL** threshold and have an Alert Severity value of **2** are shown in red. For a given rectangle, this indicates that one or more metrics have exceeded their alarm threshold.

1 Metrics that have exceeded their specified **WARNINGLEVEL** threshold and have an Alert Severity value of **1** are shown in yellow. For a given rectangle, this indicates that one or more metrics have exceeded their warning threshold.

0 Metrics that have not exceeded either specified threshold have an Alert Severity value of **0** and are shown in green. For a given rectangle, this indicates that no metrics have exceeded a specified alert threshold.

Alert The total number of alarm and warning alerts in a given item (index) associated with the rectangle.

The color gradient bar <u>**1**</u> shows the range of the value/ color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the middle value of the range.

- **CPU Usage** The total amount of CPU used. The color gradient bar |0 15 15 shows the range of the value/color mapping. The numerical values in the gradient bar range from **0** to the defined alert threshold of **TftlClientCpuUsageHigh**. The middle value in the gradient bar indicates the middle value of the range.
- **Memory** The current amount of memory used for processing. The color gradient bar 10 **55555 1110** shows the range of the value/color mapping. The numerical values in the gradient bar range from **0** to the defined alert threshold of **TftlClientMemoryHigh**. The middle value in the gradient bar indicates the middle value of the range.
- V(irtual) Memory The current amount of virtual memory being used for processing. The color gradient bar <u>1.05E6</u> 210 shows the range of the value/color mapping. The numerical values in the gradient bar range from **0** to the defined alert threshold of **TftlClientVirtualMemoryHigh**. The middle value in the gradient bar indicates the middle value of the range.
- **Msgs Rcvd/sec** The rate of messages received (per second). The color gradient bar of the value/color mapping. The numerical values in the gradient bar range from **0** to the defined alert threshold of **TftlClientMsgsRcvdRateHigh**. The middle value in the gradient bar indicates the middle value of the range.
- **Msgs** Sent/sec The rate of messages sent (per second). The color gradient bar |0 115 116 shows the range of the value/color mapping. The numerical values in the gradient bar range from **0** to the defined alert threshold of **TftlClientMsgsSentRateHigh**. The middle value in the gradient bar indicates the middle value of the range.

All Clients Table

Investigate detailed utilization metrics for all FTL clients. The **All Clients Table** contains all metrics available for clients, including the number of current client connections. Each row in the table contains data for a particular client, and clicking on a table row drills-down to the "Client Summary" display allowing you to view metrics for that particular client. You can click a column header to sort column data in ascending or descending order. Clicking the **g** icon in the upper left hand corner of the display toggles between the commonly accessed **Table** and **Heatmap** displays.

Note that the number of clients found in this table might not match the client count found in the "All Servers Table", possibly due to the following:

- One client might have one or more group joins resulting in a higher client count. For example, if a client has two group joins, CLIENT_COUNT equals 3, but will only be listed as a single client in this table.
- A TIBCO bridge could have one or more logical bridges running inside the bridge process, which could result in an increased CLIENT_COUNT even though there is actually only one client.
- Other FTL services could get a Client ID and, hence, be included in the CLIENT_COUNT even though they are not necessarily clients.

🗲 🛧 🖼		All	FTL Clier	nts - Table		27-Oct-2017 1	4:58 💠 Data OK 🚽	• 🕜
Server: Realm	1 🗸						Count: 4	
Show: Expire	red		All Clients	Table				
Realm Server =	Client	Ξ	Alert ₌ Level	Alert Count	Client Status	≡ % CPU ≡	Process VM (KB)⊧	Pro
Realm1	consumer		0	(RUNNING	0.01	1,234,436	
Realm1	_GroupServer.PrimaryGroupServer		0	(RUNNING	0.99	1,921,396	
Realm1	_GroupServer.BackupGroupServer		Õ	(RUNNING	0.42	1,211,916	
Realm1	./tiblatsend		Õ	(RUNNING	0.56	1,209,216	
٢								>

Title Bar (possible features are):	🐼 Data OK Data connection state. Red indicates the Data
 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. 	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: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by TIBCO FTL. Refer to the TIBCO FTL documentation for more information regarding these fields.

Filter By:

	Server	Select the server for which you want to view data.
	Show: Expired	Select this check box to display those rows containing expired data. Leave unchecked to display only those rows that are not expired.
Со	unt	The total number of active, inactive, and standby FTL clients. Inactive Clients are shown in dark red. Standby Clients are shown in blue.
All	Clients Table	
	Realm Server	The name of the server.
	Client	The name of the client.
	Alert Level	The maximum alert level. Values range from 0 to 2, as indicated in the color gradient bar, where ${\bf 2}$ is the greatest Alert Severity.
		One or more alerts have exceeded their specified ALARMLEVEL threshold, have an Alert Severity value of 2, and are shown in red.
		One or more alerts have exceeded their specified WARNINGLEVEL threshold, have an Alert Severity value of 1, and are shown in yellow.
		No alerts have exceeded an alert threshold, which have an Alert Severity value of 0, and are shown in green.
	Alert Count	The current number of alerts.
	Client Status	The status of the client. For example, RUNNING.*
	% CPU	The amount of CPU used, in percent.*
	Process VM (KB)	The amount of virtual memory used for processing, in kilobytes. st
	Process RSS (KB)	The current RSS memory being used, in kilobytes.*
	Process Peak RSS (KB)	The maximum RSS memory used, in kilobytes.*
	Msgs Rcvd/ sec	The number of messages received per second.

Msgs Sent/ sec	The number of messages sent per second.
Delta Msgs Rcvd	The total number of messages received since the last data update.
Delta Msgs Sent	The total number of messages sent since the last data update.
Total Msgs Rcvd	The total number of messages received since the client started. $*$
Total Msgs Sent	The total number of messages sent since the client started.*
Store Mismatch Msgs	Any non-zero value indicates a store mismatch misconfiguration, which occurs when a direct path transport connects two endpoints that are associated with two different persistence stores.*
Dynamic Formats	The number of distinct dynamic formats that the client creates within the sample interval.*
User CPU	The amount of time the user has used the CPU, in microseconds.*
Application	The application name of the client.*
Application Instance	The application instance of the client.*
Client ID	The unique ID for the client.*
Process ID	The unique ID for the process.*
FTL User	The FTL user that is being used by the client.*
Effective User	The UID of the client (which is used for most access checks).*
Host	The host name.*
Host IP	The host IP address.*
FTL Version	The FTL version on the host.*
Expired	When checked (Expired=true), monitoring data for the row has not been received within the time specified for expiration, which is defined (in seconds) using the \$tftRowExpirationTime substitution located in the conf\rtvapm_tftImon.properties file. If the row has been expired for an extended period of time, the \$tftIRowExpirationTimeForDelete substitution determines when the row will be deleted from the cache that drives the display. The default values for the substitutions are 120 and 3600 seconds respectively, meaning that each of the rows will have Expired set to true after 120 seconds of inactivity and that expired rows will be removed from the cache after 3600 seconds (one hour) of inactivity. To edit the default/current values, copy the lines below from rtvapm_tftImon.properties file, paste them into the sample.properties file, and modify the lines in the sample.properties file: ####################################
	sl.rtview.sub=\$tftlServerRowExpirationTime:120
	<pre>sl.rtview.sub=\$tftlRowExpirationTimeForDelete:0</pre>
Data Timestamp	The date and time this row of data occurred in FTL.*
Local Timestamp	The date and time this row of data was last updated in RTView.

Clients by Group

This display lists all clients and their associated FTL groups for a particular server. Each row in the table is a different client, and clicking on a table row drills-down to the "Client Summary" display allowing you to view metrics for that particular client. You can click a column header to sort column data in ascending or descending order.

E Client Label	Ordinal ≢ 1 FU 0 OI 2 FU 0 OI 1 FU 2 FU 1 FU 2 FU 2 FU	Primary by Group Member Ty ULL_MEMBER BSERVER_MEM ULL_MEMBER ULL_MEMBER ULL_MEMBER ULL_MEMBER ULL_MEMBER BSERVER_MEM	MBER MBER	INNING Client Status =	% CPU =	Client I
E Client Label	Ordinal ≢ 1 FU 0 OI 2 FU 0 OI 1 FU 2 FU 1 FU 2 FU 2 FU	Member Ty ULL_MEMBER BSERVER_MEN BSERVER_MEN BSERVER_MEN ULL_MEMBER ULL_MEMBER ULL_MEMBER ULL_MEMBER	MBER MBER	Client Status ₌		Client I
E Client Label	1 FL 0 OI 2 FL 0 OI 1 FL 2 FL 1 FL 2 FL	ULL_MEMBER BSERVER_MEM BSERVER_MEM BSERVER_MEM ULL_MEMBER ULL_MEMBER ULL_MEMBER ULL_MEMBER	MBER MBER	Client Status =		Client I
			ИBER			
			MBER			
			MBER			
	u o	BSERVER_MEN	NBER			
	 					>

Title Bar (possible features are):	🕼 Data OK 🛛 Data connection state. Red indicates the Data
 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. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Note: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by TIBCO FTL. Refer to the TIBCO FTL documentation for more information regarding these fields.

Filter By:

Server Select the server for which you would like to view data.

Group Server	The server mode. Valid values are:
Mode	Primary The server is acting as a primary server.
	SecondaryThe the server is acting as a secondary server.
State	Running The client is running and its local realm definition is up-to-date.
	Needs Restart – The client needs to be restarted to update its local realm definition.
	Timed Out - The server has lost the heartbeat signal from the client. Either the client has stopped or a network issue is obstructing the signal.
	Exception - The client is running, but its realm definition is out-of-date.
	Out-of-Sync The realm definition revision on the client and server are different.
Count	The total number of FTL clients. Inactive clients are shown in dark gray and when the client is associated with an active backup server the client is are shown in yellow.

Clients by Group Table

Group Name	The name of the group.*
Client Label	The client's label.*
Ordinal	The number representing the client's position within the group. A value of -1 indicates that the client has been disconnected from the group server.*
Member Type	The client's member type.*
Client Status	The status of the client. For example, RUNNING.*
% CPU	The amount of CPU used, in percent.*
Client ID	The ID of the client.*
Process ID	The process ID.*
Expired	When checked (Expired=true), monitoring data for the row has not been received within the time specified for expiration, which is defined (in seconds) using the \$tftIRowExpirationTime substitution located in the conf\rtvapm_tftImon.properties file. If the row has been expired for an extended period of time, the \$tftIRowExpirationTimeForDelete substitution determines when the row will be deleted from the cache that drives the display. The default values for the substitutions are 120 and 3600 seconds respectively, meaning that each of the rows will have Expired set to true after 120 seconds of inactivity and that expired rows will be removed from the cache after 3600 seconds (one hour) of inactivity.
	To edit the default/current values, copy the lines below from rtvapm_tftlmon.properties file, paste them into the sample.properties file, and modify the lines in the sample.properties file:
	######################################
	sl.rtview.sub=\$tftlServerRowExpirationTime:120 sl.rtview.sub=\$tftlRowExpirationTimeForDelete:0
Timestamp	The date and time this row of data was last updated in RTView.

Client Summary

Track current and historical performance metrics for a single FTL client. Use this display to investigate performance issues of a client.

(Single FTL Clier	nt - Summary	1	25-Oct-2017 10:49	🔊 Data OK 🔶 🍘
Server: Re	ealm1 ▼	Client: ./tiblatsend	•			
Alert State	Expired	Messages Rcvd:	Total	-1	Delta 0	Rate 0.0
Application:	tiblatsend	Messages Sent:	2,04	3,882	60	1.0
App Instance:	default	Process Peak RSS:	121,960	(KB)	System CPU:	967,829,000
Client ID:	491891	Process RSS:	121,960	(KB)	User CPU:	23,772,825,000
Client Status:	RUNNING	Process VM:	1,209,216	(KB)	% CPU:	0.66
FTL User:	guest					
Effective User:	m	Store Mismatch Msgs:	-1		Dynamic Formats:	0
Perfor	mance Metrics Tren	ds 🛛 🗖 Log Scale	e 🕑 Base at	Zero	Time Range: 5 Mins	s ▼ <u></u>
1 0 200k 0k						% CPU Peak RSS RSS Msgs Rcvd/sec Msgs Sent/sec
0 0 10:45:00 10/25	10:46:00 10/25		:48:00 0/25	10:4 10/		:00

Title Bar (possible features are):	🕼 Data OK Data connection state. Red indicates the Data
 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. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Note: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by TIBCO FTL. Refer to the TIBCO FTL documentation for more information regarding these fields.

Filter By:

- **Server** Choose an FTL server to display.
- **Client** Choose a client to display.

Fields and Data

Alert State	The maximum a indicated in the	lert level has been exceeded. Values range from 0 to 2, as color gradient bar, where ${f 2}$ is the greatest Alert Severity.			
	One or more have an Alert Se	alerts have exceeded their specified ALARMLEVEL threshold, everity value of 2 , and are shown in red.			
		alerts have exceeded their specified WARNINGLEVEL threshold, everity value of 1 , and are shown in yellow.			
	No alerts hav of 0 , and are she	e exceeded an alert threshold, which have an Alert Severity value own in green.			
Expired	within the time a \$tftlRowExpira conf\rtvapm_t extended period determines when The default value meaning that ea	Expired=true), monitoring data for the row has not been received specified for expiration, which is defined (in seconds) using the itionTime substitution located in the ifilmon.properties file. If the row has been expired for an of time, the \$tftIRowExpirationTimeForDelete substitution in the row will be deleted from the cache that drives the display. es for the substitutions are 120 and 3600 seconds respectively, ch of the rows will have Expired set to true after 120 seconds of at expired rows will be removed from the cache after 3600 ur) of inactivity.			
	rtvapm_tftlmo	o edit the default/current values, copy the lines below from tvapm_tftlmon.properties file, paste them into the sample.properties file, and modify the lines in the sample.properties file:			
	######################################	!############### 'ORIAN SETTINGS			
		<pre>\$tftlServerRowExpirationTime:120 \$tftlRowExpirationTimeForDelete:0</pre>			
Application	The application r	name of the client.*			
App Instance	The application i	nstance of the client.*			
Client ID	The unique ident	tifier for the client.*			
Client Status	The status of the	e client. For example, RUNNING.*			
FTL User	The FTL user that is being used by the client.*				
Effective User	The UID of the c	lient (which is used for most access checks).*			
Messages Rcvd	Total	The total number of messages received since the client started. st			
	Delta	The number of messages received since the last data update.			
	Rate	The number of messages received per second.			
Messages Sent	Total	The total number of messages sent since the client started. st			
	Delta	The number of messages sent since the last data update.			
	Rate	The number of messages sent per second.			
Process Peak RSS	The maximum R	SS memory used, in kilobytes.*			
Process RSS	The current RSS	memory being used, in kilobytes.*			
Process VM	The current virtu	al memory being used, in kilobytes.*			
System CPU	The amount of C	CPU used by the system, in kilobytes.*			
User CPU	The amount of C	CPU used by the client, in kilobytes.*			
% CPU	The percent of C	CPU used by the client.*			

Store Mismatch Msgs	Any non-zero value indicates a store mismatch misconfiguration, which occurs when a direct path transport connects two endpoints that are associated with two different persistence stores.*
Msgs	

Dynamic The number of distinct dynamic formats that the client creates within the sample interval.*

Performance Metrics Trends

Traces the following for the selected client:

% CPU -- The amount of CPU used, in percent.

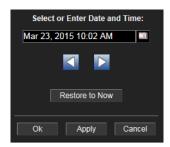
Peak RSS -- The maximum RSS memory used, in kilobytes.

RSS -- The current RSS memory being used, in kilobytes.

Msgs Rcvd/sec -- The number of messages received per second.

Msgs Sent/sec -- The number of messages sent per second.

- **Log Scale** This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option.
- **Base at** When this option is checked, zero is set as the Y axis minimum for all graph traces.
- **Time Range** Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click the **button**.



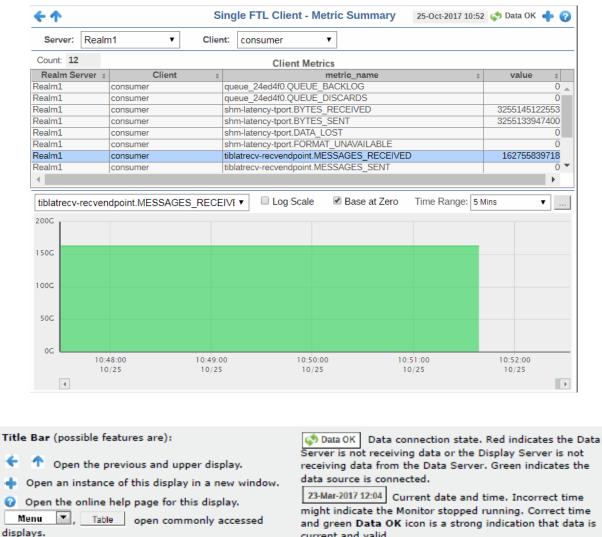
By default, the time range end point is the current time. To change the time range end point, click the button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd**, **YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows **The International State** 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.

Client Metrics

Track detailed performance and utilization metrics for a single FTL client.



6,047 The number of items currently in the display. and green Data OK icon is a strong indication that data is current and valid.

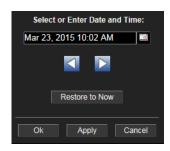
Open the Alert Views - RTView Alerts Table display.

Note: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by TIBCO FTL. Refer to the TIBCO FTL documentation for more information regarding these fields.

- Server Select the server containing the client for which you want to see data.
- Client Select the client for which you want to see data.

Со	unt	The number of rows/metrics in the table.
Cli	ent Metrics Tab	le
	Realm Server	The name of the server.
	Client	The name of the client.
	metric_name	The name of the metric.*
	value	The current value of the metric.*
Tre	end Graph	Select a metric from the drop-down menu to trace in the trend graph for the selected client.
	Log Scale	This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option.
	Base at Zero	When this option is checked, zero is set as the Y axis minimum for all graph traces.

Time Range Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click the **button**.



By default, the time range end point is the current time. To change the time range end point, click the button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows **The International State** 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.

FTL Events

This display presents FTL events for a particular client. The available display is:

• "Events": Table that lists all FTL events for a particular client.

Events

This display allows you to view FTL events on one or all clients. You can view the event type, the client status, the associated application, and the FTL user name among other details.

(†)						- Events	- Table		25-Oct-2	017	10:54 < Data O	к 🔶	7
Server:	All Servers	•	Cli	ient:	All Clients	5	•						
Count: 5									Time Ra	nge	5 Mins	T	
1	ïmestamp	Ξ		Server	Ξ	C	lient	Ξ	Event Type	Ξ	Client Status	Clie	ent
03-Oct-2017	06:32:16.801		Realm1			client41			DISCONNECTED		DESTROYED	1361	_
	06:32:16.801		Realm1			client41			DISCONNECTED		DESTROYED	1355	
03-Oct-2017	06:32:16.801		Realm1			client42			DISCONNECTED		DESTROYED	1351	
	06:32:16.801		Realm1			client43			DISCONNECTED		DESTROYED	1353	
03-Oct-2017	06:32:16.801		Realm1			client43			DISCONNECTED		DESTROYED	1357	

Title Bar (possible features are):	🔯 Data OK Data connection state. Red indicates the Data
🗲 🔺 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Note: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by TIBCO FTL. Refer to the TIBCO FTL documentation for more information regarding these fields.

Filter By:

Server	Select an FTL server containing the client for which you want to view data	a.
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Client Select an FTL client for which you want to view data.

Count The number of rows in the table.

Time Range

Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click the button.

Select or Enter Date and Ti	me:
Mar 23, 2015 10:02 AM	
Restore to Now	
Ok Apply C	ancel

By default, the time range end point is the current time. To change the time range end point, click the button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows **C** 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.

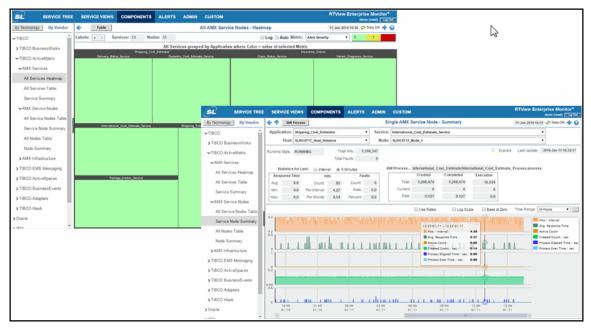
Fields and Data

Timestamp	The date and time this row of data was last updated in RTView.
Server	The name of the server.
Client	The name of the client.
Event Type	The type of event.*
Client Status	The status of the client.*
Client ID	The ID of the client.*
Process ID	The process ID.*
Application	The application name of the client.*
Application Instance	The name of the application instance.*
FTL User	The FTL user that is being used by the client.*
Realm Server	The IP address and port of the realm server.*
Host	The name of the host.*
IP Address	The IP address of the client.*
Version	The version of the client running on the server. st

CHAPTER 13 Solution Package for TIBCO ActiveMatrix

RTView Enterprise Monitor $\ensuremath{\mathbb{R}}$ and the Solution Package for TIBCO ActiveMatrix give you unprecedented power to:

- Monitor health and stability of your TIBCO ActiveMatrix servicese
- Maximize performance of your mission-critical applications
- Minimize downtime and speed recovery time in the event of a system failure



This chapter includes:

- "Product Overview," next
- "Configuration Parameters You Need" on page 693
- "Configure Data Collection" on page 693
- "Troubleshoot" on page 704

Product Overview

It has never been easier to:

Discover all your ActiveMatrix services, automatically

RTView dynamically discovers all known AMX services by synching with TIBCO ActiveMatrix Administrator to ensure you always have the latest information.

Populate pre-built dashboards using preset alert thresholds

RTView provides a number of pre-configured dashboards including customizable heat maps, tables and individual summaries out-of-the-box. TIBCO ActiveMatrix Service Package also provides a number of pre-set alert thresholds based on our best practices experience so that you can hit the ground running.

 Dynamically correlate relationships of applications, services and nodes with their supporting infrastructure components

RTView dynamically correlates the relationship of applications, services and nodes with their supporting infrastructure components so that you drill-down from the application level health views as well as correlate how alerts from lower level components will affect application performance.

• View aggregated and side-by-side health status of clustered nodes on one pane of glass

RTView dynamically groups together related "clusters" of load-balanced nodes so that you can summarize the health of the entire cluster as well as view all member nodes side-by-side to ensure that work is evenly balanced across the cluster and easily identify any hotspots.

• Apply alert thresholds. Globally

Instead of configuring alert thresholds one node or service at a time, RTView allows you to apply global alert thresholds to groups of services in one step, providing significantly better ease of use when configuring monitoring across a large group of TIBCO ActiveMatrix nodes and services.

• View real-time and historical data together to identify trends and spot abnormal behavior

RTView gives you the ability to intelligently capture, store and visualize time-stamped snapshots of performance data and alerts, allowing you to spot trends and add context to your real-time performance data. Now you can answer questions such as "is my traffic (or hit rate) always this high for this time of day?", "are my response times speeding up or slowing down over time?", or "am I seeing more faults today than I normally do?"

Introspect TIBCO BusinessWorks processes when running in ActiveMatrix container

When used in conjunction with the TIBCO BusinessWorks Solution Package, RTView can give you additional insight into the performance of your BusinessWorks services running in an ActiveMatrix container by letting you drill-down into the TIBCO BusinessWorks monitor for more detailed information.

Built Using Native TIBCO Technologies

SL Corporation has been developing TIBCO monitoring solutions since 2002. We know TIBCO technology better than anyone. TIBCO ActiveMatrix Monitor leverages TIBCO's Hawk agents, which are already built into the TIBCO platform, to subscribe to relevant health publications in real-time and create advanced visualizations to help you be more responsive.

See **README_sysreq.txt** for the full system requirements for RTView®.

Configuration Parameters You Need

To configure the Solution Package for TIBCO ActiveMatrix make a note of the following values: values:

- PackageName=amxmon
- ServerDirectory=amxmon
- AlertPrefix=Amx

Configure Data Collection

This section describes how to configure TIBCO ActiveMatrix so that you can collect the desired metrics, how to configure TIBCO Hawk so that you can collect TIBCO Hawk metrics, how to verify that TIBCO ActiveMatrix BusinessWorks (Version 5) Processes metrics are being collected, and how to modify default settings for the collection of TIBCO ActiveMatrix historical data.

This section includes:

- "Configuring Hawk for TIBCO ActiveMatrix"
- "Verifying BW5 Processes Metrics are Collected"
- "Configuring Data Collection for TIBCO ActiveMatrix"
- "Configuring Historical Data Collection for TIBCO ActiveMatrix"

Configuring Hawk for TIBCO ActiveMatrix

Some TIBCO ActiveMatrix metrics are derived from TIBCO Hawk Microagents installed by the TIBCO ActiveMatrix plugin. To collect these metrics, you must configure TIBCO Hawk. This section includes:

"Configuring Data Collection for Hawk"

Configuring Data Collection for Hawk

Perform the following steps to configure Hawk:

Note: Only the **Classpath** and **Connections** regions on the **CONNECTIONS** tab need to be set up for TIBCO ActiveMatrix. The default settings on the **DATA COLLECTION** and **DATA STORAGE** tabs do not need to be modified.

 Navigate to the RTView Configuration Application > (Project Name/AMXMON-LOCAL) > Solution Package Configuration > TIBCO Hawk > CONNECTIONS tab.

<i>S</i> RTView [®]	AMXMON-LOCAL - T	BCO ActiveMatrix Monitor		i.
A HOME	TIBCO Hawk			
Server Configuration	CONNECTIONS	DATA COLLECTION	DATA STORAGE	-
Data Server Historian Solution Package Configuration	The TIBCO EMS jars are required to c In order to connect to TIBCO Hawk ag	ous jars we required to connect to TIBCD Have, mnect to TIBCD Have agents running on EMS transport and the transport on BECD Rendexove use transport, you and Vendows and to LD_LIBRARY_PATH on Unix.		
TIBCO ActiveMatrix Businessworks 5	ex: //ibco/hawk/5.2/ib or c:/ibboo/hawk/5.2/ Directory Containing TIBCO Rendezv	lib Always enclose environment variables in %, ex. %MY_	ENV_VAR%	
	ex: /bboo/bbrv/8.3/lb or c:/bboo/bbrv/8.3/lb	Always enclose environment variables in %, ex. %MV_E	NV_VAR%	
0	ex:hbcolems/8.2/lb or c:tibcolems/8.2/lb	Always enclose environment variables in %, ex. %B/Y_EP	W_VAR%	-

2. In the **CONNECTIONS** tab, specify the classpaths for the TIBCO Hawk jar files, the TIBCO Rendezvous jar files, and the TIBCO EMS jar files.

BECO Hawk connections DATA COLLECTION DATA STORAGE Directories containing TIBCO Jars. Energination of the connect to TIBCO Hawk. Energination of the connect to TIBCO Hawk. The TIBCO Hawk and TIBCO Rendezvous jars are required to connect to TIBCO Hawk. Energination of the connect to TIBCO Hawk. The TIBCO Hawk and TIBCO Hawk agents running on a TIBCO Rendezvous transport, you must also add the TIBCO Rendezvous bin directory to PATH on Windows and to LD_LIBRARY_PATH on Unix. Directory Containing TIBCO Hawk Jars		BCO ActiveMatrix Monitor	
Classpaths (Required) Directories containing TIBCO Jars. The TIBCO Hawk and TIBCO Rendezvous jars are required to connect to TIBCO Hawk. The TIBCO EMS jars are required to connect to TIBCO Hawk agents running on EMS transports. In order to connect to TIBCO Hawk agents running on a TIBCO Rendezvous transport, you must also add the TIBCO Rendezvous bin directory to PATH on Windows and to LD_LIBRARY_PATH on Unix.	BCO Hawk		
Directories containing TiteCO Jars. The TIBCO Hawk and TIBCO Rendezvous jars are required to connect to TIBCO Hawk. The TIBCO EMS jars are required to connect to TIBCO Hawk agents running on EMS transports. In order to connect to TIBCO Hawk agents running on a TIBCO Rendezvous transport, you must also add the TIBCO Rendezvous bin directory to PATH on Windows and to LD_LIBRARY_PATH on Unix.	CONNECTIONS	DATA COLLECTION	DATA STORAGE
ex: /tibco/hawk/5.2/lib or c:ttibco/hawk/5.2/lib Always enclose environment variables in %, ex: %MY_ENV_VAR%	Directories containing TIBCO Jars. The TIBCO Hawk and TIBCO Rendez: The TIBCO EMS jars are required to c In order to connect to TIBCO Hawk ag Rendezvous bin directory to PATH on 1 Directory Containing TIBCO Hawk Ja	annet to TIBCO Hawk agents running on EMS tran ents running on a TIBCO Rendezvous transport, yo Windows and to LD_LIBRARY_PATH on Unix.	u must also add the TIBCO
			_ENV_VAR%
ex: /bbco/bbrv/8.3/lib or c1/bbco/bbrv/8.3/lib Always enclose environment variables in %, ex: %MY_ENV_VAR%			

3. Click the $\stackrel{\bullet}{\bullet}$ icon.

The **Add Connection** dialog displays.

4. For TIBCO Hawk domains running on **EMS** transports, specify the connection information and click **SAVE** where:

Add Connection		
Domain *		
TAMdomain1		
Transport Type *		
EMS	~	
URL*		
tcp://myhost:7222		
ex: tcp://myhost:7222 or tcp://myotherhost:7222.t	cp://myotherhost2:7222	
Username	Password	ø
Agents * (One Required) Unix TamUnixAgent1 X		
Windows		
TamWinAgent1 ×		
Multiple agents can be separated by commas, Tab o	r Enter	
* Indicates required field		

Domain: Enter the name of the domain.

Transport Type: Select EMS from this drop down list.

URL: Enter the complete URL for the EMS connection.

Username: The username is used when creating the EMS connection. This field is optional.

Password: This password is used when creating the EMS connection. This field is optional. By default, the password entered is hidden. Click the \odot icon to view the password text.

Agents: Enter the associated Unix/Windows agents. The agent name displays in the field after entering the name and typing a comma or by clicking the Tab or Enter key. You can enter more than one agent in the fields. Once the agent is specified, you can delete the agent by clicking the **X** next to their name.

For TIBCO Hawk domains running on **Rendezvous** transports, specify the connection information and click **SAVE** where:

Add Connection	
Domain≛ TAMrdvþdomain1	
Transport Type * Rendezvous	-
Service * 7474 ex.7474	
Network *	Daemon * tcp:7474
ex:; Agents * (One Required) Unix	ex: top:7474
TamUnixAgent1 X Windows	
TamWinAgent1 X Multiple agents can be separated by commas, Tab or Enter	
* Indicates required field	
SAVE CANCEL	

Domain: Enter the name of the domain.

Transport Type: Select Rendezvous from this drop down list.

Service: Enter the Service for the Rendezvous connection.

Network: Enter the Network for the Rendezvous connection.

Daemon: Enter the Daemon for the Rendezvous connection.

Agents: Enter the associated Unix/Windows agents. The agent name displays in the field after entering the name and typing a comma or by clicking the Tab or Enter key. You can enter more than one agent in the fields. Once the agent is specified, you can delete the agent by clicking the X next to their name.

Note: After you complete these configuration steps and start the RTView Data Server, you can verify your Hawk configuration by viewing the **dataserver.log** file, located in the **logs** directory.

5. SAVE your changes in the RTView Configuration Application (upper left-hand corner), and then stop and restart your project using the RESTART DATASERVER button in the upper right-hand corner.

Verifying BW5 Processes Metrics are Collected

If your TIBCO ActiveMatrix configuration includes TIBCO ActiveMatrix BusinessWorks 5 engines, you need to verify that TIBCO ActiveMatrix BusinessWorks 5 processes are enabled so that you can collect metrics for the BW5 engines. To verify TIBCO ActiveMatrix BusinessWorks 5 processes are enabled:

 Navigate to the RTView Configuration Application > (Project Name/AMXMON-LOCAL) > Solution Package Configuration > TIBCO ActiveMatrix BusinessWorks 5 > DATA COLLECTION tab.

<i>s</i> RTView [®]	AMXMON-LOC	AL - TIBCO A	ctiveMatrix Monitor		
🕂 HOME 📳 SAVE	TIBCO ActiveMatrix Businessworks 5				
erver Configuration	CONNECTION	s (DATA COLLECTION	DATA STORAGE	
Seneral					
ata Server	Metric Selection				
listorian		ollect. Any metrics not listed	are automatically collected and cannot	t be disabled.	
lution Package Configuration	Activities				
IBCO ActiveMatrix	Processe	s 🔶			
IBCO ActiveMatrix Businessworks 5					
IBCO Hawk	Poll Rates Set the rate in seconds a	at which to collect metric data	3		
	Activities	Engines	Processes		
	30	30	30		

- **2.** Verify that the Processes toggle is enabled (blue for enabled, gray for disabled).
- **3. SAVE** your changes and restart the data server to enable your changes.

Configuring Data Collection for TIBCO ActiveMatrix

This section describes the steps required to create a connection to a TIBCO ActiveMatrix host.

Note: Some TIBCO ActiveMatrix metrics are derived from EMS messages queued on the TIBCO ActiveMatrix Admin server and, in order to access those messages, you must create a topic and a bridge to the queue in TIBCO ActiveMatrix and then create a connection (as described in the steps below) for each TIBCO ActiveMatrix host.

- Queue: amx.governance.stats
- Topic: rtv.amx.governance.stats
- 1. Navigate to the RTView Configuration Application > (Project Name/AMXMON-LOCAL) > Solution Package Configuration > TIBCO ActiveMatrix > CONNECTIONS tab.

<i>s</i> RTView [®]	AMXMON-LOCAL - TIBCO ActiveMatrix Monitor		
🕂 HOME 📄 SAVE	TIBCO ActiveMatrix		
Server Configuration	CONNECTIONS DATA COLLECTION DATA STORAGE	GE	
Data Server Historian	Some TIBCO ActiveMatrix metrics are derived from the TIBCO Hawk Microagents installed by the TIBCO Hawk ANX Plugin. To configure TIBCO Hawk connections for TIBCO ActiveMatrix go to the TIBCO Hawk configuration in the sixbear and fill in the CONNECTIONS tab. If TIBCO Hawk configuration is not available in the sixbear cit.et the AddRemove Solution Packages button (P	ne	
Solution Package Configuration	add if to your project. If your TIBCO ActiveMatrix configuration includes BusinessWorks 5 Engines, metrics for those Engines are derived from the TIBCO Hawk Microagents installed by BusinessWorks 5. To configu TIBCO Hawk connections for those Engines go to the TIBCO Hawk configuration and fill in the		
TIBCO ActiveMatrix TIBCO ActiveMatrix Businessworks 5	TIBLO Hawk contrections for those engines go to the TIBLO Hawk contiguration and then the CONNECTIONS tab and also go to the TIBCO ActiveMatrix businessWorks Sconfiguration and confirm that Processes are enabled on the DATA COLLECTION tab (Activiliars can be disabled fo efficiency). If TIBCO Hawk or TIBCO ActiveMatrix BusinessWorks 5 is not available in the sideba click the Add/Remove Solution Packages button (ϕ) to add it to your project.	r G	
TIBCO Hawk	Some TIBCO ActiveMatrix metrics are derived from EMS messages queued on the TIBCO ActiveMatrix admin server. For the monitor to access those messages, you must first create a top and a bridge to the queue: Queue: amx governance stats Topic: riv amx governance stats Then, add a connection below for each TIBCO ActiveMatrix host.	ic	
	Connections		
	To begin adding Connections, click 😛		

2. Click the 😁 icon.

The **Add Connection** dialog displays.

3. Specify the connection information and click **SAVE** where:

Add Connection		
Connection Name *		
TAMconnection1		
URL*		
tcp://myhost:7222		
ex. tcp://myhost:7222		
Username		
user1		
Password		
****	Ο	
* Indicates required field		
SAVE CANCEL		

Connection Name: Enter the name of the connection.

URL: Enter the complete URL for the connection.

Username: The username is used when creating the connection. This field is optional.

Password: This password is used when creating the connection. This field is optional. By default, the password entered is hidden. Click the \odot icon to view the password text.

If you want to modify the default values for the update rates for the TIBCO ActiveMatrix caches, you can update the default polling rates in RTView Configuration Application > (Project Name/AMXMON-LOCAL) > Solution Package Configuration > TIBCO ActiveMatrix > DATA COLLECTION > Poll Rates.

Modify the value for the **Poll Rate** field to modify the default polling rate for the _AmxNodeInfo, _AmxNodeComponentstats, _AmxNodeBindingstats, _AmxNodeComponents, _AmxServiceNodes caches.

AMXMON-LOCAL - TIBCO ActiveMatrix Monitor			
TIBCO ActiveMatrix			
CONNECTIONS DATA COLLECTION DATA ST	TORAGE		
Poll Rate Set the rate in seconds at which to collect metric data Poll Rate 30			

Configuring Historical Data Collection for TIBCO ActiveMatrix

You can specify the number of history rows to store in memory, the compaction rules, the duration before metrics are expired and deleted, and the different types of metrics that you want the Historian to store in the **DATA STORAGE** tab in the RTView Configuration Application. This section contains the following:

- "Defining the Storage of In Memory AMXMON History"
- "Defining Compaction Rules for AMXMON"
- "Defining Expiration and Deletion Duration for AMXMON Metrics"
- "Enabling/Disabling Storage of AMXMON Historical Data"
- "Defining a Prefix for All History Table Names for AMXMON Metrics"

Defining the Storage of In Memory AMXMON History

You can modify the maximum number of history rows to store in memory in the Data Storage tab. The **History Rows** property defines the maximum number of rows to store for the AmxNodes, AmxBwProcessTotalsByService, AmxServices, and AmxServiceTotals caches. To update the default settings:

- 1. Navigate to the RTView Configuration Application > (Project Name/AMXMON-LOCAL) > Solution Package Configuration > TIBCO ActiveMatrix > DATA STORAGE tab.
- 2. In the Size region, click the History Rows field and specify the desired number of rows.

BCO ActiveMatrix CONNECTIONS DATA COLLECTION DATA STORAGE Size Set the number of history rows to keep in memory Set the number of history rows to keep in memory History Rows Set the number of history rows to keep in memory Set the number of history rows to keep in memory Source Set the number of history rows to keep in memory Set the compaction nules for history. The Condense Raw Time are in seconds. Condense Interval Condense Raw Time Compaction Rules 60 1200 1n - ;1d 5m ;2w 15m Duration Set the number of seconds between data updates before metrics are expired or deleted Expire Time Delete Time 60 3600		TIBCO ActiveMatrix Mo	onitor		1
Size Set the number of history rows to keep in memory History Rows 50000 50000 Set the compaction rules for history. The Condense Interval and Condense Raw Time are in seconds. Condense Interval Condense Raw Time 60 1200 1h - ;1d 5m ;2w 15m Duration Set the number of seconds between data updates before metrics are expired or deleted Expire Time Delete Time	BCO ActiveMatrix				
Set the number of history rows to keep in memory History Rows 50000	CONNECTIONS	DATA COLLECTION	4	DATA STORAGE	
Set the number of history rows to keep in memory History Rows 50000 50000 Set the compaction nules for history. The Condense Interval and Condense Raw Time are in seconds. Condense Interval Condense Raw Time 60 1200 1h - ;1d 5m ;2w 15m Duration Set the number of seconds between data updates before metrics are expired or deleted Expire Time Delete Time			-		
History Rows 50000 50000 50000 Compaction Eventsory Set the compaction rules for history. The Condense Interval and Condense Raw Time are in seconds. Condense Interval Condense Raw Time 60 1200 1h - ;1d 5m ;2w 15m Duration Set the number of seconds between data updates before metrics are expired or deleted Expire Time Delete Time	Size				
S0000 Compaction Set the compaction rules for history. The Condense Interval and Condense Raw Time are in seconds. Condense Interval Condense Raw Time 60 1200 1h - ;1d 5m ;2w 15m Duration Set the number of seconds between data updates before metrics are expired or deleted Expire Time Delete Time	-	keep in memory			
Compaction Set the compaction rules for history. The Condense Interval and Condense Raw Time are in seconds. Condense Interval Condense Raw Time 60 1200 1h - ;1d 5m ;2w 15m Duration Set the number of seconds between data updates before metrics are expired or deleted Expire Time Delete Time					
Set the compaction rules for history. The Condense Interval and Condense Raw Time are in seconds. Compaction Rules 60 1200 1h - :10 5m :2w 15m Duration Set the number of seconds between data updates before metrics are expired or deleted Expire Time Delete Time	50000				
Set the compaction rules for history. The Condense Interval and Condense Raw Time are in seconds. Compaction Rules 60 1200 1h - :1d 5m :2w 15m Duration Set the number of seconds between data updates before metrics are expired or deleted Expire Time Delete Time					
Set the compaction rules for history. The Condense Interval and Condense Raw Time are in seconds. Compaction Rules 60 1200 1h - :10 5m :2w 15m Duration Set the number of seconds between data updates before metrics are expired or deleted Expire Time Delete Time					
60 1200 1h - ;1d 5m ;2w 15m Duration Set the number of seconds between data updates before metrics are expired or deleted Expire Time Delete Time					
Duration Set the number of seconds between data updates before metrics are expired or deleted Expire Time Delete Time		iry. The Condense Interval and Condense Ru	aw Time are in	seconds.	
Set the number of seconds between data updates before metrics are expired or deleted Expire Time Delete Time	Set the compaction rules for histo				
Set the number of seconds between data updates before metrics are expired or deleted Expire Time Delete Time	Set the compaction rules for histo Condense Interval	Condense Raw Time	Com	paction Rules	
Set the number of seconds between data updates before metrics are expired or deleted Expire Time Delete Time	Set the compaction rules for histo Condense Interval	Condense Raw Time	Com	paction Rules	
Expire Time Delete Time	Set the compaction rules for histo Condense Interval	Condense Raw Time	Com	paction Rules	
	Set the compaction rules for histo Condense Interval 60 Duration	Condense Raw Time	Com 1h -	paction Rules	
<u> </u>	Set the compaction rules for histo Condense Interval 60 Duration Set the number of seconds betwee	Condense Raw Time 1200 en data updates before metrics are expired	Com 1h -	paction Rules	
	Set the compaction rules for histo Condense Interval 60 Duration Set the number of seconds betwee Expire Time	Condense Raw Time 1200 een data updates before metrics are expired Delete Time	Com 1h -	paction Rules	

Defining Compaction Rules for AMXMON

Data compaction, essentially, is taking large quantities of data and condensing it using a defined rule so that you store a reasonably sized sample of data instead of all of your data, thus preventing you from potentially overloading your database. The available fields are:

- Condense Interval -- The time interval at which the cache history is condensed. The default is 60 seconds. The following caches are impacted by this setting: AmxNodes, AmxBwProcessTotalsByService, AmxServices, and AmxServiceTotals.
- Condense Raw Time -- The time span of raw data kept in the cache history table. The default is 1200 seconds. The following caches are impacted by this setting: AmxNodes, AmxBwProcessTotalsByService, AmxServices, and AmxServiceTotals.
- Compaction Rules -- This field defines the rules used to condense your historical data in the database. By default, the columns kept in history will be aggregated by averaging rows with the following rule 1h -;1d 5m;2w 15m, which means the data from 1 hour will not be aggregated (1h rule), the data over a period of 1 day will be aggregated every 5 minutes (1d 5m rule), and the data over a period of 2 weeks old will be aggregated every 15 minutes (2w 15m rule). The following caches are impacted by this setting: AmxNodes, AmxBwProcessTotalsByService, AmxServices, and AmxServiceTotals.
- 1. Navigate to the RTView Configuration Application > (Project Name/AMXMON-LOCAL) > Solution Package Configuration > TIBCO ActiveMatrix > DATA STORAGE tab.
- 2. In the Compaction region, click the Condense Interval, Condense Raw Time, and Compaction Rules fields and specify the desired settings.

WAMON-LOCAL -	TIBCO ActiveMatrix M	onitor I
BCO ActiveMatrix		
CONNECTIONS	DATA COLLECTIO	N DATA STORAGE
Size Set the number of history rows to	keep in memory	
History Rows		
50000		
	ry. The Condense Interval and Condense R	
	ry. The Condense Interval and Condense R Condense Raw Time 1200	aw Time are in seconds. Compaction Rules 1 h - ;1d 5 m ;2w 15m
Set the compaction rules for histo Condense Interval 60 Duration	Condense Raw Time	Compaction Rules 1h - ;1d 5m ;2w 15m
Set the compaction rules for histo Condense Interval 60 Duration	Condense Raw Time 1200	Compaction Rules 1h - ;1d 5m ;2w 15m
Set the compaction rules for histo Condense Interval 60 Duration Set the number of seconds betwee	Condense Raw Time 1200	Compaction Rules 1h - ;1d 5m ;2w 15m

Defining Expiration and Deletion Duration for AMXMON Metrics

The data for each metric is stored in a specific cache and, when the data is not updated in a certain period of time, that data will either be marked as expired or, if it has been an extended period of time, it will be deleted from the cache altogether. The **Expire Time** field, which sets the expire time for the AmxNodes, _AmxServiceNodes, and _AmxServices caches, defaults to 75 seconds. The **Delete Time**, which sets the delete time for the _AmxServiceNodes and _AmxServiceNodes and _AmxServiceNodes.

- 1. Navigate to the RTView Configuration Application > (Project Name/AMXMON-LOCAL) > Solution Package Configuration > TIBCO ActiveMatrix > DATA STORAGE tab.
- 2. In the **Duration** region, click the **Expire Time** and **Delete Time** fields and specify the desired settings.

IXMON-LOCAL -	TIBCO ActiveMatrix M	onitor	ł
BCO ActiveMatrix			
CONNECTIONS	DATA COLLECTIO	N DATA STORAGE	
Size			
Size Set the number of history rows to	keep in memory		
History Rows			
50000			
Compaction Set the compaction rules for histo Condense Interval	ry. The Condense Interval and Condense R Condense Raw Time	aw Time are in seconds. Compaction Rules	
60	1200	1h - ;1d 5m ;2w 15m	
Duration		ar deleted	
Set the number of seconds betwee	Delete Time		

Enabling/Disabling Storage of AMXMON Historical Data

The **History Storage** region allows you to select which metrics you want the Historian to store in the history database. By default, all TIBCO ActiveMatrix historical data is saved to the database. To enable/disable the collection of historical data, perform the following steps:

- 1. Navigate to the RTView Configuration Application > (Project Name/AMXMON-LOCAL) > Solution Package Configuration > TIBCO ActiveMatrix > DATA STORAGE tab.
- 2. In the **History Storage** region, select the toggles for the various metrics that you want to collect/deselect for the metrics that you do not want to collect. Blue is enabled, gray is disabled.

CO ActiveMatrix		
CONNECTIONS	DATA COLLECTION	DATA STORAGE
uration et the number of seconds between data update	es before metrics are expired or deleted	
Expire Time	Delete Time	
60	3600	
istory Storage elect metrics the Historian will store in the histo	ry database. Metrics that are not listed do not support storing history.	
elect metrics the Historian will store in the histo	ry database. Metrics that are not listed do not support storing history.	
istory Storage elect metrics the Historian Will store in the histo	ry database. Metrics that are not listed do not support storing history.	Default
elect metrics the Historian will store in the histo	ny database. Metrics that are not listed do not support storing history.	Default Default
elect metrics the Flistorian will store in the histo	ry database. Metrics that are not listed do not support storing history	
elect metrics the Flistorian will store in the histo	ry distablese. Metrics that are not listed do not support storing history.	
Nodes Process Totals Service Totals	ry database. Metrics that are not listed do not support storing history.	
Nodes Nodes Process Totals Service Totals Services	ry database. Metrics that are not listed do not support storing history.	
Nodes Process Totals Service Totals	ry database. Metrics that are not listed do not support atoring history.	

Defining a Prefix for All History Table Names for AMXMON Metrics

The **History Table Name Prefix** field allows you to define a prefix that will be added to the database table names so that the Monitor can differentiate history data between data servers when you have multiple data servers with corresponding Historians using the same solution package(s) and database. In this case, each Historian needs to save to a different table, otherwise the corresponding data server will load metrics from both Historians on startup. Once you have defined the **History Table Name Prefix**, you will need to create the corresponding tables in your database as follows:

- Locate the .sql template for your database under RTVAPM_HOME/amxmon/dbconfig and make a copy of it
- Add the value you entered for the **History Table Name Prefix** to the beginning of all table names in the copied .sql template
- Use the copied .sql template to create the tables in your database

To add the prefix:

- 1. Navigate to the RTView Configuration Application > (Project Name/AMXMON-LOCAL) > Solution Package Configuration > TIBCO ActiveMatrix > DATA STORAGE tab.
- 2. Click on the **History Table Name Prefix** field and enter the desired prefix name.

INNIER EGGAE HEGG	ActiveMatrix Monitor	1
3CO ActiveMatrix		
CONNECTIONS	DATA COLLECTION	DATA STORAGE
Duration Set the number of seconds between data update	s before metrics are expired or deleted	
Expire Time	Delete Time	
60	3600	
History Storage Select metrics the Historian will store in the histo	ry database. Metrics that are not listed do not support storing history.	
History Storage Select metrics the Historian will store in the histo	ry database. Metrics that are not listed do not support storing history.	
_	y database. Metrics that are not listed do not support storing history.	
Select metrics the Historian will store in the histo	y database. Metrics that are not listed do not support storing history.	
Select metrics the Historian will store in the histo Nodes Process Totals	y database. Metrics that are not listed do not support storing history.	
Select metrics the Historian will store in the histo Nodes Process Totals Service Totals	y database. Metrics that are not listed do not support storing history.	
Select metrics the Fistorian will store in the hato	ry database. Metrics that are not listed do not support storing history.	
Select metrics the Fistorian will store in the hato	•	

Troubleshoot

This section includes:

- "Log Files"
- "JAVA_HOME"
- "Permissions"
- Network/DNS"
- "Verify Data Received from Data Server"
- "Verify Port Assignments"

Log Files

When a Monitor component encounters an error, it outputs an error message to the console and/or to the corresponding log file. If you encounter issues, look for errors in the following log files:

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

which are located in the **RTViewEnterpriseMonitor/emsample/servers/amxmon/logs** directory.

Logging is enabled by default. If you encounter issues with log files, verify the **logs** directory exists in the **RTViewEnterpriseMonitor/emsample/servers/amxmon** directory.

JAVA_HOME

If the terminal window closes after executing the **start_rtv** command, verify that JAVA_HOME is set correctly.

Permissions

If there are permissions-related errors in the response from the **start_rtv** command, check ownership of the directory structure.

Network/DNS

If any log file shows reference to an invalid URL, check your system's hosts file and confirm with your Network Administrator whether your access to the remote system is being blocked.

Verify Data Received from Data Server

If you encounter problems collecting data, restart the Data Server, start the Monitor, and go to the **Admin** tab and select **Architecture> RTView Cache Tables** in the navigation tree. Select **AMXMON-LOCAL** from the **Data Server** drop down list, and search for all caches that start with "AMXMON." Make sure these caches are populated (the number of **Rows** and **Columns** in the table should be greater than 0). If not, there might be a problem with the connection to the Data Server.

Verify Port Assignments

If the display server or Historian fail to connect to the Data Server or they receive no data, verify the ports are assigned correctly in your properties files and restart the Data Server.

CHAPTER 14 Solution Package for JVM

This section describes how to install, configure, deploy, start and use the Solution Package for JVM.

The Solution Package for JVM helps monitor a Java Virtual Machine's memory heap, non-heap memory, monitor threads and other key metrics to ensure the JVM has good performance. Detailed metrics including JVM CPU usage, Max Heap, Current Heap, Used Heap and Live Threads can all be tracked over time.

The Solution Package for JVM also tracks garbage collection information and trends, including memory usage before and after garbage collection, duration and duty cycles. This, combined with tracking of JVM memory pool trends, enables users to be notified of memory leaks, unusual garbage collection activities and CPU and memory resource issues automatically with minimal user analysis, speeding the discovery of the root cause of any issue.

The RTView Historian enables all JVM metrics to be archived and leveraged for historical analysis and alerting against defined thresholds.

This section includes:

- "Configuration Parameters You Need"
- "Configure Data Collection"
- "Troubleshoot"
- "JVM Processes View/Displays"

Configuration Parameters You Need

To configure the Solution Package for JVM make a note of the following values:

- PackageName=jvm
- ServerDirectory=miscmon
- AlertPrefix=Jvm

Configure Data Collection

Connect your own databases and enable for data collection.

1. Open the **RTView/rtvapm_projects/em-tibco/servers/miscmon/** sample.properties file and find the following section:

```
# JVM Monitor Sample Properties
#
#
```

2. Uncomment and edit the path to your JDBC driver:

```
#collector.sl.rtview.cp=%RTVAPM_HOME%/../ext/jvmserver/jvm-connector-java-5.1.31-
bin.jar
```

3. Uncomment and edit the following lines for each host to which you want to connect (and to enable the Monitor to collect data from them):

```
#collector.sl.rtview.sql.sqldb=<ConnStr> <myUser> <myPassword> jdbc:jvm://
<myHost>:3306/jvm com.jvm.jdbc.Driver - false false
# Specify what metrics to collect
#collector.sl.rtview.cache.config=jvm_stats_sources.rtv $jvmServerName:<ConnStr>
#collector.sl.rtview.cache.config=jvm_table_sources.rtv $jvmServerName:<ConnStr>
#collector.sl.rtview.cache.config=jvm property sources.rtv $jvmServerName:<ConnStr>
```

Where

<ConnStr>: is the connection string that identifies that database connection. Use the same value for the four **<ConnStr>** references (as shown in the example, below).

<MyUser>: is a registered username for that database

<myPassword>: is the password for the username specified above

<myHost>:3306/jvm is the URL of the JVM Server location. Port 3306 is the default port to connect with the database. And jvm is the database that you wish to monitor. Change the port and database name as required.

4. Repeat this step for each host you wish to monitor.

Example of database connection:

```
collector.sl.rtview.sql.sqldb=DB-jvm myUsr myPwd jdbc:jvm://localhost:3306/RTVHISTORY
com.jvm.jdbc.Driver - false false
```

```
collector.sl.rtview.cache.config=jvm_stats_sources.rtv $jvmServerName:DB-jvm
collector.sl.rtview.cache.config=jvm_table_sources.rtv $jvmServerName:DB-jvm
collector.sl.rtview.cache.config=jvm property sources.rtv $jvmServerName:DB-jvm
```

Troubleshoot

This section includes:

- "Log Files," next
- "JAVA_HOME"
- "Permissions"
- "Network/DNS"
- "Verify Data Received from Data Server"
- "Verify Port Assignments"

Log Files

When a Monitor component encounters an error, it outputs an error message to the console and/or to the corresponding log file. If you encounter issues, look for errors in the following log files:

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

which are located in the **rtvapm_projects/em-tibco/servers/jvm/logs** directory.

Logging is enabled by default. If you encounter issues with log files, verify the **logs** directory exists in the **rtvapm_projects/em-tibco/servers/jvm** directory.

JAVA_HOME

If the terminal window closes after executing the **start_rtv** command, verify that JAVA_HOME is set correctly.

Permissions

If there are permissions-related errors in the response from the **start_rtv** command, check ownership of the directory structure.

Network/DNS

If any log file shows reference to an invalid URL, check your system's hosts file and confirm with your Network Administrator whether your access to the remote system is being blocked.

Verify Data Received from Data Server

If you encounter problems collecting data, restart the Data Server, start the Monitor and go to **Administration>RTView Cache Tables** in the navigation tree. You should see all caches being populated with monitoring data (the number of rows in the table is greater than 0). If not, there is a problem with the connection to the Data Server.

Verify Port Assignments

If the Display Server or Historian fail to connect to the Data Server or they receive no data, verify the ports are assigned correctly in your properties files and restart the Data Server.

JVM Processes View/Displays

The Solution Package for JVM displays present performance data for monitored Java Virtual Machine (JVM) Processes. Use these displays to examine the current and historical performance metrics and resource usage of JVMs. 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:

The following JVM Monitor Views (and associated displays) can be found under **Components** tab **> Processes / JVM Processes > JVM**. To see your data in these displays you must install and configure the Solution Package for JVM. Displays in this View are:

- "All JVMs"
- Single JVM"

All JVMs

Check the health status for all your JVMs, then drilldown and investigate issues in the "Single JVM" displays. The JVM displays come with RTView Enterprise Monitor. However, the displays are empty until you configure the Solution Package for JVM. Displays in this View are:

- "All JVMs Heatmap": Heatmap of alert states for all JVM connections
- "All JVMs Table": Table of connection details for all JVM connections.

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 \checkmark 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.

Table		All JVMs - Heatmap View	19-Jan-2017 14:38 郊 Data OK 💠 🕜
Source: All S	ources	•	JVM Count: 134
Show: 🔽 In	active Connection	Log Auto Metric: M	lemory % 🔻 0 1 2
A		where Size = Max Heap and Co	
	localhost		TBSender
localhost	192.168.200.34	192.168.200.133	localhost 192.168.200.34
			192.168.200.136 192.168.200.134
192.168.200.146	192.168.2(192.168.200.	192.168.200.134	
		168.; 192.168.200.71 192.168.200.74	192. 192.168.200.73 192.192.168.; 192.168.
192 192.168.20	0.147 192.168.200.7 192.16 192	192.168.200.137 192.16 192.168.200 192	168 192 168 200 147 192 192 168 200 137 192 168 192 16

Title Bar (possible features are):	Data OK Data connection state. Red indicates the Data Server is not receiving data or the Display Server is not
🗲 👖 Open the previous and upper display.	receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	▲ 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.

Alert Severity	The maximum level of alerts in the heatmap rectangle. Values range from 0 - 2 , as indicated in the color gradient • • • • b ar, where 2 is the highest Alert Severity.
	Red indicates that one or more alerts have reached their alarm threshold. Alerts that have exceeded their specified ALARM LEVEL threshold have an Alert Severity value of 2.
	Yellow indicates that one or more alerts have reached their alarm threshold. Alerts that have exceeded their specified WARNING LEVEL threshold have an Alert Severity value of 1.
	Green indicates that no alerts have reached their alert thresholds. Alerts that have not exceeded their specified thresholds have an Alert Severity value of 0 .
Alert Count	The number of alerts for the rectangle. The color gradient $\boxed{\bullet}$ because the second part of alerts in the heatmap.
CPU %	The total percent (%) CPU utilization for the rectangle. The color gradient \bigcirc bar values range from 0 to the maximum percent (%) CPU utilization in the heatmap.
Memory %	The total percent (%) memory utilization for the rectangle. The color gradient \bullet bar values range from 0 to the maximum percent (%) memory utilization in the heatmap.
Current Heap	The current amount of heap committed for the connection, in kilobytes. The color gradient $\underbrace{\bullet 25 0}_{amount}$ bar values range from 0 to the maximum amount in the heatmap.
Used Heap	The total amount of heap used by the connection, in kilobytes. The color gradient $\overline{}$ bar values range from 0 to the maximum amount used in the heatmap.

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 J	MX Connec	tions				
Connection	Source	Expired	Connected	Alert Severity	Alert Count	Host	Port	
ALERT_SERVER	localhost		0	0	0	localhost	10023	102
ALERT_SERVER	TBSender		0	0	0	localhost	10023	102
ALERTHISTORIAN	localhost		0	0	0	localhost	10025	110
ALERTHISTORIAN	TBSender		0	0	0	localhost	10025	110
AMXMON-alpha-TB34	localhost		0	0	0	192.168.200.34	6368	305
AMXMON-alpha-TB34	TBSender		0	0	0	192.168.200.34	6368	305
AMXMON-alpha-TB34-HIST	localhost		0	0	0	192.168.200.34	6367	633
AMXMON-beta-TB3-HIST	localhost		0	0	0	192.168.200.133	6367	473
BWMON-alpha-TB34	localhost		0	0	0	192.168.200.34	3368	321
BWMON-alpha-TB34	TBSender		0	0	0	192.168.200.34	3368	321
BWMON-alpha-TB34-HIST	localhost		0	0	0	192.168.200.34	3367	325
BWMONITOR-release-WIN-80	localhost		0	0	0	192.168.200.146	3368	904
BWMONITOR-TB8	localhost		0	0	0	192.168.200.138	3368	27(
CONFIG_SERVER	localhost		0	0	0	localhost	10013	99(
CONFIG_SERVER	TBSender		0	0	0	localhost	10013	99(
DISPLAYSERVER	localhost		0	0	0	localhost	10024	10(
DISPLAYSERVER	TBSender		0	0	0	localhost	10024	10(
DISPLAYSERVER_DARKSTY	localhost		0	0	0	localhost	10124	118
DISPLAYSERVER_DARKSTY	TBSender		0	0	0	localhost	10124	118
EMSMON_SENDER-alpha-TB	TBSender		0	0	0	192.168.200.34	3166	285
EMSMON_SENDER-alpha-TB	localhost		0	0	0	192.168.200.34	3166	285
•			-	1	1	1	I	•

Title Bar (possible features are):	🕼 Data OK Data connection state. Red indicates the Data
🔶 🛧 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
Open an instance of this display in a new window.	data source is connected.
 Open the online help page for this display. Menu , 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.	▲ 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

Connection	The name of the JVM connection.
Source	The name of the source.
Expired	When checked, this connection is expired due to inactivity.
Connected	The data connection state: Disconnected. Connected.
Alert Severity	 The maximum level of alerts associated with the connection. Values range from 0 to 2, where 2 is the greatest Alert Severity. One or more alerts associated with the connection exceeded their ALARM LEVEL threshold. One or more alerts associated with the connection exceeded their WARNING LEVEL threshold. No alerts associated with the connection have exceeded their thresholds.
Alert Count	The current number of alerts for the connection.
Host	The name of the host for this connection.
Port	The port number for the connection.
PID	The connection PID.
CPU %	The amount of CPU, in percent (%) used by this connection.
Мах Неар	The maximum amount of heap used by this connection, in kilobytes.
Current Heap	The current amount of committed heap for this connection, in kilobytes.
Used Heap	The current amount of heap used by this connection, in kilobytes.
Mem % Used	The amount of JVM memory used by this connection, in percent (%).
RtvAppType	The type of RTView application, where: 1 is for the Historian, 3 is for the Data Server; 5 is for the Display Server, and 0 is a non-RTView application.
Source	The Data Server that sent this value.
time_stamp	The date and time this row of data was last updated.

Single JVM

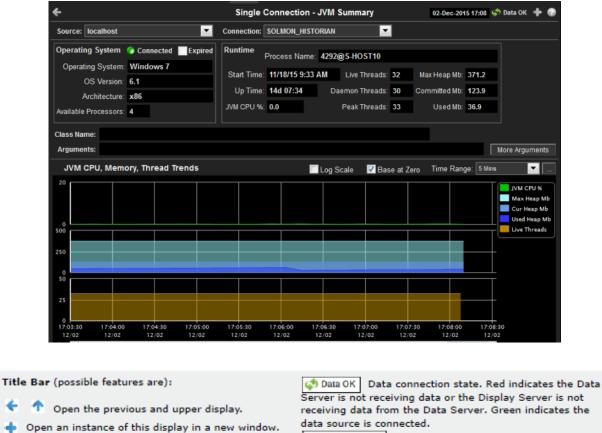
Use these detailed JVM displays to investigate performance issues on a JVM. To see your data in these displays you must install and configure the Solution Package for JVM. Displays in this View are:

- "JVM Summary": Table of connection details for a single JVM as well as performance trend graphs.
- "JVM System Properties": Table of system details for a single JVM.
- "JVM Memory Pool Trends": Trend graphs of memory pool utilization.
- "JVM GC Trends": Trend graphs of garbage collection memory utilization.

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.



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.

6.047 The number of items currently in the display.

Open the online help page for this display.

, Table open commonly accessed

Menu

displays.

Fields and Data

This display includes:

Select the type of connection to the RTView Server. Source

Select an RTView Server from the drop-down menu. Names can be modified in the RTView Server configuration properties file. Connection

Operating System Displays data pertaining to the operating system running on the host on which the JVM resides.

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

Runtime

	Process Name	Name of the process.
	Start Time	The date and time that the application started running.
	Up Time	The amount of time the application has been running, in the following format: Od 00:00 <days>d <hours>:<minutes>:<seconds> For example: 10d 08:41:38</seconds></minutes></hours></days>
	JVM CPU %	The amount of CPU usage by the JVM, in percent.
	Live Threads	The total number of live threads.
	Daemon Threads	The total number of live daemon threads.
	Peak Threads	The total number of peak live threads since the JVM started or the peak was reset.
	Max Heap Mb	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 <i>Maximum</i> memory allocation (for example, when the system is low on virtual memory).
	Committed Mb	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 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.
	Used Mb	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 us	sed for JVM.

The arguments used to start the application. Arguments

Additional arguments used to start the application. More Arguments

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 Use zero as the Y axis minimum for all graph traces. **Zero**

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 \square .

Select or Enter Date and Time:

Restore to Now
Ok Apply Cancel

By default, the time range end point is the current time. To change the time range end point, click Calendar _____ and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows \square b 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 HeapTraces 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).

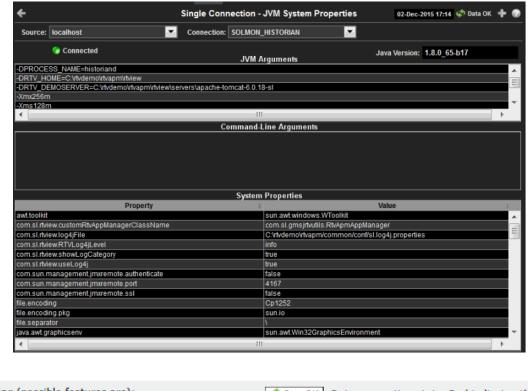
- **Cur Heap Mb** Traces the current amount of memory, in megabytes, used for memory management by the application in the time range specified.
- **Used Heap** Traces the memory currently used by the application.

Mb

LiveTraces the total number of currently active threads in the time rangeThreadsspecified.

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):	🐼 Data OK Data connection state. Red indicates the Data
🗲 🛧 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
💠 Open an instance of this display in a new window.	data source is connected.
 Open the online help page for this display. Menu , 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.	Open the Alert Views - RTView Alerts Table display.

Fields and Data

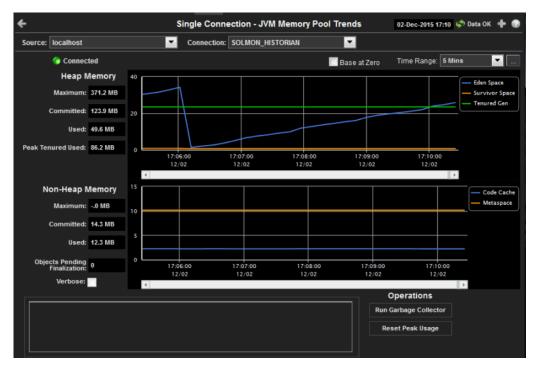
This display includes:

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 us	sed to start the application.	
System Prop This table lists	ystem Properties his table lists and describes system property settings.		
	Property	Name of the property.	
	Value	Current value of the property.	

JVM Memory Pool Trends

Track JVM heap and non-heap memory usage for a single connection. Use the available dropdown menus or right-click to filter data shown in the 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 Use zero as the Y axis minimum for all graph traces. Zero

Time
RangeSelect 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 \square to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** dropdown menu.

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

Heap Memory

Maximum 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.

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).

- **Committed** 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 **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.
- **Used** 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.
- Peak Tenured Used 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.
- **Eden Space** 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.
- **Survivor Space** 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.
- **Tenured Gen** Traces the amount of memory used by tenured JVM objects in the time range specified. Tenured refers to JVM objects contained in a pool that holds objects that have avoided garbage collection and reside in the survivor space. Peak tenured refers to the maximum value of the tenured memory over a specified period of time.

Non-Heap Memory

	Maximum	The maximum amount of memory, in megabytes, used for JVM non- heap memory management by the application in the time range specified.
	Committed	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 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.
	Used	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.
	Objects Pending Finalization	The value of the MemoryMXBean ObjectPendingFinalizationCount attribute.
	Verbose	The value of the MemoryMXBean Verbose attribute.
	Code Cache	Traces the amount of non-heap memory used in the JVM for compilation and storage of native code.
	Perm Gen	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		
	Run Garbage Collector	Performs garbage collection on the selected server.
	Reset Peak Usage	Clears peak usage on the selected server.

JVM GC Trends

Track JVM garbage collection memory usage for a single connection. Use the available dropdown menus or right-click to filter data shown in the display.

¢	Single Connection	- JVM GC Info Trend	ds	02-Dec-2015 17:1	12 📫 Data OK 💠 😨	
Source: localhost	Connection: SOLMON	HISTORIAN	-			
Garbage Collector: Copy	🗸 Max 🔽 Commite	d I	Base at Zero	Time Range: 5	i Mins 🔽 📖	
600 I7-09-31 12.00 600 Max: 600 Committed: 400 Used = Bfc 400 Used = Afc 0 Duration: 0 Duty Cycle 0 If is a state of the ison of the is	Mol Decre 2 403.25 138.16 re: 70.88 r: 36.50 2.00 0.00	After Garbage Collect	tion: Copy	:30 17:12:0	Max Commited Used - Before Used - After Duration Duty Cycle	
ar (possible features are): Open the previous and upper di ben an instance of this display in a ben the online help page for this dis u , Table open commonly s.	new window. splay.	Server is not re receiving data f data source is o 23-Mar-2017 12:0 might indicate t	eceiving dat from the D connected. 4 Current the Monitor a OK icon i	ta or the (ata Serve date and r stopped	Red indicates the Display Server is r. Green indicates time. Incorrect ti running. Correct i indication that d	not s the ime time
ar (possible features are): Open the previous and upper di pen an instance of this display in a pen the online help page for this dis u I , Table open commonly	isplay. new window. splay. 2 accessed	Data OK Data OK Data Server is not re receiving data f data source is o 23-Mar-2017 12:0 might indicate t and green Data	ata connect aceiving dai from the D connected. 4 Current the Moniton a OK icon i id.	tion state. ta or the I ata Serve date and r stopped s a strong	. Red ind Display S r. Green time. Ind running. indicatio	erver is indicate: correct t Correct on that c

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 Use zero as the Y axis minimum for all graph traces. Zero

TimeSelect a time range from the drop down menu varying from 2 Minutes to Last 7RangeDays, 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 \square to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** dropdown 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

Maximum	Traces the maximum amount of memory used by garbage collection 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).
Committed	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 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.
Used - Before	Traces the amount of memory used before the last garbage collection.
Used - After	Traces the amount of memory used after the last garbage collection.
Duration	The duration, in seconds, of garbage collection.
Duty Cycle	The percentage of time that the application spends in garbage collection.

CHAPTER 15 Solution Package for RTView Manager

The Solution Package for RTView Manager lets you monitor the health and performance of any java process. It is broken down into the following categories:

- RTView Server metrics
- JVM metrics
- Apache Tomcat Metrics

RTView Server metrics include connected state, number of clients and other status information for Data Server, Historian and Display Server processes.

JVM metrics track garbage collection information and trends, including memory usage before and after garbage collection, duration and duty cycles. This, combined

with tracking of JVM memory pool trends, enables users to be notified of memory leaks, unusual garbage collection activities and CPU and memory resource issues automatically with

minimal user analysis, speeding the discovery of the root cause of any issue. It also monitors a Java Virtual Machine's memory heap, non-heap memory, monitor threads and other key metrics to ensure the JVM has good performance. Detailed metrics including JVM CPU usage, Max Heap, Current Heap, Used Heap and Live Threads can all be tracked over time.

Apache Tomcat metrics enable Tomcat 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 system. It does so by aggregating and analyzing key performance metrics across all instances, databases, and collections, and

presents the results, in real time, through meaningful dashboards as data is collected.

This section describes how to configure the Solution Package using the "RTView Configuration Application" and also describes the available displays.

The Solution Package for RTView Server Manager comes with RTView Enterprise Monitor.

See **README_sysreq.txt** for the full system requirements for RTView®.

This section includes:

- "Configuration Parameters You Need"
- "Configure Data Collection"
- "Troubleshoot"
- "RTView Manager Displays"
- "JVM Displays"
- "Tomcat Displays"

Configuration Parameters You Need

- PackageName=rtvmgr
- ServerDirectory=rtvmgr
- AlertPrefix=Rtvmgr

Configure Data Collection

This section describes how to collect data from the RTView Servers you want to monitor. Use the "RTView Configuration Application" to do the following in the order provided:

- "Configure CONNECTIONS": Provide server details to establish connection. This step is required.
- "Setup DATA COLLECTION": Modify the poll rate interval for collecting data and enable/ disable autodiscover (this option is enabled by default). This step is optional.
- "Configure DATA STORAGE": Set rules for how data is stored, as well as when data is reduced, expired and deleted. This step is optional.

Note: For changes made in the "RTView Configuration Application" to take place, you must restart your data server after making and saving your changes.

Configure CONNECTIONS

This section describes how to establish the data connection for Solution Package for RTView Manager. This part of the configuration is required.

To configure data connections for the Solution Package for RTView Manager:

 "Open the RTView Configuration Application" and navigate to > (Project Name) > Solution Package Configuration > RTView Manager > CONNECTIONS tab. 2. On the CONNECTIONS tab, click 📀 to open the Add Connection dialog.

َ عَ⊷َ RTView®	≡ RTVMGR-LOCAL	- RTView Manager Monitor	
🕂 HOME 🔛 SAVE	RTView Manager		
Server Configuration	CONNECTIONS	DATA COLLECTION	DATA STORAGE
General			
Data Server			
Historian	To begin adding Connections, click 🔫		
Solution Package Configuration			
RTView Manager			

- **3.** In the **Add Connection** dialog, enter the following:
- **Connection Name**: Name to use when referencing this connection. This must be unique.
- **Host**: Host name or IP address of the MBean server.
- **Port**: Port exposed by your MBean server.
- Optionally enter a **Usename** and **Password**.

Add Conne	ection	
Connection Name	*	
Host *		
Port *		
Username		
Password		Ø
* Indicates require	ed field	
SAVE	CANCEL	

4. SAVE to connect to the server. The newly created connection displays in the **CONNECTIONS** list.

€ RTView [®]	≡ RTVMGR-LOCAL -	RTView Manager Mon	itor
👫 HOME 💾 SAVE	RTView Manager *		
Server Configuration	CONNECTIONS	DATA COLLECTION	DATA STORAGE
Data Server Historian	MyRTViewManagerServe //192.168.200.134:9999	rName	/ 0 1
Solution Package Configuration			
RTView Manager *			
0			

5. Repeat these **Add Connection** dialog instructions for each server to be monitored. Optionally, proceed to "Setup DATA COLLECTION," next.

Setup DATA COLLECTION

This step is optional.

This section describes how to modify the default values for data update frequency for various server-related caches, and also to specify **Connection Discovery** for automatic discovery and connection to local JMX MBean Servers.

To configure data collection poll rates and connection discovery for the Solution Package for RTView Manager:

1. "Open the RTView Configuration Application" and navigate to > (Project Name) > Solution Package Configuration > RTView Manager > DATA COLLECTION tab.

CONNECTIONS	DATA COLLECTION	DATA STORAGE
Poll Rates Set the rate in seconds at which to collect in Poll Rate 4	veric data.	
Connection Discovery Enable automatic discovery and connection	to local JMX MBean Servers. Disable to connect only to the JMX N	Bean Servers listed in the Connections tab.

2. Make the following entries as appropriate:

Poll Rate: Enter the query interval, in seconds, to collect data updates. All caches are impacted by this field.

Autodiscover JMX Connections: Enable to automatically discover and connect to all local JMX MBean Servers. Disable to connect only to the JMX MBean Server listed in the **Connections** tab.

Note: When modifying your update rates, you should take your system architecture and number of elements per cache into account and ensure that you are not changing your update rates to values that might negatively impact system performance.

Tip: Disable **Connection Discovery** to connect only to the JMX MBean Servers listed in the **CONNECTIONS** tab.

Optionally, proceed to "Configure DATA STORAGE," next.

Configure DATA STORAGE

This step is optional.

This section describes options for managing and reducing the amount of history data you store in your cache tables. The data for each metric is stored in a specific cache and, when the data is not updated in a given period of time, that data is either marked as *expired* or, if it has been an extended period of time, it is deleted from the cache altogether. By default, metric data is set to expired when the data in the cache has not been updated within **45** seconds. Also, by default, if the data is not updated in the cache within **3600** seconds, it is removed from the cache.

There are three main approaches to reducing the amount of storage in your cache tables. You can:

- Set size limits: So that when the number of rows in the cache table exceeds the limit specified here, the oldest row of data in the cache table is deleted. Set these values in the History Rows and History Rows Large fields.
- Set time limits: So that when the amount of time to wait for a row in the cache table to receive a data update exceeds the limit specified here, the data is marked expired or deleted. Set these values in the Expire Time and Delete Time fields.
- Compact data: Data compaction allows you to create rules that reduce the amount of stored history data to a reasonably sized sample of your data to prevent overloading your database. The rules include a schedule for automatically reducing the amount of data. Set these values in the Condense Interval, Condense Interval and Compaction Rules fields.

To modify data storage default settings:

1. "Open the RTView Configuration Application" and navigate to > (Project Name) > Solution Package Configuration > RTView Manager > DATA STORAGE tab.

e RTView®	■ RTVMGR-LOCAL - RTView Manager Monitor	
🕂 HOME 📄 SAVE	RTView Manager	
Server Configuration General Data Server	CONNECTIONS DATA COLLECT Set the number of seconds between data updates before metrics are expired or Expire Time Delete Time	
Historian Solution Package Configuration	45 3600	
RTView Manager	History Storage Select metrics the Historian will store in the history database. Metrics that are n	et listed do not support storing history.
	Data Server Client Totals	Default
	Data Server Manager	Default
	Memory	Default
	os	Default
	Threading	Default
	Tomcat Global Requests	Default
	Tomcat Webmodule Statistics	Default
	Tomcat Webmodule Totals	Default
	History Table Name Prefix	
	Enter a value to prepend to the history table names for all metrics. Note that this requin	es a change to your history database schema.

2. On the DATA STORAGE tab, make the following entries:

Size - Enter the maximum number of table rows to keep in memory:

- History Rows The maximum number of rows to store in the History table for the JvmGcInfo, JvmMemoryPool, RtvDataServerManager, RtvDisplayServerManager and RtvDataServerClientTotals caches. If set to 0, no History table is created. The default setting is 50,000.
- History Rows Large- The maximum number of rows to store in the History table for the JvmOperatingSystem, JvmThreading, JvmMemory, RtvDataServerClientStats and TomcatWebModuleStats caches. If set to 0, no History table is created. The default setting is 200,000.

Compaction - Define scheduled rules that reduce the amount of stored history data to a reasonably sized sample of your data to prevent overloading your database.

Condense Interval - The time interval at which the cache history is condensed. The default is 60 seconds. This value impacts the JvmGcInfo, JvmMemoryPool, JvmOperatingSystem, JvmThreading, JvmMemory, RtvDataServerManager and RtvDataServerClientTotals caches.

- Condense Raw Time The time span of raw data kept in the cache history table. The default is 1200 seconds. This value impacts the JvmGcInfo, JvmMemoryPool, JvmOperatingSystem, JvmThreading, JvmMemory, RtvDataServerManager, RtvDataServerClientTotals, TomcatWebModuleStats, TomcatGlobalRequestStats and TomcatWebModuleTotals caches.
- Compaction Rules This field defines the rules used to condense your historical data in the database. By default, the columns kept in history will be aggregated by averaging rows with the following rule 1h -;1d 5m;2w 15m, which means the data from 1 hour will not be aggregated (1h - rule), the data over a period of 1 day will be aggregated every 5 minutes (1d 5m rule), and the data over a period of 2 weeks old will be aggregated every 15 minutes (2w 15m rule). This value impacts the JvmOperatingSystem, JvmThreading, JvmMemory, RtvDataServerManager, RtvDataServerClientTotals, TomcatWebModuleStats, TomcatGlobalRequestStats and TomcatWebModuleTotals.

Duration - Enter the amount of time between data updates before data is expired or deleted:

- Expire Time The number of seconds to wait for a data update before cached history data is shown as Expired in displays. The caches impacted by this field are JvmConnections, JvmGcInfo, JvmMemoryPool, JvmClassLoading, JvmCompilation, JvmOperatingSystem and JvmThreading.
- Delete Time The number of seconds to wait for a data update before cached history data is removed from displays. The caches impacted by this field are JvmConnections, JvmGcInfo, JvmMemoryPool, JvmClassLoading, JvmCompilation, JvmOperatingSystem, JvmRuntime, JvmThreading, JvmMemory, JvmMemoryManager, JvmSystemProperties, RtvDataServerManager, RtvDisplayServerManager, TomcatWebModuleStats, TomcatGlobalRequestStats, TomcatWebModuleTotals, RtvHistorianManager, RtvDataServerClientStats, RtvDataServerClientTotals, RtvServerVersion, TomcatWebModuleStats, TomcatHostInfo and TomcatWebModuleTotals.

History Storage - Toggle to Enable/Disable the types of data you want the Historian to store in the history database for the Solution Package.

 History Table Name Prefix - Enter a prefix to prepend to the history data table names for these metrics.

The **History Table Name Prefix** field allows you to define a prefix that will be added to the database table names so that the Monitor can differentiate history data between data servers when you have multiple data servers with corresponding Historians using the same solution package(s) and database. In this case, each Historian needs to save to a different table, otherwise the corresponding data server will load metrics from both Historians on startup. Once you have defined the History Table Name Prefix, you will need to create the corresponding tables in your database as follows:

- Locate the .sql template for your database under RTVAPM_HOME/rtvmgr/dbconfig and make a copy of it.
- Add the value you entered for the History Table Name Prefix to the beginning of all table names in the copied .sql template.
- Use the copied .sql template to create the tables in your database.
- **3. SAVE** your project settings (choose \equiv if **SAVE** is not visible, or expand your browser width).

Troubleshoot

This section includes:

- "Log Files," next
- "JAVA_HOME"
- Permissions"
- "Network/DNS"
- "Verify Data Received from Data Server"
- "Verify Port Assignments"

Log Files

When a Monitor component encounters an error, it outputs an error message to the console and/or to the corresponding log file. If you encounter issues, look for errors in the following log files:

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

which are located in the **RTViewTIBCOMonitor/em-tibco/servers/rtvmgr/logs** directory.

Logging is enabled by default. If you encounter issues with log files, verify the **logs** directory exists in the **RTViewTIBCOMonitor/em-tibco/servers/rtvmgr/logs** directory.

JAVA_HOME

If the terminal window closes after executing the **start_rtv** command, verify that JAVA_HOME is set correctly.

Permissions

If there are permissions-related errors in the response from the **start_rtv** command, check ownership of the directory structure.

Network/DNS

If any log file shows reference to an invalid URL, check your system's hosts file and confirm with your Network Administrator whether your access to the remote system is being blocked.

Verify Data Received from Data Server

If you encounter problems collecting data, restart the Data Server, start the Monitor and go to **Administration>RTView Cache Tables** in the navigation tree. You should see all caches being populated with monitoring data (the number of rows in the table is greater than 0). If not, there is a problem with the connection to the Data Server.

Verify Port Assignments

If the Display Server or Historian fail to connect to the Data Server or they receive no data, verify the ports are assigned correctly in your properties files and restart the Data Server.

RTView Manager Displays

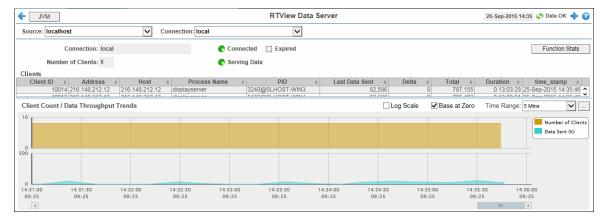
The following Solution Package for RTView Servers displays can be found under **Components** tab **> Processes > RTView Processes** after installation:

These displays present performance data for all RTView Enterprise monitor Servers. Use these displays to monitor the health of the servers monitoring your system. Displays in this View are:

- "Data Servers": Shows metrics for RTView Data Servers.
- "Display Servers": Shows metrics for RTView Display Servers.
- "Historian Servers": Shows metrics for RTView Historian Servers.
- "Version Info": 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.





Source	Select the type of connection to the RTView Server.
Connection	Select an RTView Server from the drop-down menu. Names can be modified in the RTView Server configuration properties file.
Connection	The connection selected from the Connection drop-down menu.
Number of Clients	The number of clients currently server on this Data Server.
Connected	The Data Server connection state: Disconnected. Connected.
Serving Data	 The Data Server is not currently serving data. The Data Server is currently serving data.
Expired	This server has been marked as expired after no activity.
Function Stats	Opens the RTView Function Stats display which shows detailed performance statistics for RTView functions in the selected Data Server. This button is only enabled if the RTView Monitor has a JMX connection defined for the selected Data Server.

Clients

This table describes all clients on the selected server.

Address	The client IP address.
Client ID	The unique client identifier.
Duration	The amount of time for this client session. Format: dd HH:MM:SS <days> <hours>:<minutes>:<seconds> For example: 10d 08:41:38</seconds></minutes></hours></days>
Host	The client host name.
Last Data Sent	The amount of data, in bytes, last sent to the client.
Delta	The amount of data, in bytes, sent since the last update.
Total	The total amount of data, in bytes, sent to the client.

TIME_STAMP 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.

- 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 Log Scale 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 .

Select or Enter Date and Time:
1
Restore to Now
Ok Apply Cancel

By default, the time range end point is the current time. To change the time range end point, click Calendar and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows \square 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.

← JVM	RTView Display Server	02-Dec-2015 16:57 💉 Data OK 💠 🌗	
Source: localhost	Connection: SOLMON_DISPLAYSERVER		
	🏈 Connected 📃 Expired	Function Stats	
Display Timeout (seconds): 60	Number of Active Displays: 9		
Image Quality (0 - 100): 75	Maximum Number of Active Displays: 80		
	Sessions with Active Displays: 3		
Display Data	Active Displays		
Display Name =	Session = Pi Seasth027565475chrolocadmin StamcoW/abMadula: 5ch DapElaci0 5ch J	Substitutions	
rtv_admin_agents.rtv sol_title_panel.rtv	682afb937b6547 \$rtvrole:admin \$tomcatWebModule:- \$rtvPopFlag:0 \$rtvL 682afb937b658f \$rtvrole:admin \$tomcatWebModule:- \$rtvLastDisplay: N		
sol_title_panel.rtv	682afb937b65ce\$rtvrole:admin \$tomcatWebModule:-\$rtvLastDisplay_N		
sol_title_panel.rtv	8854fe50c0eefb \$rtvrole:admin \$torncatWebModule:-\$rtvLastDisplay. N		
sol_title_panel.rtv	682afb937b6538 \$rtvrole:admin \$tomcatWebModule:- \$rtvLastDisplay		
rtv_cache_tables.rtv	8854fe50c0ee d5 \$rtvCurrentTabID." \$sysSource:* \$displayHelpURLExter		
tomcat_server_summary.rtv	682afb937b65b4\$nodeLabelNestDepth:0\$displayHelpURLExtension:"		
rtv_server_summary_display.rtv	682afb937b6591\$displayHelpURLExtension:" \$rtvTimeRangeForHistory		
rtv_html5.rtv	preload pr \$currentDisplay:rtv_html5.rtv \$RTVCONFIG_CITYPE_C/	ACHEMAP_TABLE:CITYPE_CACHEMAP \$rtvAle	
	< III	4	

Title Bar (possible features are):	🔯 Data OK Data connection state. Red indicates the Data
🗲 👖 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
Open an instance of this display in a new window.	data source is connected.
Open the online help page for this display. Menu Table open commonly accessed	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
displays.	current and valid.
6,047 The number of items currently in the display.	▶ 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.
Function Stats	Opens the RTView Function Stats 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.
Display Timeout (seconds)	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 60 seconds (to allow faster load time when switching between displays).
Image Quality (0- 100)	A value between 0 and 100 , which controls the quality of the generated images. If the value is 100 , the Display Server outputs the highest quality image with the lowest compression. If the value is 0 , the Display Server outputs the lowest quality image using the highest compression. The default is 75 .
Number of Active Displays	The total number of displays currently being viewed by a user.
Maximum Number of Active Displays	The maximum number of displays kept in memory. The default is 20 (to optimize memory used by the Display Server).
Sessions with Active Displays	Number of clients accessing the Display Server.
Disnlay Data	/ Active Displays

Display Data / Active Displays

Display Name	The name of the currently open display.
Session	A unique string identifier assigned to each session.
Panel ID	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.
Substitutions	Lists the substitutions used for the display.
Last Ref	The amount of time that has elapsed since the display was last requested by a client.
ID	The client ID.
Preloaded	When checked, indicates that the display (.rtv) file is configured in the DISPLAYSERVER.ini file to be preloaded. The history_config 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.

€	/M		RTView Historian		02-Dec-2015 16:58 🗳 Data OK	+	۲
Source:	localhost 📉	Connection:	SOLMON_HISTORIAN	▼			
	Primary Server Number of Data Configuration Files: 1	toring Data	Connected	Expired			
Historia	1						
	File Name a	C	ata Configuration File	s Substitutions		: C	
rtv_ht	ml5.rtv			Saboutations			

Title Bar (possible features are):	🔯 Data OK Data connection state. Red indicates the Data
🗲 🔺 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
Open an instance of this display in a new window.	data source is connected.
Open the online help page for this display. Menu Table open commonly accessed	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
displays.	current and valid.
6,047 The number of items currently in the display.	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		Server from the drop-down menu. Names can be modified in the nfiguration properties file.
Connected	The Historian Serv Disconnected. Connected.	ver connection state:
Expired	This server has be	en marked as expired after no activity.
Connected to Database	The Historian Serv Disconnected. Connected.	er database connection state:
Primary Server	is the primary gro standby member v When red, indicate The Historian Serv The Historian S	ates that this Historian, when used within a group of Historians, up member. If the primary member fails or shuts down, the with the highest priority becomes the primary group member. es that the Historian is a secondary server. er member state: erver is a secondary group member. s the primary group member.
Number of Data Configuration Files	The number of cor	nfiguration files that are used by the history cache.
Historian / Da	ta Configuration I	Files
	File Name	The name of the history cache configuration file.

Version Info

Substitutions

This display provides detailed version information for all of the connected RTView applications. You can view specific applications by filtering data using the **Source**, **Connection**, **Filter Field**, and **Filter Value** fields at the top of the display. This display provides valuable information about the version of each jar that is used in each connected RTView application that can be used to help Technical Support when issues arise. All RTView applications use multiple jars and this display lists the version information for each jar in the application. The **ApplicationConfiguration** column shows the version of the jar that contains the main class

configuration file.

Lists the substitutions specified in the history cache

for the application which is also the version that is printed to the console at startup. The **JarConfiguration** shows the version of the jar specified in the **JarName** field. When **ApplicationConfiguration** and **JarConfiguration** do not match, it indicates that the application is using jars from multiple releases of RTView or that the application is using a patched jar. Rows in the table where the **JarConfiguration** does not match the **ApplicationConfiguration** are highlighted in teal.

Note: RTView applications running versions previous to this enhancement will only have one row in the table and will display "version info not supported in this version" in the **ApplicationConfiguration** column.

WIN3 SLMO	Connection =	Application		alue: Detailed Ver ne JarConfiguration	sion for All Conne does not match A	Clear RegEx			
Source = WIN3 SLMOI WIN3 SLMOI	Connection =	Rows	where th	Detailed Ver ne JarConfiguration	sion for All Conne does not match A				
WIN3 SLMOI WIN3 SLMOI		Application			sion for All Conne does not match A	cted RTView Applic	cations		
WIN3 SLMOI WIN3 SLMOI		Application					ation are	highlighted in teal	
WIN3 SLMO	N-DISP-5			JarName		cationConfiguration	=	JarConfiguration	JarVersionNum
		RTView Displa	y Server	gmsjagentds.jar	APM.3.0.0.0 2015	0910 000.19559-alpha	a 119	APM.3.0.0.0 20150910 000.19559-alpha 119	3.0.0.0
WIN3 SI MOI	N-DISP-5	RTView Displa	y Server	gmsjalertds.jar	APM.3.0.0.0 2015	0910 000.19559-alpha	a 119	APM.3.0.0.0 20150910 000.19559-alpha 119	3.0.0.0
	N-DISP-5	RTView Displa	, ly Server	gmsjcacheds.jar	APM.3.0.0.0_2015	0910_000.19559-alpha	119	APM.3.0.020150910_000.19559-alpha_119	3.0.0.0
NIN3 SLMO	N-DISP-5	RTView Displa	y Server	gmsjcmdbds.jar	APM.3.0.0.0 2015	0910 000.19559-alpha	a 119	APM.3.0.0.0 20150910 000.19559-alpha 119	3.0.0.0
WIN3 SLMO	N-DISP-5	RTView Displa	y Server	gmsjext.jar	APM.3.0.0.0_2015	0910_000.19559-alpha	a_119	APM.3.0.020150910_000.19559-alpha_119	3.0.0.0
WIN3 SLMOI	N-DISP-5	RTView Displa	y Server	gmsjflash.jar		0910 000.19559-alpha		APM.3.0.0.0 20150910 000.19559-alpha 119	3.0.0.0
WIN3 SLMO	N-DISP-5	RTView Displa	y Server	gmsjjmxds.jar	APM.3.0.0.0 2015	0910 000.19559-alpha	a 119	APM.3.0.0.0 20150910 000.19559-alpha 119	3.0.0.0
WIN3 SLMO	N-DISP-5	RTView Displa	y Server	gmsjlog4jds.jar	APM.3.0.0.0_2015	0910_000.19559-alpha		APM.3.0.020150910_000.19559-alpha_119	3.0.0.0
WIN3 SLMO	N-DISP-5	RTView Displa	y Server	gmsjmodels.jar	APM.3.0.0.0 2015	0910 000.19559-alpha	a 119	APM.3.0.0.0 20150910 000.19559-alpha 119	3.0.0.0
WIN3 SLMO		RTView Displa		gmsjolapds.jar	APM.3.0.0.0 2015	0910_000.19559-alpha	a 119	APM.3.0.0.0 20150910 000.19559-alpha 119	3.0.0.0
WIN3 SLMOI	N-DISP-5	RTView Displa	y Server	gmsjpipeds.jar		0910 000.19559-alpha		APM.3.0.0.0 20150910 000.19559-alpha 119	3.0.0.0
WIN3 SLMO	N-DISP-5	RTView Displa	y Server	gmsjrrdds.jar	APM.3.0.0.0 2015	0910 000.19559-alpha	a 119	APM.3.0.0.0 20150910 000.19559-alpha 119	3.0.0.0
WIN3 SLMO	N-DISP-5	RTView Displa	y Server	gmsjrtvhistorian.jar	APM.3.0.0.0_2015	0910_000.19559-alpha		APM.3.0.020150910_000.19559-alpha_119	3.0.0.0
	N-DISP-5	RTView Disnla	v Server	omsirtvouerv iar		0910_000_19559-alpha		APM 3 0 0 0 20150910 000 19559-aloha 119	3000

Title Bar (possible features are):	Data OK Data connection state. Red indicates the Data
🗧 🛧 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Fields and Data

This display includes:

Source	Select a filter value for the Source column.
Connection	Select a filter value for the Connection column.
Filter Field	Select a table column from the drop-down menu to perform a search in: ApplicationName, JarName, ApplicationConfiguration, JarConfiguration, JarVersionNumber,JarVersionDate, JarReleaseDate, and JarMicroVersion.
	Filters limit display content and drop-down menu selections to only those items that pass through the selected filter's criteria. If no items match the filter, you might have zero search results (an empty table). Double-clicking on a specific field in the table will populate this field with the selected field's content. For example, double-clicking on the DataServerName field in one of the rows displays the entire field's content into this field.

Clear	Clears entries in the Filter Field display list, Filter Value field, and Not Equal check box.
Filter Value	Enter the (case-sensitive) string to search for in the selected Filter Field .
RegEx	Select to use the Filter Value as a regular expression when filtering. When selected, the Not Equal check box displays.
Not Equal	Works in conjunction with the RegEx field. Selecting this check box searches for values in the specified Filter Field that are NOT equal to the value defined in the Filter Value field. For example, if the Filter Field specified is JarMicroVersion , the Filter Value is specified as 317 , and this check box is selected, then only those rows containing JarMicroVersion fields NOT EQUAL to 317 will display. This field is only enabled when the RegEx check box is checked.
Source	The name of the source of the RTView Monitor.
Connection	Lists the name of the JMX connection to the RTView application.
Application Name	Lists the name of the application.
JarName	Lists the name of the jar used in the connected application.
Application Configuration	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.
JarConfiguration	Lists the configuration string for the jar.
JarVersionNumbe r	Lists the version number for the jar.
JarVersionDate	Lists the version date for the jar.
JarReleaseType	Lists the release type for the jar.
JarMicroVersion	Lists the micro version for the jar.
Expired	When checked, this connection is expired due to inactivity.
time_stamp	The time at which the information in the current row was last received.
DataServerName	The name of the RTView Monitor Data Server connection.

JVM Displays

The Solution Package for JVM displays present performance data for monitored Java Virtual Machine (JVM) Processes. Use these displays to examine the current and historical performance metrics and resource usage of JVMs. 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:

The following JVM Monitor Views (and associated displays) can be found under **Components** tab **> Processes / JVM Processes > JVM**. To see your data in these displays you must install and configure the Solution Package for JVM. Displays in this View are:

- "All JVMs"
- "Single JVM"

All JVMs

Check the health status for all your JVMs, then drilldown and investigate issues in the "Single JVM" displays. The JVM displays come with RTView Enterprise Monitor. However, the displays are empty until you configure the Solution Package for JVM. Displays in this View are:

- "All JVMs Heatmap": Heatmap of alert states for all JVM connections
- "All JVMs Table": Table of connection details for all JVM connections.

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 \checkmark 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.

Table		All JVMs - Heatma	ap View	19-Jan-2017 14:3	s 💠 Data OK 💠 🕜
Source: All S	ources	•			JVM Count: 134
Show: 🔽 In	active Connection	Log Auto	Metric: Memory	/% ▼ 0	1 2
A	II JVMs organized by Host	where Size = Max Hea	ap and Color =		
	localhost			TBSend	
localhost	192.168.200.34	192.168.200.133		localhost	192.168.200.34
			192.16	3.200.136	192.168.200.134
192.168.200.146	192.168.2(192.168.200.	192.168.200.134			
		68.; 192.168.200.71 192.168.		192. 192.168.20).73 192. 192.168.; 192.168.;
192 192.168.20	0.147 192.168.200.7192.16 192	192.168.200.137 192.16 192	168.200 192.168 19	92 168 200 147 192 192	. 168.200.137 192.168 192.168

Title Bar (possible features are):	Data OK Data connection state. Red indicates the Data
🗲 👖 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	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.

Alert Severity	The maximum level of alerts in the heatmap rectangle. Values range from 0 - 2 , as indicated in the color gradient • • • • bar, where 2 is the highest Alert Severity.
	Red indicates that one or more alerts have reached their alarm threshold. Alerts that have exceeded their specified ALARM LEVEL threshold have an Alert Severity value of 2.
	\bigcirc Yellow indicates that one or more alerts have reached their alarm threshold. Alerts that have exceeded their specified WARNING LEVEL threshold have an Alert Severity value of 1 .
	Green indicates that no alerts have reached their alert thresholds. Alerts that have not exceeded their specified thresholds have an Alert Severity value of 0 .
Alert Count	The number of alerts for the rectangle. The color gradient $\boxed{\bullet}$ because the bar values range from 0 to the maximum number of alerts in the heatmap.
CPU %	The total percent (%) CPU utilization for the rectangle. The color gradient \mathbf{P}_{0} is the values range from 0 to the maximum percent (%) CPU utilization in the heatmap.
Memory %	The total percent (%) memory utilization for the rectangle. The color gradient \mathbf{P} bar values range from 0 to the maximum percent (%) memory utilization in the heatmap.
Current Heap	The current amount of heap committed for the connection, in kilobytes. The color gradient $\boxed{\bullet 25 0}$ bar values range from 0 to the maximum amount in the heatmap.
Used Heap	The total amount of heap used by the connection, in kilobytes. The color gradient \bullet bar values range from 0 to the maximum amount used in the heatmap.

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 J\	/Ms - Tabl	e View	1	9-Jan-2017 14:01 ᅉ	Data OK 🔍	+ 6
Source: All Sources								
JVM Count: 56	Show Inactive							
		All J	MX Connec	tions				
Connection	Source	Expired	Connected	Alert Severity	Alert Count	Host	Port	
ALERT_SERVER	localhost		0	0	0	localhost	10023	102
ALERT_SERVER	TBSender		0	0	0	localhost	10023	102
ALERTHISTORIAN	localhost		0	0	0	localhost	10025	110
ALERTHISTORIAN	TBSender		0	0	0	localhost	10025	110
AMXMON-alpha-TB34	localhost		0	0	0	192.168.200.34	6368	305
AMXMON-alpha-TB34	TBSender		0	0	0	192.168.200.34	6368	305
AMXMON-alpha-TB34-HIST	localhost		0	0	0	192.168.200.34	6367	633
AMXMON-beta-TB3-HIST	localhost		0	0	0	192.168.200.133	6367	473
BWMON-alpha-TB34	localhost		0	0	0	192.168.200.34	3368	321
BWMON-alpha-TB34	TBSender		0	0	0	192.168.200.34	3368	321
BWMON-alpha-TB34-HIST	localhost		0	0	0	192.168.200.34	3367	325
BWMONITOR-release-WIN-80	localhost		0	0	0	192.168.200.146	3368	904
BWMONITOR-TB8	localhost		0	0	0	192.168.200.138	3368	27(
CONFIG_SERVER	localhost		0	0	0	localhost	10013	99(
CONFIG_SERVER	TBSender		0	0	0	localhost	10013	99(
DISPLAYSERVER	localhost		0	0	0	localhost	10024	10(
DISPLAYSERVER	TBSender		0	0	0	localhost	10024	10(
DISPLAYSERVER_DARKSTY	localhost		0	0	0	localhost	10124	118
DISPLAYSERVER_DARKSTY	TBSender		0	0	0	localhost	10124	118
EMSMON_SENDER-alpha-TB	TBSender		0	0	0	192.168.200.34	3166	285
EMSMON_SENDER-alpha-TB	localhost		0	0	0	192.168.200.34	3166	285
- · · ·		-	~		1	1	i	-

Title Bar (possible features are):	🔄 Data OK Data connection state. Red indicates the Data
 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. 	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.
6,047 The number of items currently in the display.	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

Connection	The name of the JVM connection.
Source	The name of the source.
Expired	When checked, this connection is expired due to inactivity.
Connected	The data connection state: Disconnected. Connected.
Alert Severity	 The maximum level of alerts associated with the connection. Values range from 0 to 2, where 2 is the greatest Alert Severity. One or more alerts associated with the connection exceeded their ALARM LEVEL threshold. One or more alerts associated with the connection exceeded their WARNING LEVEL threshold. No alerts associated with the connection have exceeded their thresholds.
Alert Count	The current number of alerts for the connection.
Host	The name of the host for this connection.
Port	The port number for the connection.
PID	The connection PID.
CPU %	The amount of CPU, in percent (%) used by this connection.
Мах Неар	The maximum amount of heap used by this connection, in kilobytes.
Current Heap	The current amount of committed heap for this connection, in kilobytes.
Used Heap	The current amount of heap used by this connection, in kilobytes.
Mem % Used	The amount of JVM memory used by this connection, in percent (%).
RtvAppType	The type of RTView application, where: 1 is for the Historian, 3 is for the Data Server; 5 is for the Display Server, and 0 is a non-RTView application.
Source	The Data Server that sent this value.
time_stamp	The date and time this row of data was last updated.

Single JVM

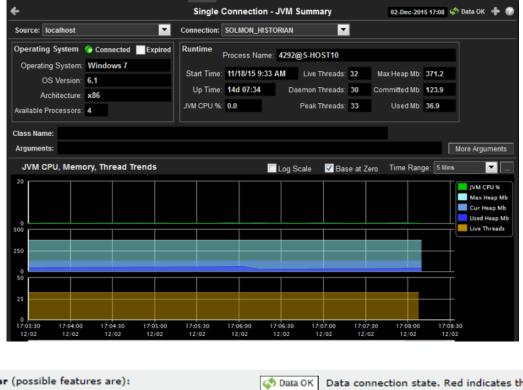
Use these detailed JVM displays to investigate performance issues on a JVM. To see your data in these displays you must install and configure the Solution Package for JVM. Displays in this View are:

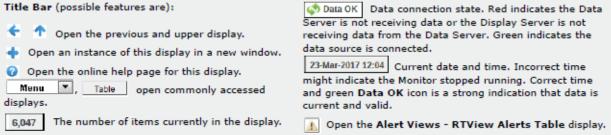
- "JVM Summary": Table of connection details for a single JVM as well as performance trend graphs.
- "JVM System Properties": Table of system details for a single JVM.
- "JVM Memory Pool Trends": Trend graphs of memory pool utilization.
- "JVM GC Trends": Trend graphs of garbage collection memory utilization.

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.





Fields and Data This display includes:

Select the type of connection to the RTView Server. Source

Select an RTView Server from the drop-down menu. Names can be modified in the RTView Server configuration properties file. Connection

Operating System Displays data pertaining to the operating system running on the host on which the JVM resides.

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

Runtime

	Process Name	Name of the process.
	Start Time	The date and time that the application started running.
	Up Time	The amount of time the application has been running, in the following format: Od 00:00 <days>d <hours>:<minutes>:<seconds> For example: 10d 08:41:38</seconds></minutes></hours></days>
	JVM CPU %	The amount of CPU usage by the JVM, in percent.
	Live Threads	The total number of live threads.
	Daemon Threads	The total number of live daemon threads.
	Peak Threads	The total number of peak live threads since the JVM started or the peak was reset.
	Max Heap Mb	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 <i>Maximum</i> memory allocation (for example, when the system is low on virtual memory).
	Committed Mb	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 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.
	Used Mb	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 us	sed for JVM.

The arguments used to start the application. Arguments

Additional arguments used to start the application. More Arguments

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 Use zero as the Y axis minimum for all graph traces. Zero

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 \square .

Select or Enter Date and Time:

Restore to Now
Ok Apply Cancel

By default, the time range end point is the current time. To change the time range end point, click Calendar _____ and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows \square \square 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.

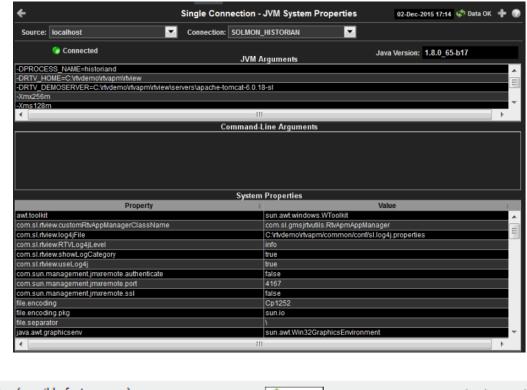
- JVM CPU %Traces the amount of memory, in percent, used by the JVM in the
time range specified.Max HeapTraces the maximum amount of memory used for memory
- **Mb** management by the application in the time range specified. This value may change or be undefined.

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** Traces the memory currently used by the application.
- Mb
- LiveTraces the total number of currently active threads in the time rangeThreadsspecified.

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):	🧔 Data OK Data connection state. Red indicates the Data
 Open the previous and upper display. Open an instance of this display in a new window. 	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 online help page for this display. Menu , 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.	Open the Alert Views - RTView Alerts Table display.

Fields and Data

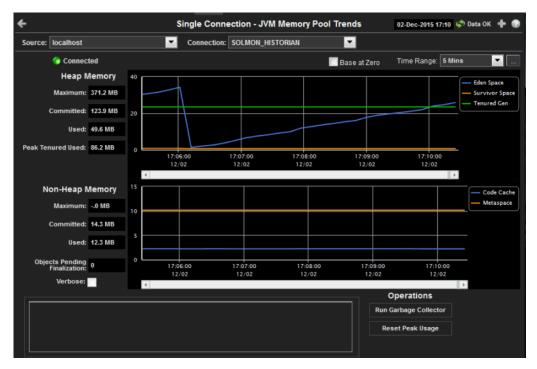
This display includes:

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.

used to start the application.
es system property settings.
Name of the property.
Current value of the property.

JVM Memory Pool Trends

Track JVM heap and non-heap memory usage for a single connection. Use the available dropdown menus or right-click to filter data shown in the 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 Use zero as the Y axis minimum for all graph traces. Zero

Time
RangeSelect 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 \square to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** dropdown menu.

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

Heap Memory

The maximum amount of memory used, in megabytes, for memory Maximum 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). 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 Committed 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 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. The amount of memory, in megabytes, currently used by the Used application. Memory used includes the memory occupied by all objects including both reachable and unreachable objects. The amount of memory, in megabytes, used by tenured JVM objects in the time range specified. Tenured refers to JVM objects contained in a Peak Tenured pool that holds objects that have avoided garbage collection and Used reside in the survivor space. Peak tenured refers to the maximum value of the tenured memory over a specified period of time. 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 Eden Space initially allocate memory for most objects. Traces the amount of memory used by the JVM survivor pool in the time range specified. The JVM survivor pool holds objects that survive Survivor Space the eden space garbage collection. 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 Tenured Gen holds objects that have avoided garbage collection and reside in the survivor space. Peak tenured refers to the maximum value of the tenured memory over a specified period of time.

Non-Heap Memory

	Maximum	The maximum amount of memory, in megabytes, used for JVM non- heap memory management by the application in the time range specified.
	Committed	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 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.
	Used	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.
	Objects Pending Finalization	The value of the MemoryMXBean ObjectPendingFinalizationCount attribute.
	Verbose	The value of the MemoryMXBean Verbose attribute.
	Code Cache	Traces the amount of non-heap memory used in the JVM for compilation and storage of native code.
	Perm Gen	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		
	Run Garbage Collector	Performs garbage collection on the selected server.
	Reset Peak Usage	Clears peak usage on the selected server.

JVM GC Trends

Track JVM garbage collection memory usage for a single connection. Use the available dropdown menus or right-click to filter data shown in the display.

<	Single Connection	- JVM GC Info Trends	02-Dec-2015 17:12 🥰	🔊 Data OK 🛛 🕂 🕜
Source: localhost	Connection: SOLMON_	HISTORIAN		
Garbage Collector: Copy	Max 🔽 Commite	d 🗾 Base	e at Zero Time Range: 5 Min	s 🔽
600 600 400 400 500 7.5 5 5 5 5 5 5 5 5 5 5 5 5 5	403.25 138.16 2.00 0.00 2.00 2.00 0.00 2.00 2.00 0.00 2.00 0.00 2.00 0.00 2.00 0.00 2.00 0.00 2.00 0.	Ind After Garbage Collection: Co		Max Commited Used - Before Used - After Duration Duty Cycle
Bar (possible features are): Open the previous and upper dis Open an instance of this display in a r Open the online help page for this display enu , Table open commonly ays. The number of items currently in	new window. Dlay. accessed	Data OK Data of Server is not receivir receiving data from data source is conner 23-Mar-2017 12:04 Cr might indicate the M and green Data OK current and valid.	ing data or the Disj the Data Server. C ected. urrent date and tin Monitor stopped rur	play Server is no Green indicates th ne. Incorrect time nning. Correct time

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 Use zero as the Y axis minimum for all graph traces. Zero

TimeSelect a time range from the drop down menu varying from 2 Minutes to Last 7RangeDays, 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 \square to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** dropdown 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

Maximum	Traces the maximum amount of memory used by garbage collection 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).		
Committed	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 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.		
Used - Before	Traces the amount of memory used before the last garbage collection.		
Used - After	Traces the amount of memory used after the last garbage collection.		
Duration	The duration, in seconds, of garbage collection.		
Duty Cycle	The percentage of time that the application spends in garbage collection.		

Tomcat Displays

The Tomcat displays provide extensive visibility into the health and performance of Tomcat application servers and installed web modules. The following Tomcat Monitor Views (and their associated displays) can be found under **Components** tab **> Application/Web Servers > Tomcat**. The Tomcat displays come with RTView Enterprise Monitor. However, the displays are empty until you install and configure the Solution Package for Tomcat.

Tomcat has the following Views:

- "Tomcat Servers"
- "Tomcat Applications"

Tomcat Servers

These displays present performance data for monitored Tomcat 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. To see your data in these displays you must install and configure the Solution Package for Tomcat. Displays in this View are:

- "All Tomcat Servers": Table of connection details and performance metrics for all Tomcat connections.
- "Tomcat Server Summary": Performance metrics for one Tomcat Server, including current and historic performance metrics.

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 get Tomcat server session counts, access and request rates, cache hit rates and data transmission metrics.

Drill-down and investigate by clicking a row in the table to view details for the selected connection in the **Service Summary** display.

<	All Tomcat Servers - Table 23-Sep-2015 16:34 💠 Data OK 💠 🔗							
Tomcat Count: 1	Tomcat Count: 1 All Tomcat Servers							
Connection	Source	Sessions Active	Sessions Total	Sessions Expired	Accesses per sec	Accesses Total	Bytes Rovd per sec	Bytes Rov Total
TOMCAT	localhost	4	17	-		30,302		433,851,9
•	111							•

Title Bar (possible features are):	🧔 Data OK Data connection state. Red indicates the Data
🗲 🛧 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

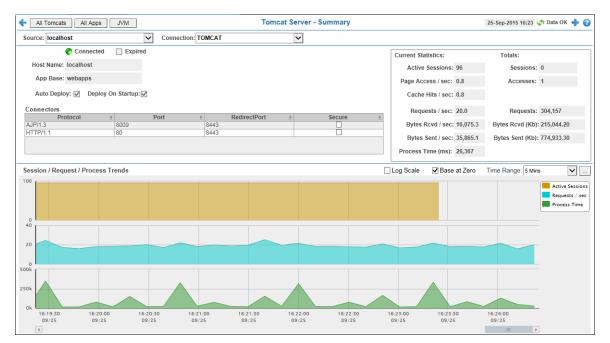
Fields and Data This display includes:

Tomcat Count	The number of Tomcat connections in the table.
Connection	The name of the Tomcat connection.
Source	The host where the Tomcat Server is running.
Sessions Active	The number of currently active client sessions.
Sessions Total	The total number of client sessions since the server was started.
Sessions Expired	The total number of client sessions that expired since the server was started.
Accesses per sec	The number of times pages are accessed, per second.
Accesses Total	The total number of times pages have been accessed since the server was started.

Bytes Rcvd per sec	The number of bytes received per second.			
Bytes Rcvd Total	The total number of bytes received since the server was started.			
Bytes Sent per sec	The number of bytes sent per second.			
Bytes Sent Total	The total number of bytes sent since the server was started.			
Cache Hit Rate	The number of times the cache is accessed, per second.			
Requests per sec	The number of requests received, per second.			
Requests Total	The total number of requests received since the server was started.			
Process Time	The average amount of time, in milliseconds, to process requests.			
Error Count	The number of errors that have occurred since the server was started.			
appBase	The directory in which Tomcat is installed.			
Display Name	The name of the currently open display.			
Expired	When checked, this connection is expired due to inactivity.			
time_stamp	The date and time this row of data was last updated. Format: MM/DD/YY HH:MM:SS <month>/ <day>/<year> <hours>:<minutes>:<seconds></seconds></minutes></hours></year></day></month>			

Tomcat Server Summary

Track the performance of one Tomcat Server and get Tomcat hosting and connection details. You can drill down to this display from the Servers table for detailed information and historical trends for a specific server. The trends include Active Sessions, Requests per Sec, and Process Time.





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.			
Connected	The Tomcat Server connection state: Disconnected. Connected.			
Expired	When checked, this server is expired due to inactivity.			
Host Name	The name of the host where the application resides.			
App Base	The directory in which Tomcat modules are installed.			

Auto Deploy	When checked, indicates that the Tomcat option, automatic application deployn is enabled. Note: This Tomcat option is set using the autoDeploy property in the server . file, located in the Tomcat conf directory. autoDeploy=true enables the optio					
Deploy On Startup	When checked, in is enabled.	dicates that the option to deploy the application on Tomcat startup				
	Note: This Tomcat option is set using the deployOnStartup property in the server.xml file, located in the Tomcat conf directory. When enabled (deployOnStartup=true), applications from the host are automatically deplo					
Connectors This table sho	ows Tomcat applica	tion connection information.				
	Protocol	The protocol used by the Tomcat application on the host.				
	Port	The port number used by the Tomcat application on the host.				
	RedirectPort	The redirect port number used by the Tomcat application on the host.				
	Secure	When checked, specifies that the Tomcat application uses a secure connection on the host.				
Current Stat	istics / Totals					
	Active Sessions	The number of clients currently in session with the servlet.				
	Sessions	The total number of client sessions since the server was started.				
	Page Access / sec	The number of times pages are accessed, per second.				
	Accesses	The total number of page accesses since the server was started.				
	Cache Hits / sec	The number of times the cache is accessed, per second.				
	Requests / sec	The number of requests received, per second.				
	Requests	The total number of requests since the server was started.				

Bytes Rcvd / sec	The number of bytes received, per second.
---------------------	---

Bytes Rcvd (Kb) The number of kilobytes received since the server was started.

Bytes Sent / The number of bytes sent, per second. séc

The total number of kilobytes sent since the server was started. Bytes Sent (Ḱb)

The amount of time, in milliseconds, for the servlet to process client requests. **Process Time**

Session / Request / Process Trends Shows metrics for the selected server.

- Log Scale Select to enable a logarithmic scale. Use Log Scale to see usage correlations for data with a wide range of values. For example, if a minority of your data is on a scale of tens, and a majority of your data is on a scale of thousands, the minority of your data is typically not visible in non-log scale graphs. Log Scale makes data on both scales visible by applying logarithmic values rather than actual values to the data.
- **Base at Zero** Use zero as the Y axis minimum for all graph traces.

Time Range Select a time range from the drop down menu varying from **2 Minutes** to **Last 7 Days**, or display **All Data**. To specify a time range, click Calendar .

Select or Enter Date and Time:
Restore to Now
Ok Apply Cancel

By default, the time range end point is the current time. To change the time range end point, click Calendar and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

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

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

Active Sessions	Traces the number of currently active client sessions.			
Requests /sec	Traces the number of requests received, per second.			
Process Time	Traces the average amount of time, in milliseconds, to process requests.			

Tomcat Applications

These displays present performance data for monitored Tomcat Applications. Use these displays to examine the state and performance of your Tomcat applications and all installed web modules. The server displays include summary overviews and detail pages with historical trends.

To see your data in these displays you must install and configure the Solution Package for Tomcat. Displays in this View are:

- "Applications Heatmap": Heatmap of performance metrics for all Web modules for one Tomcat Server.
- "Applications Summary": Table and trend graphs of performance metrics for Web modules.

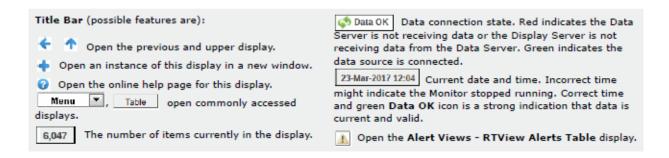
Applications Heatmap

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 \forall 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.

Tomcat Summary	Tomcat Ap	plications - Activit	y Heatmap 23-Sep-2015 16:30	💠 Data OK 💠 🕜
Source: localhost	Con	nection: TOMCAT	•	
Application Count: 14	Select Metric: Ac	tive Sessions	Log Scale (Activity)	50 100
Арр	lication Activity Heatmap	organized by WebMo	dule where Color = Metric	
/docs	/emsample_config_rtvdata	/emsmon	/gfmon_rtvdata	/gfmon_rtvquery
/emsample	/emsample_dark	/gfmon		
				/wsm
			/manager	/wsm
/emsample_alert_rtvdata	/emsample_rtvdata	/gfmon_rtvagent		
			/wim	



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.		

Applications 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.

🗲 Tomcat Heatmap		Tomc	at Module	s - Sumn	nary	23-Sep-2015 1	6:28 💠 Dat	а ОК 🔶	0
Source: localhost		▼ Conne	ection: TOM	CAT		•			
Web Module: /emsample			~						
		Web	Modules S	ummary					
	Active	Expired	Total	Process	Accesses	Total	Cache Hit	Total	
Web Module	Sessions	Sessions	Sessions	Time	per sec	Accesses	Rate	Cache H	
/emsample	4	13	17	168.8	1.9	29,740	1.6	24,3	
/gfmon_rtvquery	0	0	0	0.0	0.0	7	0.0	4.175	=
/gfmon rtvdata	0	0	0	0.0	0.0	7	0.0		=
/emsample_config_rtvdata	0	0	0	0.0	0.0	7	0.0		
/emsmon	0	0	0	0.0	0.0	7	0.0		
/emsample_rtvdata	0	0	0	0.0	0.0	7	0.0		
/emsample_dark	0	0	0	0.0	0.0	7	0.0		
/docs	0	0	0	0.0	0.0	7	0.0		_
/emsemple_elert_rtvdete	0	0	0	0.0	0.0	7	0.0		×
•	III							•	
Session / Data / Latency	Trends: /ems	ample	Log Scal	e 🗸 Bas	se at Zero	Time Range:	5 Mins	•	
10									_
							A 🔤	ctive Sessio	ns
0							A	ccesses / s	ec
10							Pi Pi	ocess Time	
				_					
400		16:27:08	09/28						
		Active	Sessions :	4.0					
0		Acces	ses / sec :	1.9					
16:24:00 16:25:00 Process Time : 168.8 2 7:00 16:28:00			:28:00						
09/23 09/23				09 23		9/28			
•							b.		

Use the available drop-down menus or right-click to filter data shown in the 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 l selected Source.

WebSelect 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

Web Module The name of the Web module.

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ted.
nds>

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.

- 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. Log Scale
 - **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:
Restore to Now
Ok Apply Cancel

By default, the time range end point is the current time. To change the time range end point, click Calendar and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

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

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

- Active Traces the number of currently active client sessions. Sessions
- Accesses / Traces the number of times pages are accessed, per second. sec
- **Process Time** Traces the average amount of time, in milliseconds, to process requests.

CHAPTER 16 Solution Package for RTView Host Agent

The Solution Package for RTView Host Agent monitors the health and performance of your physical servers. These predefined displays allow you to be alerted when hosts reach a critical condition. You can also see their performance impact on the technologies and applications they support. Metrics include CPU, memory and storage utilization, process resource consumption and network traffic load.

You install the Solution Package for RTView Host Agent onto each host you wish to monitor by extracting the zip file located in the **EnterpriseMonitor\rtvapm\hostmon\agents** directory. Refer to the **README_rtvHostAgent.txt** file in that directory for details about how to configure and run the host agent.

The Solution Package for RTView Host Agent displays come with RTView Enterprise Monitor. However, the displays are empty until you install and configure the Solution Package for RTView Host Agent.

Many medium to large organizations must deal with multiple monitoring solutions that are gathering important host information such as CPU and memory consumption. You can incorporate that information into the RTView® Enterprise Monitor by either deploying released Connectors (currently Connectors are available for TIBCO Hawk and Oracle Enterprise Manager), creating a custom connector, or using the RTView Host Agent.

Typically users choose to deploy the RTView Host Agent if the host is not already being monitored by another system, or if there are extra benefits in using this agent in addition to currently existing monitoring solutions. For example, sometimes the RTView Host Agent provides deeper information, or reports metrics at a much more rapid rate (default configurations are set at 10 second updates).

This section includes:

- "Troubleshoot"
- "General Hosts Views/Displays"

Troubleshoot

This section includes:

- "Log Files," next
- "JAVA_HOME"
- Permissions"
- Network/DNS"
- "Verify Data Received from Data Server"
- "Verify Port Assignments"

Log Files

When a Monitor component encounters an error, it outputs an error message to the console and/or to the corresponding log file. If you encounter issues, look for errors in the following log files:

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

which are located in the **RTViewEntepriseMonitor/emsample/servers/rtvmgr/logs** directory.

Logging is enabled by default. If you encounter issues with log files, verify the **logs** directory exists in the **RTViewEntepriseMonitor/emsample/servers/rtvmgr/logs** directory.

JAVA_HOME

If the terminal window closes after executing the **start_rtv** command, verify that JAVA_HOME is set correctly.

Permissions

If there are permissions-related errors in the response from the **start_rtv** command, check ownership of the directory structure.

Network/DNS

If any log file shows reference to an invalid URL, check your system's hosts file and confirm with your Network Administrator whether your access to the remote system is being blocked.

Verify Data Received from Data Server

If you encounter problems collecting data, restart the Data Server, start the Monitor and go to **Administration>RTView Cache Tables** in the navigation tree. You should see all caches being populated with monitoring data (the number of rows in the table is greater than 0). If not, there is a problem with the connection to the Data Server.

Verify Port Assignments

If the Display Server or Historian fail to connect to the Data Server or they receive no data, verify the ports are assigned correctly in your properties files and restart the Data Server.

General Hosts Views/Displays

RTView Host Agent displays provide extensive visibility into the health and performance of your hosts. The following RTView Host Agent Monitor Views (and their associated displays) can be found under **Components** tab **> Hosts/VMs > General Hosts**. The Solution Package for RTView Host Agent comes with RTView Enterprise Monitor. However, the displays are empty until you configure the Solution Package for RTView Host Agent.

RTView Host Agent has the following Views:

- "All Hosts"
- "Single Host"

All Hosts

These displays present performance data for monitored hosts. Use these displays to examine the state and performance of your hosts. The server displays include summary overviews and detail pages with historical trends.

To see your data in these displays you must install and configure the Solution Package for RTView Host Agent. Displays in this View are:

- "All Hosts Heatmap"
- "All Hosts Table"
- "All Hosts Grid"
- "All Processes Table"
- "All Network Table"
- "All Storage Table"
- "Host Summary"

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.

← Ⅲ		All Hosts - Heatmap	02-Feb-2016 13:27 💉 Data OK 💠 🌍
Domain: All Domains 🗸	Host Count: 7		
Show: 🗹 Domain 📃 Host		Metric	Alert Severity 0 1 2
Show: Domain Host	Host	Metric: s organized by Domain where Color = Metric and Size ~ log(Physical Memory) myHawkDomain Domain: myHavkDomain Host Name: SLHOST16(=q_conn) Physical Memory: 8,192.0 Severity: 0 Alert Count: 0 OS Type: Win22	Alert Count
		OS 1/961 Win22 96 CPU Used: 83.1 96 Mem Used: 83.1 96 Mem Used: Virtual: 35.2 1 Min Load Avg: -1.00 15 Min Load Avg: -1.00	

Title Bar (possible features are):	🔯 Data OK Data connection state. Red indicates the Data
🗧 🚹 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
Open an instance of this display in a new window.	data source is connected. 23-Mar-2017 12:04 Current date and time. Incorrect time
Open the online help page for this display. Menu Table open commonly accessed displays.	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.	Open the Alert Views - RTView Alerts Table display.

Filter By: The display might include these filtering options:

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. Domain:

Fields and Data:

Host Count:	The total number of hosts currently shown in the display.		
Show:	Domain When selected, includes the Domain name in the display.		
	Host	When selected, includes the Host name in the display.	
Metric	Choose a metric to view in the display.		

Alert Severity	The maximum level of alerts in the heatmap rectangle. Values range from 0 - 2 , as indicated in the color gradient 1 - 1 - 1 bar, where 2 is the highest Alert Severity:
	• Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.
	Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.
	Green indicates that no metrics have exceeded their alert thresholds.
Alert Count	The total number of critical and warning alerts in the heatmap rectangle. The color gradient \bullet but bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average alert count.
% CPU Utilization	The percent of CPU used in the heatmap rectangle. The color gradient \bullet
% Memory Used	The percent of memory used in the heatmap rectangle. The color gradient \bullet sector bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
% Virtual Memory Used	The percent of virtual memory used in the heatmap rectangle. The color gradient \bullet and \bullet bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
1 Minute Load Avg	The average number of processes running over 1 minute.
5 Minute Load Avg	The average number of processes running over 5 minutes.
15 Minute Load Avg	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 B Host Name Expired Severity Alert Uptime NCPU: % CPU: % CPU: Memory: Memory: Memory: Swap Used Swap Total Swap = Virtu Used % Used %	🗲 📴 🔟				A	All Hosts	- Table \	View			02-Fe	b-2016 13:37 🧣	🔊 Data OK +	0
Domain Expired Severity Alert = Count Uptime = User % CPU = System % CPU = Ide % CPU = Used % CPU = Total % CPU = T	Domain: All Doma	ains 🗸												
Domain Host Name Expired Seventy Count Uptime User System Idle Used Total Used % Swap Used Swap Used<	Host Count: 7					Host (CPU Stats							
myHawkDomain SLHOST16(sl_ga_conn) Image 0 120d 02:21 8.37 -1.00 91.63 7.306 8.192 89.2 1.581 8.192 19.3 myHawkDomain SLHOST16(sl_ga_conn) Image 0 120d 02:17 0.71 -1.00 99.29 4.875 8.192 59.5 180 8.192 2.2 myHawkDomain SLHOST17(sl_amx) Image 0 120d 02:17 0.71 -1.00 99.29 4.875 8.192 59.5 180 8.192 2.2 myHawkDomain SLHOST21(dev) Image 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_ga_conn) Image 5 40 02:41 0.00 10.00 2.576 7.824 32.9 0 9.999 0.0 myHawkDomain SLHOST5(domain5) Image 0 0.013:34 17.19 -1.00 82.81 2.313 4.096 56.5 26	Domain	Host Name	Expired	Severity	Uptime =					Memory ≘ Used %	Swap Used	Swap Total		/irtua Us
myHawkDomain SLHOST17(sl_amx) Image: Constraint of the state of t	myHawkDomain			6										
myHawkDomain SLHOST21(dev) Korona SLHOST21(stev) Substrate to the state of the state				6										
myHawkDomain SLHOST22(sl_ga_conn) 📕 🍫 0 54d 02:41 0.00 0.00 100.00 2,578 7,824 32.9 0 9,999 0.0 myHawkDomain SLHOST5(domain5) 📕 🍲 0 0d 13:34 17.19 -1.00 82.81 2,313 4,096 56.5 26 4,096 0.6														
myHawkDomain SLHOST5(domain5) 🔲 有 0 0d 13:34 17.19 -1.00 82.81 2,313 4,096 56.5 26 4,096 0.6														
				<u> </u>										

 Open the previous and upper display. Open an instance of this display in a new window. Open the online help page for this display. 	Data OK 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.
6,047 The number of items currently in the display.	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.

Severity	The maximum level of alerts in the row. Values range from 0 - 2 , as indicated in the color gradient bar , where 2 is the highest Alert Severity:
	Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.
	O Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.
	Green indicates that no metrics exceeded their alert thresholds.
Alert Count	The total number of active alerts associated with the host.
Uptime	The amount of time the application has been running, in the following format: 0d 00:00 <days>d <hours>:<minutes>:<seconds></seconds></minutes></hours></days> For example: 10d 08:41:38
% CPU Used	The amount of CPU used, in percent.
% CPU System	The amount of CPU used, in percent.
% CPU Idle	The amount of CPU not used, in percent.
Memory Used	The amount of memory, in megabytes, currently used.
Memory Total	The total amount of memory, in megabytes.
Memory Used%	The amount of memory used, in percent.
Swap Used	The amount of swap space, in megabytes, currently used.
Swap Total	The total amount of swap space, in megabytes.
Swap Used %	The amount of swap space used, in percent.
Virtual Mem(ory) Used	The amount of virtual memory currently used, in megabytes.
Virtual Mem(ory) Total	The total amount of virtual memory, in megabytes.
Virtual Mem(ory) Used%	The amount of virtual memory used, in percent.
Load Avg 1 Minute	The average number of processes running over 1 minute.
Load Avg 5 Minute	The average number of processes running over 5 minutes.
Load Avg 15 Minute	The average number of processes running over 15 minutes.
OS Type	The type of operating system (for example, Linux, HP-UX, Windows 2003).
OS Description	The name of the operating system.
OS Version	The operating system version.
CPU Model	The CPU model.
# CPUs	The number of node connections.

Agent Type	The type of agent from which the data was collected: HOSTMON (a SL Host Agent), Hawk , WMI or SNMP .
Agent Class	The specific version of the agent software.
Source	The name of the SL Data Server where the host data was collected.
Timestamp	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.

← Ⅲ 🛎	All Hosts - Grid	02-Feb-2016 13:40 💠 Data OK 💠 📀
Domain: All Domains		
Host Count: 7	Selected Host Summaries	Time Range: 5 Mins
myHawkDomain:SLHOST16(sl_amx) 1 5 15 OS Type: Win32 Load Avg: -1.00 -1.00 -1.00 Uptime: 1200 02:28 CPU Usage -<	201 = CPU 301 = VM Usage 01 = TK KBis 102 = TK KBis 103 = TK KBis 103 = TK KBis 103 = TK KBis	^
myHawkDomain:SLHOST16(sl_qa_conn) OS Type: Win32 Uptime: 1204 02:24 Load Avg: 1.00 Phys Mer: 8,192.0 MB Virtual Mem: 15,927.2 MB	201 04 05 05 05 05 05 05 05 05 05 05	
myHawkDomain:SLHOST17(sl_amx) 1 5 15 OS Type: Win32 Load Avg: -1.00 -1.00 -1.00 Uptime: 120d 02:20 -0.00 -1.00 -1.00 -1.00 -1.00 Phys Mem: 8,192.0 MB CPU Usage - </td <td>2 40 100 13:35:45 13:38:15 13:40:45</td> <td></td>	2 40 100 13:35:45 13:38:15 13:40:45	
myHawkDomain:SLHOST21(dev) 1 5 15 OS Type: Win32 Load Avg: -1.00 1.00 1.00 Uptime: 1204 04:43 Load Avg: -1.00 -1.00 -1.00 -1.00 Phys Mem: 16,384.0 MB CPU Usage	5 60 100 100 13.35.45 13.38:15 13.40.45	
myHawkDomain:SLHOST22(sl_ga_conn) OS Type: Linux Load Avg: 0.88 0.48 0.18 Uptime: 54 02:44 0.88 0.48	1 1 2 2 2 2 2 2 2 2 2 2 2 2 2	~

Title Bar (possible features are):	🔹 Data OK Data connection state. Red indicates the Data
 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. 	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. Depenthe 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 Count	Displays the number of hosts (including expired hosts) listed in the display.

RTView Enterprise Monitor® for TIBCO® User's Guide

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. Time Range:

Grid Utilization data shown for hosts in the selected domain.

Host Name	The name of	the host.
OS Type	The name of	the operating system.
Uptime	The amount or running.	of time (days, hours, seconds) the operating system has been
Phys Mem	The amount o	of physical memory used, in megabytes.
Virtual Mem	The amount o	of virtual memory used, in megabytes.
Load Avg	1	The average number of processes running over 1 minute.
	5	The average number of processes running over 5 minutes.
	15	The average number of processes running over 15 minutes.
CPU Usage	The bar graph	n shows the amount of CPU currently used.

The bar graph shows the amount of virtual memory currently used. VMem Usage

Trend Graphs

CPU	Traces the amount of CPU currently used.
VM Usage	Traces the amount of virtual memory currently used.
Rx KB/s	Traces the amount data currently being received per second.
Tx KB/s	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.

omain: All Domains 🛛 🗸	Host: All Hosts 🗸			
ocess Count: 687	Host Processes			
		ODU W	Memory = Memory = Memory =	Pag
	xpired: PID : User : Process Name :	CPU % Start Time	Used Resident Shared	Fau
rHawkDon SLHOST16(sl_amx)	4 <access denie="" system<="" td=""><td>0.02 01-May-2014 23:18:11</td><td></td><td></td></access>	0.02 01-May-2014 23:18:11		
rHawkDon SLHOST16(sl_amx)	376 NT AUTHORITY\\$ smss.exe	0.00 01-May-2014 23:18:11		· ·
HawkDon SLHOST16(sl_amx)	540 NT AUTHORITY\\$csrss.exe	0.00 01-May-2014 23:18:16		12,08
rHawkDon SLHOST16(sl_amx)	628 NT AUTHORITY\\$ wininit.exe	0.00 01-May-2014 23:18:17		
HawkDon SLHOST16(sl_amx)	648 NT AUTHORITY\\$csrss.exe	0.00 01-May-2014 23:18:17		
HawkDon SLHOST16(sl_amx)	692 NT AUTHORITY\\$ services.exe	0.01 01-May-2014 23:18:17		14,4
HawkDon SLHOST16(sl_amx)	708 NT AUTHORITY\SIsass.exe	0.02 01-May-2014 23:18:17		1,27
HawkDon SLHOST16(sl_amx)	716 NT AUTHORITY\\$Ism.exe	0.00 01-May-2014 23:18:17		1,03
HawkDon SLHOST16(sl_amx)	800 NT AUTHORITY\\$ winlogon.exe	0.00 01-May-2014 23:18:17		
HawkDon SLHOST16(sl_amx)	864 <access denie="" svchost.exe<="" td=""><td>0.00 01-May-2014 23:18:20</td><td></td><td>1,49</td></access>	0.00 01-May-2014 23:18:20		1,49
HawkDon SLHOST16(sl_amx)	416 <access denie="" svchost.exe<="" td=""><td>0.00 01-May-2014 23:18:20</td><td></td><td>2,87</td></access>	0.00 01-May-2014 23:18:20		2,87
HawkDon SLHOST16(sl_amx)	472 NT AUTHORITY\\$LogonUI.exe	0.00 01-May-2014 23:18:21		
HawkDon SLHOST16(sl_amx)	640 <access denie="" svchost.exe<="" td=""><td>0.00 01-May-2014 23:18:21</td><td></td><td>111,</td></access>	0.00 01-May-2014 23:18:21		111,
HawkDon SLHOST16(sl_amx)	548 NT AUTHORITY\\$ svchost.exe	0.05 01-May-2014 23:18:21		111,
HawkDon SLHOST16(sl_amx)	1048 NT AUTHORITY\\$ svchost.exe	0.28 01-May-2014 23:18:21		1,60
HawkDon SLHOST16(sl_amx)	1220 <access denie="" svchost.exe<="" td=""><td>0.00 01-May-2014 23:18:22</td><td></td><td>2,71</td></access>	0.00 01-May-2014 23:18:22		2,71
HawkDon SLHOST16(sl_amx)	1316 <access denie="" svchost.exe<="" td=""><td>0.00 01-May-2014 23:18:22</td><td></td><td>4,12</td></access>	0.00 01-May-2014 23:18:22		4,12
HawkDon SLHOST16(sl_amx)	1548 <access denie="" spoolsv.exe<="" td=""><td>0.00 01-May-2014 23:18:23</td><td>3 3,336 -1 -1</td><td>434</td></access>	0.00 01-May-2014 23:18:23	3 3,336 -1 -1	434
HawkDon SLHOST16(sl_amx)	1576 <access denie="" svchost.exe<="" td=""><td>0.00 01-May-2014 23:18:23</td><td>3 4,268 -1 -1</td><td>3,88</td></access>	0.00 01-May-2014 23:18:23	3 4,268 -1 -1	3,88
HawkDon SLHOST16(sl_amx)	1796 NT AUTHORITY\\$HeciServer.exe	0.00 01-May-2014 23:18:24	4 776 -1 -1	12
HawkDon SLHOST16(sl_amx)	1820 NT AUTHORITY\\$IProsetMonitor.exe	0.00 01-May-2014 23:18:24		
HawkDon SLHOST16(sl_amx)	2700 <access denie="" svchost.exe<="" td=""><td>0.00 01-May-2014 23:19:05</td><td>5 780 -1 -1</td><td>8</td></access>	0.00 01-May-2014 23:19:05	5 780 -1 -1	8
HawkDon SLHOST16(sl_amx)	684 <access denie="" svchost.exe<="" td=""><td>0.00 01-May-2014 23:21:06</td><td></td><td>2,90</td></access>	0.00 01-May-2014 23:21:06		2,90
HawkDon SLHOST16(sl_amx)	2944 NT AUTHORITY\\$IAStorDataMgrSvc.exe	0.00 01-May-2014 23:21:08		1,10
HawkDon SLHOST16(sl_amx)	2680 NT AUTHORITY\\$jhi_service.exe	0.00 01-May-2014 23:21:19		
HawkDon SI HOST16(sl. amy)		0.00 01-May-2014 23:21:2/	4 1 724 -1 -1	152

Title Bar (possible features are):	Data OK Server is not receiving data or the Display Server is not
🗧 🔨 Open the previous and upper display.	receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	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	The total number of processes in the table.
Count:	

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.
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.
PID	The process ID.
User	The user name.
Process Name	The name of the process.
CPU%	The amount of CPU used, in percent.
Start Time	The host start time, in the following format: Od 00:00 <days>d <hours>:<minutes>:<seconds></seconds></minutes></hours></days> For example: 10d 08:41:38
Memory Used	The amount of memory currently used, in megabytes.
Memory Resident	The amount of memory currently used by the process that resides in physical memory and is not paged out. Set to -1 when the data is not available from an agent. (Hawk does not provide this data.)
Memory Shared	The amount of physical memory that is shared with other processes. Set to - ${f 1}$ when the data is not available from an agent. (Hawk does not provide this data.)
Page Faults	The number of page faults.
Page Faults /sec	The number of page faults per second.
Timestamp	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.

(1		All Hos	st Network - Table	e View	26-Oct-2016 09:34	📫 Data OK 🛛 💠 🕜
Domain: All Dom	nains 🔻 Host:	All Hosts	•			
Interface Coun	t:4	Ho	ost Network Interfac	es		
Domain	Host Name	Expired	if Name	Inet Addr	Mask	Fla
QATB	TESTBED-26		lo	127.0.0.1	255.0.0.0	UP LOOPBACK RUN
QATB	TESTBED-26		enp0s3	192.168.200.76	255.255.255.0	UP BROADCAST RU
QATB	TESTBED-34		lo	127.0.0.1	255.0.0.0	UP LOOPBACK RUN
QATB	TESTBED-34		ens32	192.168.200.34	255.255.255.0	UP BROADCAST RU
•	1					

Title Bar (possible features are):	on Data OK Data connection state. Red indicates the Data		
 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. 	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 specifie when your administrator configures your Data Server.	ed.
---	-----

Host: Choose a host for which to show NIC data.

Fields and Data:

Interface The total number of NICs in the table. Count:

Table:

Each row in the table is a different NIC.

Domain	The domain in which the NIC resides.
Host Name	The name of the NIC in which the network interface resides.
Expired	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.
if Name	The name of the NIC.
Inet Addr	The NIC IP address.
Mask	The NIC subnet mask IP address.
Flags	Descriptive text for NIC flag.
МТИ	The largest size packet or frame for the NIC.
Metric	Indicates
Point To Point	Indicates whether the NIC is a point to point configuration.
Broadcast	Indicates whether the NIC is a broadcast configuration.
rxKBytes	The total number of kilobytes received by the NIC.
rxPackets	The total number of packets received by the NIC.
rxDropped	The total number of received packets that were dropped by the NIC.
rxErrors	The total number of received errors on the NIC.
rxOverruns	The total number of received overruns on the NIC.
rxFrame	The total number of received frames on the NIC.
txKBytes	The total number of kilobytes transmitted by the NIC.
txPackets	The total number of packets transmitted by the NIC.
txDropped	The total number of transmitted packets that were dropped by the NIC.
txErrors	The total number of transmission errors for the NIC.
txOverruns	The total number of transmission overruns for the NIC.
txCollisions	The total number of transmission collisions for the NIC.
txCarrier	The total number of transmission carrier errors for the NIC.
MAC Address	The NIC MAC address.
Rx KB/s	The number of kilobytes received per second.
Tx KB/s	The number of kilobytes transmitted per second.
Rx Packets/s	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.

(1			All H	lost Storage -	Table Vi	iew	02-	Nov-2016 09:1	1 📫 Data OK	•
Domain: All Doma	iins	▼ Host: All	Hosts		•					
Storage Count:2				Host Stora	ge					
Domain		t Name	Expired		%	Total	Used	Available	Mount Point	~ .
QATB	WIN-8-CLON			C:\	86.0	59.90		8.81		NTFS/lc
QATB	WIN-8-CLON	E		\\192.168.200.70	84.0	452.43	377.54	74.89	Z:\	NTFS/re
•										•

Title Bar (possible features are):	🧔 Data OK Data connection state. Red indicates the Data			
Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the			
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.			
6,047 The number of items currently in the display.	▲ 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	The total number of storage partitions in the table.
Count:	

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.
Туре	The file system type.
Timestamp	The date and time the data was last updated.

Single Host

These displays present performance data for a single monitored host. Examine details about the health of your hosts.

To see your data in these displays you must install and configure the Solution Package for RTView Host Agent. Displays in this View are:

"Host Summary"

Host Summary

This display provides a detailed view of utilization metrics for a single server.

(Single Host - Summary View		02-Feb-2016 13:44 💠 Data OK 💠 🍘
Domain: myHawkDomain 🔽 Host: SLHOS	ST16(sl_amx)	Expired		Last Update: 02-Feb-2016 13:44:43
OS: Windows 7		I (MB) % Used Storag 192 89.6 File System≡ Mount	ge Point ≋ % Used:	
Uptime: 120d 02:33 # CPUs: 4	Virtual: 5,644 15,	927 35.4 Netwo	-tk	
:PU Type: amd64	Processes: 80		x KB/s⊫ Tx KB/s≡	
User System Idle % CPU: 8.2 -1.0 91.8	1 Min 5 M Load Avg: -1.00 -1.0			
Host Trends if Name:	✓		🗖 Log Scale 🛛 Base at Zero	Time Range: 5 Mins 🔽 📖
				CPU % Used Mem Total Mem Used Net Rx K8/s Net Tx KB/s
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				
13:40:00 13:40:30 13:41:00 02/02 02/02 02/02	13:41:30 13:42 02/02 02/0		13:43:30 13:44:00 02/02 02/02	13:44:30 13:45:00 02/02 02/02

Title Bar (possible features are):	🐼 Data OK Data connection state. Red indicates the Data
🗲 🛧 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
💠 Open an instance of this display in a new window.	data source is connected.
Open the online help page for this display. Menu 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.	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 sel	ected host except where noted.

OS:	The operating system.
Version:	The operating system version.
Uptime:	The number of days, hours and minutes since started.

	#CPUs	The number of node connections.
CPU Type:	The type of C	PU.
%CPU	User	The amount of CPU used by the user, in percent.
	System	The amount of CPU used by the system, in percent.
	Idle	The amount of CPU that is not used, in percent.
Physical Memory	Used	The amount of physical memory used, in kilobytes.
	Total(MB)	The amount of physical memory available, in kilobytes.
	%Used	The amount of physical memory used, in percent.
Virtual Memory	Used	The amount of virtual memory used, in kilobytes.
	Total(MB)	The amount of virtual memory available, in kilobytes.
	%Used	The amount of virtual memory used, in percent.
Processes	The number o	of processes running.
Load Avg:	1 Min	The average number of processes running over 1 minute.
	5 Min	The average number of processes running over 5 minutes.
	15 Min	The average number of processes running over 15 minutes.
Storage	File System	The amount of storage space used for the file system, in kilobytes.
	Mount Point	The name used by the operating system to mount and provide an entry point to other storage volumes.
	%Used	The amount of storage space used, in percent.
Network	ifName	The name assigned to the network interface by the operating system.
	RxKB/s	The amount of network data received per second, in kilobytes.
	TxKB/s	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 RangeSelect 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 **S** to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** drop-down menu.

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

CHAPTER 17 Solution Package for VMware vCenter

RTView Enterprise Monitor® uses Solution Packages to gather and process performance metrics from a wide variety of different technologies, including VMware vCenter.

With the Solution Package for VMware vCenter, you are able to collect CPU, memory, disk and network data for hosts and virtual machines from VMware vCenter and ESXi servers in realtime. RTView Enterprise Monitor combines these metrics with application performance data obtained from application servers, enterprise message buses and other middleware components to create holistic, single-pane-of-glass views of the entire application environment. This concise visualization provides immediate insight into the level of criticality of a problem, and drill-down support to quickly determine cause and guide resolution.

SL SERVICE TREE	SERVICE VIEWS COMPONENTS ALERTS ADMIN CUSTOM REVIEWS COMPONENTS COMPONENTS	
Technology By Vendor	🗲 🛧 🔟 VMware All Virtual Machines - Heatmap 14-Jan-2016 15143 🗳 Data OK 🔶 🕢	
Application / Web Servers .	Server: Al Servers • Host Al Hosts • Law Update: 14-Jan-2016 10.42:00	
Middleware	VMCount 41 Color Metric Alert Seventy	
Databases	Labels Log Scale Show powered VMs Sectors Adversal Marco Part Sectors Solutions Social Ms organized by Host (size - memory used)	
Processes	- vig-v Remain: 300051 EU-0317 10540 weak 1 dollances tood weak 1 dollances tood	
> JVM Processes	exel fragments see Contract Co	
> RTView Processes	Court Acad Skiny CD Down Sking T	
Hosts / VMs	Net Y 4 Statis 20 Net Statis Company 0	
> General Hosts		RTView Enterprise Monitor®
✓VMWare	By Technology By Vendor 🕹 🛧 VXI Table VVII Vable	14-Jan-2016 10:40 🗢 Data OK 💠 🌘
✓VMware Hosts	Application / Web Servers Server: [vSphere2] • Host:[slessi-3.stdemos-hg.local •	Last Update: 14-Jan-2016 10-411
All Hoots Single Host Summary Vistual Machines All VMs Bakman All VMs Dak Table All VMs Dak Table Single VM Summary X-Machine EC2 Hosts Connectors Other:	Subtraces	Time Range (20ays • •) • • • • • • • • • • • • • • • • •
	> Vitual Machines 300 > Amazini EC2 Hosts 300 > Obser. 300 11 54 100000 120000 120000 120000 120000 120000 120000 120000 120000 120000 120000 120000 120000	6 00 00 01.14 26 (*)

Since vCenter provides built-in performance metrics, there is no longer a need to painfully install and manage monitoring agents on every machine that hosts application components. Instead, RTView simply connects to vCenter and can readily incorporate data from multiple data centers and thousands of virtual machines. On top of this, RTView provides an automated, data-driven application dependency model that intuitively visualizes the relationship among applications and their underlying infrastructure and middleware components in order to highlight the business impact and criticality of any problems or performance issues.

An integral part of the system, the included RTView Historian, can be configured to store vSphere metrics in an arbitrary SQL database for capacity planning and historic trend analysis. Trends can also be used to refine alert thresholds. RTView alerts can be integrated with alerts from third-party sources through RTView's alert management system to help users quickly filter alerts and identify the source of true performance problems.

The lightweight, flexible nature of RTView Enterprise Monitor is also of particular use in complex environments where the monitoring of both cloud-based and on-premise components is required.

See the **README.txt** file, located in the root directory of each Solution Package, for instructions about configuring and working with the Solution Package.

See **README_sysreq.txt** for the full system requirements for RTView®.

This section includes:

- "Configuration Parameters You Need"
- "Configure Data Collection"
- "Additional Configurations"
- "Troubleshoot"
- "VMware vCenter Monitor Views/Displays"

Configuration Parameters You Need

To configure the Solution Package for VMware vCenter make a note of the following values:

- PackageName=vmwmon
- ServerDirectory=miscmon
- AlertPrefix=Vmw

Configure Data Collection

Use the RTView Configuration Application to configure your data collection:

1. Navigate to RTView Configuration Application > (MISCMON-LOCAL/Project Name) > Solution Package Configuration > VMWare > CONNECTIONS tab.

€ RTView®	MISCMON-LOCAL - Miscellaneous M	pnitor	
APROJECTS	VMWare		
Custom	CONNECTIONS	DATA COLLECTION	DATA STORAGE
Docker			
IBM DB2	Alexandra (Denvired)		
Microsoft SQL Server	Classpath (Required) Directory Containing VMWare Jars. This is required to connect to VM	Ware.	
MongoDB			
MySQL Database	ex: c:\vmware\SDK\vsphere-ws\java\JAXWS\lib or /vmware/SDK/vsphere-	rs/java/JAXWS/lib Always enclose environment variables in %, ex. %MY_ENV_VAR%	
Node.js			
Oracle Database		_	
Oracle Enterprise Manager	To begin	adding Connections, click 🔶	
RTView Manager			
RedHat JBoss			
TIBCO Active Spaces			
TIBCO Adapters			
TIBCO BusinessEvents			
TIBCO Hawk			
VMWare			
hostmon			

2. On the CONNECTIONS tab, enter the full path to the directory containing the vSphere Java API in the Classpath field. Enter the path to reflect the location of this jar on your host. If necessary, download and install the jar from https:// developercenter.vmware.com/web/sdk/55/vsphere-management. Version 5.5 of the vSphere management SDK is recommended, but the monitor should function with later versions.

CONNECTIONS	DATA COLLECTION	DATA STORAGE
Iasspath (Required) irectory Containing VMWare Jars. This is required to conne	act to VMWare.	
%RTVAPM_HOME%//ext/vSphereSDK/vSph	ere5.5/vim25.jar	
x: c:\vmware\SDK\vsphere-ws\java\JAXWS\lib or /vmware/SDK/	vsphere-ws/java/JAXWS/lib Always enclose environment variables in %, ex.	%MY_ENV_VAR%
To b	egin adding Connections, click	•

3. To add connections to your vCenter servers, click the \bigcirc icon.

The **Add Connection** dialog displays.

Add Connection
Connection Name *
Connect Method * vcenter Server Direct ESXI Host URL*
ex. https://HostOriP/adk Username
Password
* Indicates required field
SAVE CANCEL

4. Specify the connection information and click **Save** where:

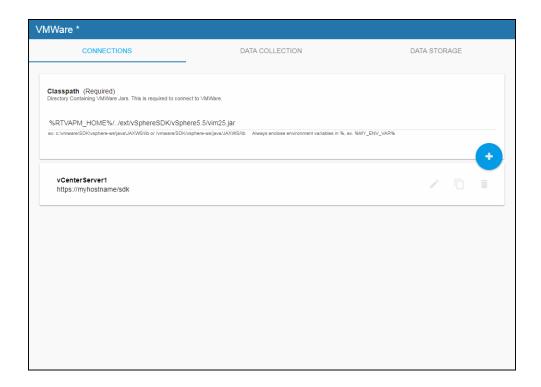
Connection Name: The name of the connection. The **Connection Name** specifies the name you want to define for the **vCenter Server** or **Direct EXSi Host** that will be used in the VMware displays.

Connect Method: Select either **vCenter Server** or **Direct EXSi Host** as the connect method.

URL: Enter the complete URL for the **vCenter Server** or **Direct EXSi Host.** A commaseparated list of URLs is used to designate fault tolerant server pairs.

Username: The username is used when creating the connection to the **vCenter Server** or **Direct EXSi Host**. This field is optional.

Password: This password is used when creating the connection to the **vCenter Server** or **Direct EXSi Host**. This field is optional. By default, the password entered is hidden. Click the \odot icon to view the password text.



- **5.** Repeat steps 3-4 for any additional vCenter servers or EXSi hosts to which you want to connect.
- 6. If you want to modify the default values for the update rates for various general and disk usage caches, you can update the default polling rates in RTView Configuration Application > DATA COLLECTION > Poll Rates.

General Caches

Update the polling rate for the **General** field to modify the default polling rate for the VmwHostRuntimeStatus, VmwVirtualMachines, VmwVmRuntimeStatus, VmwVmDiskUsage, VmwHostSystems, VmwHostSystemHealthInfo, VmwDatastoreHosts, VmwHostPhysicalNIC, VmwHostVirtualNIC, VmwDatastoreVMs, VmwDatastoreRuntimeStatus, VmwNetworkRuntimeStatus, VmwClusterComputeResources, VmwEvents, and VmwAlarms caches:

VMWare *		
CONNECTIONS	DATA COLLECTION	DATA STORAGE
Poll Rates Set the rate in seconds at which to collect metric data General	Disk Usage 300	

Disk Usage Caches

Update the polling rate for the **Disk Usage** field to modify the default polling rate for the VmwVmDiskUsage cache:

CONNECTIONS	DATA COLLECTION	DATA STORAGE
CONNECTIONS		
II Rates the rate in seconds at which to collect metric dat	ta	
eneral	Disk Usage	
60	300	

Additional Configurations

This section describes the additonal optional VMWare Monitor configurations.

"Enabling/Disabling Historical Data Collection"

Enabling/Disabling Historical Data Collection

You can specify the number of history rows to store in memory, the compaction rules, the duration before metrics are expired and deleted, and the different types of metrics that you want the Historian to store in the **Data Storage** tab in the RTView Configuration Application. This section contains the following:

- "Defining the Storage of VMWare In Memory History"
- "Defining Compaction Rules for VMWare"
- "Defining Expiration and Deletion Duration for VMWare Metrics"
- "Enabling/Disabling Storage of VMWare Historical Data"
- "Defining a Prefix for All History Table Names for VMWare Metrics"

Defining the Storage of VMWare In Memory History

You can modify the maximum number of history rows to store in memory in the Data Storage tab. The **History Rows** property defines the maximum number of rows to store for the VmwVirtualMachines, VmwHostSystems, VmwVmDiskUsage, and VmwDatastoreRuntimeStatus caches. The default settings for **History Rows** is 50,000. To update the default settings:

- 1. Navigate to the RTView Configuration Application > (Project Name) > Solution Package Configuration > VMWare > DATA STORAGE tab.
- 2. In the Size region, click the History Rows field and specify the desired number of rows.

MWare *			
CONNECTIONS		DATA COLLECTION	DATA STORAGE
Size Set the number of history rows to kee History Rows	sp in memory		
Compaction	The Condense Interval and Condense Ra Condense Raw Time 1200	w Time are in seconds. Compaction Rules 1h - ;1d 5m ;2w 15m	
Expire Time	data updates before metrics are expired o Expire Time Long	Expire Time for Events	Delete Time
120	700	86400	3600
History Storage Select metrics the Historian will store	in the history database. Metrics that are r	not listed do not support storing history.	

Defining Compaction Rules for VMWare

Data compaction, essentially, is taking large quantities of data and condensing it using a defined rule so that you store a reasonably sized sample of data instead of all of your data, thus preventing you from potentially overloading your database. The available fields are:

- Condense Interval -- The time interval at which the cache history is condensed for the following caches: VmwVirtualMachines, VmwHostSystems, VmwVmDiskUsage, and VmwDatastoreRuntimeStatus. The default is 60 seconds.
- Condense Raw Time -- The time span of raw data kept in the cache history table for the following caches: VmwVirtualMachines, VmwHostSystems, VmwVmDiskUsage, and VmwDatastoreRuntimeStatus. The default is 1200 seconds.
- Compaction Rules -- This field defines the rules used to condense your historical data in the database for the following caches: VmwVirtualMachines, VmwHostSystems, VmwVmDiskUsage, and VmwDatastoreRuntimeStatus. By default, the columns kept in history will be aggregated by averaging rows with the following rule 1h -;1d 5m;2w 15m, which means the data from 1 hour will not be aggregated (1h - rule), the data over a period of 1 day will be aggregated every 5 minutes (1d 5m rule), and the data over a period of 2 weeks old will be aggregated every 15 minutes (2w 15m rule).
- 1. Navigate to the RTView Configuration Application > (Project Name) > Solution Package Configuration > VMWare > DATA STORAGE tab.
- 2. In the Compaction region, click the Condense Interval, Condense Raw Time, and Compaction Rules fields and specify the desired settings.

Note: When you click in the **Compaction Rules** field, the **Copy default text to clipboard** link appears, which allows you copy the default text (that appears in the field) and paste it into the field. This allows you to easily edit the string rather than creating the string from scratch.

CONNECTION	S	DATA COLLECTION	DATA STORAGE	
Size Set the number of history rows to I History Rows 50000	keep in memory			
Compaction Set the compaction rules for histor Condense Interval	y. The Condense Interval and Condense Raw T Condense Raw Time	ime are in seconds. Compaction Rules		
60	1200	1h - ;1d 5m ;2w 15m		
Duration Set the number of seconds betwee Expire Time	en data updates before metrics are expired or de Expire Time Long	Expire Time for Events	Delete Time	
120	700	86400	3600	

Defining Expiration and Deletion Duration for VMWare Metrics

The data for each metric is stored in a specific cache and, when the data is not updated in a certain period of time, that data will either be marked as expired or, if it has not been updated for an extended period of time, it will be deleted from the cache altogether. By default, metric data will be set to expired when the data in the cache has not been updated within 45 seconds. By default, expiration time is set to 120 seconds for caches impacted by the **Expire Time** field (VmwVirtualMachines, VmwHostSystems, VmwHostRuntimeStatus, VmwVmRuntimeStatus, VmwHostPhysicalNIC, and VmwHostVirtualNIC). The default expiration time is set to 700 seconds for caches impacted by the **Expire Time Long** field (VmwVmDiskUsage, VmwDatastoreRuntimeStatus, VmwDatastoreHosts, VmwDatastoreVMs, VmwHostSystemHealthInfo, VmwNetworkRuntimeStatus, VmwClusterComputeResources, and VmwAlarms). The default expiration time for the cache impacted by the **Expire Time for Events** field (VmwEvents) is 86,400 seconds. Also, by default, if the data has not been updated for the caches impacted by the **Expire Time** and **Expire Time Long** fields within 3600 seconds, it will be removed from the cache. The caches impacted by the **Delete Time** field are: VmwVirtualMachines, VmwHostSystems, VmwHostRuntimeStatus, VmwVmRuntimeStatus, VmwVmDiskUsage, VmwDatastoreRuntimeStatus, VmwDatastoreHosts, VmwDatastoreVMs, VmwHostSystemHealthInfo, VmwNetworkRuntimeStatus, VmwHostPhysicalNIC, VmwHostVirtualNIC, VmwEvents, and VmwClusterComputeResources. To modify these defaults:

 Navigate to the RTView Configuration Application > (Project Name) > Solution Package Configuration > VMWare > DATA STORAGE tab. 2. In the Duration region, click the Expire Time, Expire Time Long, Expire Time for Events, and Delete Time fields and specify the desired settings.

/Ware *			
CONNECTION	S	DATA COLLECTION	DATA STORAGE
Size Set the number of history rows to I History Rows 50000	keep in memory		
Compaction Set the compaction rules for histor Condense Interval 60	y. The Condense Interval and Condense Ra Condense Raw Time 1200	w Time are in seconds. Compaction Rules 1h - ;1d 5m ;2w 15m	
Duration Set the number of seconds betwee Expire Time	en data updates before metrics are expired Expire Time Long	or deleted Expire Time for Events	Delete Time
120	700	86400	3600
History Storage Select metrics the Historian will sto	ore in the history database. Metrics that are	not listed do not support storing history.	

Enabling/Disabling Storage of VMWare Historical Data

The **History Storage** section allows you to select which metrics you want the Historian to store in the history database. By default, historical VMWare Data Stores and Data Usage data is not saved to the database. All other metrics are saved by default. To enable the collection of historical data, perform the following steps:

- 1. Navigate to the RTView Configuration Application > (Project Name) > Solution Package Configuration > VMWare > DATA STORAGE tab.
- 2. In the **History Storage** region, select the toggles for the various metrics that you want to collect. Blue is enabled, gray is disabled.

CONNECTIO	NS	DATA COLLECTION	DATA S	DATA STORAGE		
Duration Set the number of seconds betw	reen data updates before metrics are expired or d	eleted				
Expire Time	Expire Time Long	Expire Time for Events	Delete Time			
120	700	86400	3600			
listory Storage elect metrics the Historian will	store in the history database. Metrics that are not	isted do not support storing history.				
elect metrics the Historian will	slore in the history database. Metrics that are not	isted do not support storing history.				
listory Storage elect metrics the Historian will Data Stores	sore in the history database. Metrics that are not	isted do not support storing history.				
elect metrics the Historian will	store in the history database. Metrics that are not	isted do not support storing history.				
elect metrics the Historian will	store in the history database. Metrics that are not	isted do not support storing history.				
elect metrics the Historian will	store in the history database. Metrics that are not	isted do not support storing history.				
Data Stores Disk Usage Host Systems		isted do not support storing history.				
Data Stores		isted do not support storing history.				
Data Stores Disk Usage Host Systems		isted do not support storing history.				
Lelect metrics the Historian will Data Stores Disk Usage Host Systems Virtual Machine History Table Name Prefix						

Defining a Prefix for All History Table Names for VMWare Metrics

The **History Table Name Prefix** field allows you to define a prefix that will be added to the database table names so that RTView Enterprise Monitor can differentiate history data between data servers when you have multiple data servers with corresponding Historians using the same solution package(s) and database. In this case, each Historian needs to save to a different table, otherwise the corresponding data server will load metrics from both Historians on startup. Once you have defined the **History Table Name Prefix**, you will need to create the corresponding tables in your database as follows:

- Locate the .sql template for your database under RTVAPM_HOME/vmwmon/dbconfig and make a copy of template.
- Add the value you entered for the **History Table Name Prefix** to the beginning of all table names in the copied .sql template.
- Use the copied .sql template to create the tables in your database.

To add the prefix:

- 1. Navigate to the RTView Configuration Application > (Project Name) > Solution Package Configuration > VMWare > DATA STORAGE tab.
- 2. Click on the **History Table Name Prefix** field and enter the desired prefix name.

CONNECTIO	NS	DATA COLLECTION	DATA STORAGE		
Duration Set the number of seconds betw	veen data updates before metrics are expired or d	leleted			
Expire Time	Expire Time Long	Expire Time for Events	Delete Time		
120	700	86400	3600		
History Storage					
History Storade					
Select metrics the Historian will	store in the history database. Metrics that are not	listed do not support storing history.			
Select metrics the Historian will	store in the history database. Metrics that are not	listed do not support storing history.			
Select metrics the Historian will	store in the history database. Metrics that are not	listed do not support storing history.			
Select metrics the Historian will	store in the history database. Metrics that are not	listed do not support storing history.			
Select metrics the Historian will : Data Stores Disk Usage	store in the history database. Metrics that are not	listed do not support storing history.			
Select metrics the Historian will a	store in the history database. Metrics that are not	listed do not support storing history.			
Select metrics the Historian will : Data Stores Disk Usage		listed do not support storing history.			
Data Stores Disk Usage Host Systems Virtual Machine		listed do not support storing history.			
Data Stores Disk Usage Host Systems Virtual Machine		listed do not support storing history.			
Select métrics the Historian will Data Stores Disk Usage Host Systems Virtual Machine History Table Name Prefix					
Select métrics the Historian will Data Stores Disk Usage Host Systems Virtual Machine History Table Name Prefix	s				

Troubleshoot

This section includes:

- "Log Files" on page 800
- "JAVA_HOME" on page 801
- "Permissions" on page 801
- "Network/DNS" on page 801
- "Verify Data Received from Data Server" on page 801
- "Verify Port Assignments" on page 801
- "Common Problems when Connecting to a vSphere Server" on page 801

Log Files

When a Monitor component encounters an error, it outputs an error message to the console and/or to the corresponding log file. If you encounter issues, look for errors in the following log files:

- dataserver.log
- historian.log

which are located in the **RTViewEnterpriseMonitor/emsample/servers/miscmon/logs** directory.

Logging is enabled by default. If you encounter issues with log files, verify the **logs** directory exists in the **RTViewEnterpriseMonitor/emsample/servers/miscmon** directory.

JAVA_HOME

If the terminal window closes after executing the **start_rtv** command, verify that JAVA_HOME is set correctly.

Permissions

If there are permissions-related errors in the response from the **start_rtv** command, check ownership of the directory structure.

Network/DNS

If any log file shows reference to an invalid URL, check your system's hosts file and confirm with your Network Administrator whether your access to the remote system is being blocked.

Verify Data Received from Data Server

If you encounter problems collecting data, restart the Data Server, start the Monitor, and go to the **Admin** tab and select **Architecture> RTView Cache Tables** in the navigation tree. Select **MISCMON-LOCAL** from the **Data Server** drop down list, and search for all caches that start with "Vmw." Make sure these caches are populated (the number of **Rows** and **Columns** in the table should be greater than 0). If not, there might be a problem with the connection to the Data Server.

Verify Port Assignments

If the display server or Historian fail to connect to the Data Server or they receive no data, verify the ports are assigned correctly in your properties files and restart the Data Server. If there is a port conflict between RTView EM services and other services on the host, then it may be necessary to modify the ports used by the RTView Services. After stopping all RTView services, use the "netstat" command to identify the currently used port on the host. SL Tech Support can provide any required assistance to reconfigure RTView services to use unused ports.

Common Problems when Connecting to a vSphere Server

The most common problems that occur when trying to connect to a vSphere server are:

- Incorrect IP address is being used.
- Invalid user name or password is specified.
- User name, as configured on the vSphere server, does not have READ permission for data collected by this solution package.

VMware vCenter Monitor Views/Displays

This section includes the following Views:

- "Clusters View": View all clusters that are configured on one server or on all servers, and view the high availability and the DRS settings for each of the clusters.
- "Hosts View": View performance and utilization data for hosts running on one or all clusters, view utilization data for a specific host running virtual machines, view a list of components contained on a selected host, and view physical and virtual network adapters located on a particular host.
- "Virtual Machines View": View current and historical data for your virtual machines.
- "Datastores View": The displays in this View provide a list of datastores on one or all servers, a list of all hosts mounted to a particular datastore, a list of all virtual machines hosted by a particular datastore, or data for a particular datastore.
- "Networks View": View a list of all networks, as well as data associated with the networks, that exist on one server or on all servers.
- "Events/Alarms View": View event data and alarm data for one server or for all servers.

Clusters View

The display available in the View lists all clusters that are configured on a particular server or on all servers.

The display available in this view is:

 "All Clusters": View all clusters that are configured on one server or on all servers, and view the high availability and the DRS settings for each of the clusters.

All Clusters

View all clusters that are configured on one server or on all servers, and view the high availability and the DRS settings for each of the clusters.

Server: All Servers Cluster Count: 1 Server = qavSphere1	Clustername SL CORP HA CLUSTER	E Alert Severi			#Hosts = 2	# Effective Hosts∈ 2		-
Server =		Severit	ty Count	Overall ≞ Status				
		Severit	ty Count	Overall ≞ Status				
qavSphere1	SL CORP HA CLUSTER		-	-	2	2		
۲							>	
(possible feature			Ser	rver is no	t receivin	ig data or the	Display Server	r is n
	us and upper displ		1.1		ita from t is conne		er. Green indic	ates i
	his display in a ne		v				d time. Incorre	ct tim
Terrar I	page for this displa open commonly ac		mig and	ght indica	ate the Mo Data OK i	onitor stopped	d time. Incorre d running. Corr g indication th	ect ti
The number of it	ems currently in t	he displa				Views - RTVi	ew Alerts Tal	ole di

Note: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by the VMWare vSphere. Refer to VMWare vSphere documentation (<u>http://pubs.vmware.com/</u> vsphere-65/index.jsp#com.vmware.wssdk.apiref.doc/mo-types-landing.html) for more information regarding these fields

Filter By:

The display might include these filtering options:

Server	Select the server for which you want to view data.
--------	--

The total number of clusters in the selected server(s), which are listed in the **Cluster Count** Clusters table.

Clusters Table

Server	The name of the server.
clustername	The name of the cluster.
Alert Severity	 The highest level alert on the cluster. 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 number of alerts currently on the cluster.
Overall Status	 The general health status of the cluster.* Red indicates that the host is experiencing a problem. Yellow indicates that the host might have a problem. Grey indicates that the status of the host's health is unknown. Green indicates that host's status is OK.
# Hosts	Lists the number of hosts on the cluster.*
# Effective Hosts	Lists the number of effective hosts.*
HA Enabled	When checked, this check box signifies that High Availability is enabled on the cluster.*
HA Admission Enabled	When checked, this check box signifies that High Availability strict admission is enabled.*
HA Admission Policy	Lists the High Availabilty admission policy for the cluster.*
HA Datastore Candidate	Displays the High Availability datastore candidate defined on the cluster.*
HA Host Monitoring	Lists whether or not High Availability host monitoring is enabled on the cluster.*
HA VM Monitoring	Lists whether or not High Availability virtual machine monitoring is enabled on the cluster. *
DRS Enabled	When checked, this check box signifies that DRS (Distributed Resource Scheduler) is enabled.*
DRS Enable Behavior Overrides	When checked, this check box signifies that DRS behavior overrides for individual virtual machines are enabled.*
DRS Default VM Behavior	Lists the cluster-wide default DRS behavior for virtual machines.*
Expired	When checked, performance data for that cluster has not been received in the time specified in the Duration region on the RTView Configuration > (Project Name/ MISCMON-LOCAL) > Solution Package Configuration > VMWare > DATA STORAGE tab.
Timestamp	The date and time the data was last updated.

Hosts View

These displays present performance and utilization data for hosts running on one or all clusters, present utilization data for a specific host running virtual machines, list components contained on a selected host, and list physical and virtual network adapters for a particular host. Displays in this View are:

- "All Hosts": A tabular view of the utilization data for all hosts running on one or on all clusters.
- "Single Host Summary": Displays utilization data for a specific host running virtual machines.
- "Host Health": View the components contained on a selected host and the component's associated data.
- "Host NICs": View data for all physical and virtual network adapters (NICs) for a particular host.

All Hosts

View the utilization data for all hosts running on one cluster or on all clusters.

(• •						VMware I	lost	ts - Tabl	е	:	22-Mar-2017 13	:24 💠 Data (ок 🔶 (?
Server: Al	l Se	ervers	~	Clust	ter: /	All Clusters	\checkmark							
Host Count	: 2						losts	5						
Server	Ξ		Host N	lame	Ξ	Cluster Name	Ξ	Alert = Severity		Overall⊧ Status	Connection State	Power ≞ State	VMs ≞ Hosted	P
qavSphere1	-	slesxi-1	.sldem	os-hq.loca	ıl	SL CORP HA CLUSTER	1	0	0	0	connected	poweredOn	26	
qavSphere1		slesxi-2	.sldem	os-hq.loca	ıl 👘	SL CORP HA CLUSTER		Õ	0		connected	poweredOn	27	1
<													<u> </u>	

 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. 	 Data OK 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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Note: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by the VMWare vSphere. Refer to VMWare vsphere documentation (<u>http://pubs.vmware.com/</u><u>vsphere-65/index.jsp#com.vmware.wssdk.apiref.doc/mo-types-landing.html</u>) for more information regarding these fields

Filter By: The display might include these filtering options:

	Server	Select the server for which you want to view data.
	Cluster	Select the cluster for which you want to view data.
	Host Count	The total number of hosts of the selected cluster(s), which are listed in the table
Host	s Table	
	Server	The name of the server.
	Host Name	The name of the host.
	Cluster Name	The name of the cluster.
	Alert Severity	 The highest level alert on the host. 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 number of alerts currently on the host.
	Overall Status	 The general health status of the host.* Red indicates that the host is experiencing a problem. Yellow indicates that the host might have a problem. Grey indicates that the status of the host's health is unknown. Green indicates that host's status is OK.
	Connection State	Lists the status of the connection.*
	Power State	Lists whether the host is powered on or powered off.*
	VMs Hosted	The number of virtual machines that exist on the host.*
	VMs Powered	The number of virtual machines powered on on the host.*
	VMs Running	The number of virtual machines running on the host.*

Maintenance Mode	When checked, this check box signifies that the host is in maintenance mode.*
Standby Mode	The host's standby mode.*
CPU % Usage	The percentage of CPU used by the virtual machines.*
Num CPU Cores	The total number of cores on the CPU.*
Num CPU Threads	The total number of threads on the CPU.*
Memory % Usage	The percentage of the host's memory currently in use.*
Memory Used (MB)	The total memory used, in megabytes, on the host.*
Memory Total (MB)	The total amount of memory, in megabytes.*
Swap Used (MB)	The total amount of swap space used by the host, in megabytes. st
Disk Reads (KB/sec)	The amount of data being read from the disk per second, in kilobytes.*
Disk Writes (KB/sec)	The amount of data being written to the disk per second, in kilobytes.*
Net IN (KB/ sec)	The amount of network data being received per sec, in kilobytes.*
Net OUT (KB/ sec)	The amount of network data being transmitted per sec, in kilobytes.*
% IN Packet Loss (Drops)	The percentage of incoming packets that were dropped.*
% OUT Packet Loss (Drops)	The percentage of outgoing packets that were dropped.*
% IN Packet Loss (Errors)	The percentage of incoming packets that had errors.*
% OUT Packet Loss (Errors)	The percentage of outgoing packets that had errors.*
Packets IN	The number of incoming packets.*
Packets OUT	The number of outgoing packets.*
Packets IN Dropped	The number of incoming packets that were dropped.*
Packets OUT Dropped	The number of outgoing packets that were dropped.*
Packets IN Errors	The number of incoming packets that had errors.*
Packets OUT Errors	The number of outgoing packets that had errors.*
System Vendor	The name of the system vendor.
System Model	The name of the system model.

Expired	When checked, performance data for that cluster has not been received in the time specified in the Duration region on the RTView Configuration > (Project Name/ MISCMON-LOCAL) > Solution Package Configuratio n > VMWare > DATA STORAGE tab.
Last Booted	The date and time in which the host was last restarted.*
Timestamp	The date and time the data was last updated.

Single Host Summary

View the number of virtual machines running on a particular host, the most recent utilization data for the host, and the trend data for the host over a specified time range.

Expired Connection	Status	Alert Severity	Stats for last 20 seconds	s 3.7 (%)	Memory Usage	21.3 (%)
State:	connected poweredOn	VMs Hosted 26	Net Rx	129.0 (KB/s) Memory Used	13,964 (MB)
Maintenance Mode:		Powered 2	Net Tx	151.0 (KB/s		0 (MB)
Standby Mode	: none	Running 1	Pkts Dropped IN	0	Disk Read	33.0 (KB/s)
Last Booted	: 23-Jan-2017 (9:16:25	Pkts Dropped OUT	0	Disk Write	114.0 ^(KB/s)
Trends			Log Scale	🗌 Base at Z	ero Time Range: 5 Mir	ns 🗸
0 28 200 200 200 0 8k 0 0 k 2000						Memory Usage Net In KB/s Net Out KB/s Disk Read KB/s Disk Write KB/s
4	16:29:00 04/10	16:30:00 04/10	16:31:00 04/10	16:32:0 04/10	0 04/10	Þ

 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. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Note: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by the VMWare vSphere. Refer to VMWare vsphere documentation (<u>http://pubs.vmware.com/</u>

vsphere-65/index.jsp#com.vmware.wssdk.apiref.doc/mo-types-landing.html) for more information regarding these fields.

Filter By: The display might include these filtering options:

	Server	The name of the server containing the host				
	Host	The host of the virtual machines for which you want to view data.				
	Last Update	The date and	time that the data in the table was last updated.			
Field	Is and Data:					
	Expired	When checked, performance data for that cluster has not been received in th time specified in the Duration region on the RTView Configuration > (Project Name/ MISCMON-LOCAL) > Solution Package Configuration > VMWar > DATA STORAGE tab.				
	Status	 Red indicat Yellow indicat Grey indicat 	ealth status of the host.* tes that the host is experiencing a problem. cates that the host might have a problem. ates that the status of the host's health is unknown. cates that host's status is OK.			
	Alert Severity	 Red indicat threshold. Yellow indic threshold. 	erity for the selected host: tes that one or more metrics exceeded their ALARM LEVEL cates that one or more metrics exceeded their WARNING LEVEL cates that no metrics have exceeded their alert thresholds.			
	Connection State	Displays the c notConnecte	current state of the connection for the host (connected / cd).*			
	Power State	Lists whether	the host is powered on or powered off.*			
	Maintenance Mode	Signifies whether or not the host is in maintenance mode.* true : host is in maintenance mode. false : host is not in maintenance mode.				
	Standby Mode	The host's sta	ndby mode.*			
	Last Booted	The date and	time in which the host was last restarted.*			
	VMs	Hosted	The number of virtual machines on the host.*			
		Powered	The number of virtual machines on the host that are powered on. st			
		Running	The number of virtual machines currently up and running on the host.*			
	Stats for last 20 seconds	CPU Usage	The percentage of CPU used in the last 20 seconds.*			
		Net Rx	The amount of network data received, in kilobytes per second, in the last 20 seconds.*			
		Net Tx	The amount of network data transmitted, in kilobytes per second, in the last 20 seconds.*			

Pkts Dropped IN	The number of incoming packets that were dropped in the last 20 seconds.*
Pkts Dropped OUT	The number of outgoing packets that were dropped in the last 20 seconds.*
Memory Usage	The percentage of memory used in the last 20 seconds.*
Memory Used	The amount of memory used, in megabytes, in the last 20 seconds.
Memory Swapped	The amount of memory swapped, in megabytes, in the last 20 seconds.*
Disk Read	The amount of data read from the disk, in kilobytes per second, in the last 20 seconds.*
Disk Write	The amount of data written to the disk, in kilobytes per second, in the last 20 seconds.*

Trend Graphs

Traces the sum of process metrics for the host:

- CPU Usage: The percentage of CPU used.
- **Memory Usage**: The amount of memory used.
- Net In KB/s: The amount of network data received per second, in kilobytes per second.
- Net Out KB/s: The amount of network data transmitted per second, in kilobytes per second.
- Disk Read KB/s: The amount of data being read from the disk, in kilobytes per second.
- Disk Write KB/s: The amount of data being written to the disk, in kilobytes 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.

Select or Enter Date and Time:
Restore to Now
Ok Apply Cancel

By default, the time range end point is the current time. To change the time range end point, click Calendar _____ and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows \square 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.

Host Health

View detail data for all the components that are contained on a selected host. Clicking on a component in the table opens details about the associated host in the "Single Host Summary" display.

Component C	ount: 276		
· ·		Host Health	Chata
Server = avSphere1	Host Name =	Component Broadcom misc-cnic-register 1.72.1.v50.1-10EM.500.0.0.472560 2012-01-05 01:55:04	State
avSphere1	slesxi-1.sldemos-hq.local slesxi-1.sldemos-hq.local	Broadcom misc-chic-register 1.72.1.vsu.1-10Em.500.0.0.472500 2012-01-05 01.55.04 Broadcom net-bnx2 2.2.1j.v50.2-10EM.500.0.0.472560 2012-04-02 17:31:39.000	
avSphere1	slesxi-1.sidemos-hq.local	Broadcom het-bnx2 2.2.1j.v50.2-10EM.500.0.0.472560 2012-04-02 17.31.39.000 Broadcom net-bnx2x 1.72.18.v50.4-10EM.500.0.0.472560 2012-04-04 07:36:08.000	
		Broadcom net-cnic 1.72.18.V50.4-10EM.500.0.0.472560 2012-04-04 07.36.08.000 Broadcom net-cnic 1.72.9 v50.1-10EM.500.0.0 472560 2012-04-02 17:28:46.000	
avSphere1	slesxi-1.sldemos-hq.local		
avSphere1	slesxi-1.sldemos-hq.local	Broadcom net-tg3 3.123b.v50.1-10EM.500.0.0.472560 2012-04-03 21:13:10.000	
avSphere1	slesxi-1.sldemos-hq.local	Broadcom scsi-bnx2fc 1.72.11.v50.1-10EM.500.0.0.406165 2012-04-02 10:45:54.000 Broadcom scsi-bnx2i 2.72.10.v50.2-10EM.500.0.0.472560 2012-04-02 17:30:00.000	
avSphere1	slesxi-1.sldemos-hq.local		
avSphere1	slesxi-1.sldemos-hq.local	Brocade net-bna 3.0.3.0-10EM.500.0.0.472560 2011-12-08 08:38:37.000	
avSphere1	slesxi-1.sldemos-hq.local	Brocade scsi-bfa 3.0.3.0-10EM.500.0.0.472560 2011-12-08 08:40:51.000	
avSphere1	slesxi-1.sldemos-hq.local	CPU1 Level-1 Cache is 196608 B	
avSphere1	slesxi-1.sldemos-hq.local	CPU1 Level-2 Cache is 1572864 B	
avSphere1	slesxi-1.sldemos-hq.local	CPU1 Level-3 Cache is 15728640 B	
avSphere1	slesxi-1.sldemos-hq.local	CPU2 Level-1 Cache is 196608 B	
avSphere1	slesxi-1.sldemos-hq.local	CPU2 Level-2 Cache is 1572864 B	
avSphere1	slesxi-1.sldemos-hq.local	CPU2 Level-3 Cache is 15728640 B	
avSphere1	slesxi-1.sldemos-hq.local	Dell dell-configuration-vib 5.0-0 2012-06-18 12:46:14.000	
avSphere1	slesxi-1.sldemos-hq.local	Dell dell-license-vib 5.0-0 2012-06-18 12:59:33.000	
avSphere1	slesxi-1.sldemos-hq.local	Dell Inc. BMC Firmware (node 0) 46:10000 1.57	
avSphere1	slesxi-1.sldemos-hq.local	Dell Inc. System BIOS 2.2.3 2014-05-20 00:00:00.000	<u> </u>
avSphere1	slesxi-1.sldemos-hq.local	Disk Drive Bay 1 Cable SAS A 0: Config Error - Deassert	
avSphere1	slesxi-1.sldemos-hq.local	Disk Drive Bay 1 Cable SAS B 0: Config Error - Deassert	0
avSphere1	slesxi-1.sldemos-hq.local	Disk Drive Bay 1 Power Cable 0: Config Error - Deassert	<u> </u>
avSphere1	slesxi-1.sldemos-hq.local	Disk Drive Bay 1 Signal Cable 0: Config Error - Deassert	0
avSphere1	slesxi-1.sldemos-hq.local	Emulex ima-be2iscsi 4.1.334.3-10EM.500.0.0.472629 2012-01-11 23:30:20.000	0
avSphere1	slesxi-1.sldemos-hq.local	Emulex net-be2net 4.1.334.0-10EM.500.0.0.472560 2012-01-09 20:14:01.000	0
avSphere1	slesxi-1.sldemos-hq.local	Emulex scsi-be2iscsi 4.1.334.3-10EM.500.0.0.472629 2012-01-11 23:30:02.000	0
avSphere1	slesxi-1.sldemos-hq.local	Emulex scsi-lpfc820 8.2.2.126.50-10EM.500.0.0.472560 2012-01-25 14:35:50.000	۲
sovonhere1	slesvi-1 sldemos-ha local	Intel.net-igh 3 2 10-10EM 500 0 0 472560 2011-00-22 15:40:14 000	

Title Bar (possible features are):	🔹 Data OK Data connection state. Red indicates the Data
• • Open the previous and upper display.	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 an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed 	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
displays.	current and valid.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

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Filter By: The display might include these filtering options:

Server	The name of the server containing the host
Host	The host of the virtual machines for which you want to view data.
Component Count	The number of components found on the host, which are displayed in the table.

Host Health Table

Server	The name of the server.
Host Name	The name of the host.
Component	The name of the component.
State	 The general health status of the host.* Red indicates that the host is experiencing a problem. Yellow indicates that the host might have a problem. Grey indicates that the status of the host's health is unknown. Green indicates that host's status is OK.
Sensor Type	Lists the component's sensor type.*
Current Reading	Lists the current reading of the element indicated by the sensor.*
Units	Indicates the base units in which the sensor reading is specified. st
Expired	When checked, performance data for that cluster has not been received in the time specified in the Duration region on the RTView Configuration > (Project Name/ MISCMON-LOCAL) > Solution Package Configuratio n > VMWare > DATA STORAGE tab.
Timestamp	The date and time the data was last updated.

Host NICs

View data for all physical and virtual network adapters (NICs) for a particular host.

÷				٧	/Mware Host	t NICs - Table	22-Mar-2	2017 15:4	44 📫 Data OK 🚽	• 🕜
Server: All S	Servers	✓ Host: sl	lesxi	i-1.sldemo	os-hq.loc 🗸					
Physical NIC	Count: 4	ł.			Physic	al NICs				
Server	Ξ	Host Name	Ξ	Devices	Link Duplex?	Link Speed (Mb):	AutoNegotiate?:	Resou	Irce Pool Schedule	er?⊫
qavSphere1	slesxi-1	.sldemos-hq.loca	al	vmnic0	~	1000	~		r	
qavSphere1	slesxi-1	.sldemos-hq.loca	al	vmnic1	2	1000	~		r	
qavSphere1	slesxi-1	.sldemos-hq.loca	al	vmnic2	~	1000	~		V	
qavSphere1	slesxi-1	.sldemos-hq.loca	al 👘	vmnic3		0	~		2	
Virtual NIC C	'ount: 3									>
Virtual NIC C						II NICs				_
Virtual NIC C Server	Ξ	Host Name	=		■ DHCP? ■	IP Address	E Subnet Ma			=
Virtual NIC C Server qavSphere1	≡ slesxi-1	.sldemos-hq.loca	al	vmk0	E DHCP? E	IP Address 192.168.200.51	255.255.255.0		Management Netw	=
Virtual NIC C	≡ slesxi-1 slesxi-1		al al		■ DHCP? =	IP Address				=
Virtual NIC C Server qavSphere1 qavSphere1	≡ slesxi-1 slesxi-1	l.sldemos-hq.loca l.sldemos-hq.loca	al al	vmk0 vmk1	■ DHCP? =	IP Address 192.168.200.51 192.168.201.2	255.255.255.0 255.255.255.0		Management Netw vMotion-01	=

Title Bar (possible features are):	🕼 Data OK Data connection state. Red indicates the Data
 Open the previous and upper display. Open an instance of this display in a new window. 	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 online help page for this display. Menu , 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.	Open the Alert Views - RTView Alerts Table display.

Note: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by the VMWare vSphere. Refer to VMWare vsphere documentation (<u>http://pubs.vmware.com/</u><u>vsphere-65/index.jsp#com.vmware.wssdk.apiref.doc/mo-types-landing.html</u>) for more information regarding these fields.

Filter By: The display might include these filtering options:

The name of the server containing the host Server

	Host	The host of the virtual machines for which you want to view data.
	Physical NIC Count	The number of NICs found on the host, which are displayed in the table.
Phys	sical NICs Table	
	Server	The name of the server.
	Host Name	The name of the host.
	Device	The name of the device.
	Link Duplex?	When checked, indicates that the link is capable of full-duplex. When unchecked, indicates that the link is only capable of half-duplex.*
	Link Speed (MB)	The bit rate on the link, in megabytes.*
	AutoNegotiate?	When checked, indicates that the physical network adapter supports autonegotiate.*
	Resource Pool Scheduler?	When checked, indicates that the physical network adapter allows resource pool-based scheduling for network I/O control.*
	VM Direct Path Gen2?	When checked, indicates that the NIC supports VMDirectPath Gen 2.*
	Wake On LAN?	When checked, indicates that the NIC is wake-on-LAN capable.*
	Driver	The name of the driver.*
	MAC	The media access control (MAC) address of the physical network adapter.*
	DHCP?	When checked, indicates that the network adapter uses a DHCP server.*
	IP Address	The IP address of the physical network adapter.*
	Subnet Mask	The subnet mask for the physical network adapter.*
	Expired	When checked, performance data for that cluster has not been received in the time specified in the Duration region on the RTView Configuration > (Project Name/ MISCMON-LOCAL) > Solution Package Configuration > VMWare > DATA STORAGE tab.
	Timestamp	The date and time the data was last updated.
Virt	ual NICs Table	
	Virtual NICs Count	The number of virtual NICs found on the host, which are displayed in the table.
	Server	The name of the server.
	Host Name	The name of the host.
	Device	The name of the device.
	DHCP?	When checked, indicates that the network adapter uses a DHCP server.*
	IP Address	The IP address of the virtual network adapter.*
	Subnet Mask	The subnet mask for the virtual network adapter.*
	Port Group	The name of the port group in which the virtual network adapter resides.*
	MAC	The media access control (MAC) address of the virtual network adapter.*
	TSO Enabled?	When checked, indicates that TCP segment offloading (TSO) is enabled. st

Expired	When checked, performance data for that cluster has not been received in the time specified in the Duration region on the RTView Configuration > (Project Name/ MISCMON-LOCAL) > Solution Package Configuratio n > VMWare > DATA STORAGE tab.
Timestamp	The date and time the data was last updated.

Virtual Machines View

These displays present current and historical data for your virtual machines. Displays in this View are:

- "All VMs Heatmap": A color-coded heatmap view of utilization metrics.
- "All VMs Table": View data shown in the "All VMs Heatmap" display, as well as additional details, in a tabular format. Use this display to view all available data for each virtual machine by server and host.
- "All VMs Disk Table": View disk usage percentage, available disk space, and total capacity for one or all virtual machines on a specific server/host combination.
- "Single VM Summary": View current and historical utilization and performance metrics for a single virtual machine.

All VMs Heatmap

View the most critical CPU and memory usage, disk read and write utilization, and incoming and outgoing data metrics for your virtual machines. Use this display to quickly identify virtual machines with critical alerts.

Each rectangle in the heatmap represents a virtual machine. The rectangle color indicates the most critical alert state associated with the virtual machine, while the rectangle size represents the maximum memory used in the rectangle (a larger size is a larger value).

Choose a server and host from the drop-down menus to view their associated virtual machines. By default, this display shows **Alert Severity**, but you can choose a different metric to display from the **Color Metric** drop-down menu. Use the **Labels** check-box \checkmark to include or exclude labels (virtual machine names for each rectangle) in the heatmap. You can hover your mouse over a rectangle to see additional metrics, and you can drill-down and investigate by clicking a rectangle in the heatmap to view details for the selected application in the "Single VM Summary" display.

	VMware All Virtu	al Machines - Heatmap			21-Sep-2016 09:33 💠 Data OK 💠 🕜			
Server: vSphere2 V Host: slesx	.sldemos-hq.loca 🗸							
VM Count 33		Color	Metric: Alert S	Severity	~	0	1 2	
Labels Log Scale Show powere				ized by Ho	st (size = me	mory used)		
	slesxi-1.s	∕Sphere2 sldemos∙						
ar (possible features are):							indicates th	
Open the previous and upper	display.						ay Server is een indicate	
een an instance of this display in een the online help page for this	display.	dat 2: mi	ta source 3-Mar-2017 1 ght indica	is conne 12:04 Cu te the M	cted. rrent date onitor stop	and time ped runn	. Incorrect t ing. Correct	
u 📕, Table open commor s.	,		rrent and		icon is a st	rong inai	cation that (

Note: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by the VMWare vSphere. Refer to VMWare vsphere documentation (<u>http://pubs.vmware.com/</u><u>vsphere-65/index.jsp#com.vmware.wssdk.apiref.doc/mo-types-landing.html</u>) for more information regarding these fields

Filter By: The display might include these filtering options:

- Select the server for which you want to display data. Server:
- Select the host for which you want to display data. Host
- The total number of virtual machines in the heatmap display. VM Count:

Fields and Data:

Labels	Select this o	check box to include labels in the heatmap.
Log Scale	correlations data is on a the minority	check box to enable a logarithmic scale. Use Log Scale to see usage for data with a wide range of values. For example, if a minority of your scale of tens, and a majority of your data is on a scale of thousands, of your data is typically not visible in non-log scale graphs. Log Scale on both scales visible by applying logarithmic values rather than actual be data.
Show powered VMs	Select this o	check box to include only those VMs that are powered on.
Color Metric	Choose a m	etric to view in the display.
	Alert Severity	The maximum level of alerts in the heatmap rectangle. Values range from 0 - 2 , as indicated in the color gradient • • • • • bar, where 2 is the highest Alert Severity:
		Red indicates that one or more metrics exceeded their ALARM LEVEL threshold.
		O Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold.
		Green indicates that no metrics have exceeded their alert thresholds.
	Overall Status	 The general health status of the virtual machine.* Red indicates that the host is experiencing a problem. Yellow indicates that the host might have a problem. Grey indicates that the status of the host's health is unknown. Green indicates that host's status is OK.
	CPU Usage	The percent (%) CPU used in the heatmap rectangle. The color gradient \bullet
	Memory Usage	The percent (%) memory used in the heatmap rectangle. The color gradient \bullet bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
	Disk Read KB/s	The amount of data being read from the disk per second, in kilobytes, in the heatmap rectangle. The color gradient ber bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
	Disk Write KB/s	The amount of data being written to the disk per second, in kilobytes, in the heatmap rectangle. The color gradient bar , populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
	Net IN KB/s	The amount of network data received per second, in kilobytes, in the heatmap rectangle. The color gradient \mathbf{P}_{0} bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.

Net OUT KB/s	The amount of network data transmitted per second, in kilobytes, in the heatmap rectangle. The color gradient a second bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
% Net IN Pkts Dropped	The percentage of incoming packets that were dropped in the heatmap rectangle. The color gradient bar , populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.
% Net OUT Pkts Dropped	The percentage of outgoing packets that were dropped in the heatmap rectangle. The color gradient \mathbf{O} bar, populated by the current heatmap, shows the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the average count.

All VMs Table

View data shown in the "All VMs Heatmap" display, and additional details, in a tabular format. Use this display to view all available data for each virtual machine by server and host.

Each row in the table lists the details for a virtual machine. Choose a server and a host from the drop-down menus to view all virtual machines running on that server/host combination. You can click a column header to sort column data in numerical or alphabetical order.

Drill-down and investigate by clicking a row to view details for the selected virtual machine in the "Single VM Summary" display.

Server: vS	phere2 🗸 Host: sle	sxi-1.slder	nos-hq.	loca 🗸						
VM Count:	33 Show powered V	Ms		Virtua	Machines	5				
Server	vSphere VM Name	Alert Severity	Alert Count	Overall Status	Heartbeat	Power State	Guest State	Number CPUs	CPU Usage(%)	Memor Usage(
vSphere2	2008-DC	0	0	0	0	poweredOff	notRunning	1	NA	
vSphere2	2008S-IT1	0	1	Õ	Õ	poweredOff	notRunning	1	NA	1
vSphere2	2008S-WIN10		0	0	Õ	poweredOff	notRunning	2	NA	
vSphere2	2008S-WIN11		0	0	Õ	poweredOff	notRunning	1	NA	
vSphere2	2008S-WIN37	0	0	0	0	poweredOn	running	4	25.0	2!
vSphere2	2008S-WIN38		0	۲	Õ	poweredOff	notRunning	1	NA	
vSphere2	2008S-WIN44	0	1	0	0	poweredOn	running	1	14.7	1
vSphere2	64BIT-OL7-0	0	0	۲	Õ	poweredOff	notRunning	2	NA	
vSphere2	64BIT-OL7-1	0	0	۲	Õ	poweredOff	notRunning	2	NA	1
vSphere2	64BIT-OL7-10	0	0	0	Õ	poweredOff	notRunning	2	NA	1
vSphere2	64BIT-OL7-15	0	0	0	0	poweredOn	running	2	10.5	16
vSphere2	64BIT-OL7-15-BACKUP		0	۲	Õ	poweredOff	notRunning	2	NA	
vSphere2	64BIT-OL7-16	0	0	0	0	poweredOn	running	4	3.5	11
vSphere2	64BIT-OL7-18	0	0	0	0	poweredOn	running	2	4.8	1
vSphere2	64BIT-OL7-2	0	0	0	Ô	poweredOff	notRunning	2	NA	
vSphere2	64BIT-OL7-3	0	0	0	Ô	poweredOff	notRunning	2	NA	
vSphere2	64BIT-OL7-5	0	0	0	0	poweredOff	notRunning	2	NA	
vSphere2	64BIT-OL7-6	0	0	0	0	poweredOff	notRunning	2	NA	1
vSphere2	64BIT-OL7-8	0	0	0	0	poweredOff	notRunning	2	NA	
vSphere2	64BIT-OL7-9	0	0	0	0	poweredOff	notRunning	2	NA	
vSphere2	64BIT-OL7-UEK4-DOCK	0	0	0	0	poweredOff	notRunning	4	NA	
vSphere2	64BIT-RH6.3-0	0	0	0	0	poweredOff	notRunning	1	NA	1
vSphere2	64BIT-RH6-1	0	0	0	Ô	poweredOff	notRunning	2	NA	
vSphere2	64BIT-RH6-3-1	0	0	0	Õ	poweredOn	notRunning	1	8.1	54
vSphere2	64BIT-RH6-3-5	0	0	0	Ô	poweredOff	notRunning	1	NA	
vSphere2	64BIT-RH6-6-8	0	0	0	۲	poweredOff	notRunning	2	NA	
vSphere2	64BIT-RHEL7-1	0	0	Ô	Õ	poweredOff	notRunning	2	NA	
vSphere2	64BIT-UBUNTU14-1		0		Ô	poweredOn	notRunning	4	2.0	(N

Title Bar (possible features are):	🔄 Data OK Data connection state. Red indicates the Data
Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Note: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by the VMWare vSphere. Refer to VMWare vsphere documentation (<u>http://pubs.vmware.com/</u> vsphere-65/index.jsp#com.vmware.wssdk.apiref.doc/mo-types-landing.html) for more information regarding these fields

Filter By: The display might include these filtering options:

Server:	Select the server containing the virtual machines for which you want to view details.
Host	Select the host containing the virtual machines for which you want to view details.
VM Count:	The total number of virtual machines (rows) in the table.
Show powered VMs	Select to include only those VMs that are powered on.

Virtual Machines Table:

Column values describe the virtual machines running on the selected sever/host combination.

Server	The server on which the virtual machine resides.
vSphere VM Name	The name of the vSphere virtual machine.
Alert Severity	 The severity of the alert for the virtual machine. Red indicates that one or more metrics exceeded their ALARM LEVEL threshold. Yellow indicates that one or more metrics exceeded their WARNING LEVEL threshold. Green indicates that no metrics have exceeded their alert thresholds.
Alert Count	The total number of active alerts for the virtual machine.
Overall Status	 The general health status of the virtual machine.* Red indicates that the host is experiencing a problem. Yellow indicates that the host might have a problem. Grey indicates that the status of the host's health is unknown. Green indicates that host's status is OK.
Overall Status Heartbeat	 Red indicates that the host is experiencing a problem. Yellow indicates that the host might have a problem. Grey indicates that the status of the host's health is unknown.

Guest State	The state of the guest operating system.*
Number CPUs	The number of CPUs used by the virtual machine.*
CPU Usage %	The percentage (%) of CPUs used.*
Memory Usage (%)	The percentage (%) of memory used by the virtual machine. $*$
Memory Used (MB)	The amount of used memory, in megabytes.*
Memory Total (MB)	The total amount of memory, in megabytes.*
Disk Reads (KB/sec)	The amount of data being read from the disk per second, in kilobytes.*
Disk Writes (KB/sec)	The amount of data being written to the disk per second, in kilobytes. st
Net IN (KB/ sec)	The amount of network data received per second, in kilobytes.*
Net OUT (KB/ sec)	The amount of network data transmitted per second, in kilobytes.*
% Packet Loss IN	The percentage of incoming packets that have been lost.*
% Packet Loss OUT	The percentage of outgoing packets that have been lost.*
Packets IN	The total number of incoming packets.*
Packets OUT	The total number of outgoing packets.*
Packet IN Dropped	The number of incoming packets that were dropped.*
Packets OUT Dropped	The number of outgoing packets that were dropped.*
Host	The name of the host.*
Guest Host Name	The name of the guest host.*
Guest IP Address	The IP address of the guest.*
Guest Operating System	The operating system used by the guest.*
Connection State	The state of the current connection (connected/notConnected).*
Fault Tolerance	Displays whether or not fault tolerance is configured (configured / notConfigured).*
VM Tools Run Status	Displays whether or not the guest's tools are running (guestToolsRunning / guestToolsNotRunning).*
VM Tools Version Status	Displays the version status of the VMWare tools installed on the guest operating system.*

Expired	When checked, performance data for that cluster has not been received in the time specified in the Duration region on the RTView Configuration > (Project Name/ MISCMON-LOCAL) > Solution Package Configuration > VMWare > DATA STORAGE tab.
Last Booted	The date and time the virtual machine was last rebooted.*
Timestamp	The date and time the row data was last updated.

All VMs Disk Table

View disk usage percentage, available disk space, and total capacity for one or all virtual machines on a specific server/host combination.

Count: 2		sldemos-hq.			~		
	Count: 23 Virtual Machine Disk Usage						
Server	vSphere VM Name	Disk Name	% Disk Usage	Capacity (GB)	Disk Used (GB)	Disk Free (G	Host
vSphere2	2008-DC	C:\	53.7	20	10.7		slesxi-1.sldemos-
vSphere2	2008S-IT1	C:\	95.0	20	18.9		slesxi-1.sldemos-
vSphere2	2008S-WIN10	C:\	54.0	30	16.2		slesxi-1.sldemos-
vSphere2	2008S-WIN11	C:\	77.1	20	15.3		slesxi-1.sldemos-
vSphere2	2008S-WIN37	C:\	77.0	30	23.0	6.9	slesxi-1.sldemos-
vSphere2	2008S-WIN44	C:\	95.1	50	47.4	2.5	slesxi-1.sldemos-
vSphere2	64BIT-OL7-16	1	52.3	17	9.2	8.3	slesxi-1.sldemos-
vSphere2	64BIT-OL7-16	/boot	57.9	0	0.3	0.2	slesxi-1.sldemos-
vSphere2	64BIT-OL7-16	/tmp	52.3	17	9.2	8.3	slesxi-1.sldemos-
vSphere2	64BIT-OL7-16	/var/tmp	52.3	17	9.2	8.3	slesxi-1.sldemos-
vSphere2	64BIT-OL7-18	1	68.6	17	12.0	5.5	slesxi-1.sldemos-
vSphere2	64BIT-OL7-18	/boot	57.9	0	0.3	0.2	slesxi-1.sldemos-
vSphere2	64BIT-OL7-18	/tmp	68.6	17	12.0	5.5	slesxi-1.sldemos-
vSphere2	64BIT-OL7-18	/var/tmp	68.6	17	12.0	5.5	slesxi-1.sldemos-
vSphere2	64BIT-OL7-6	1	40.6	17	7.1	10.4	slesxi-1.sldemos-
vSphere2	64BIT-OL7-6	/boot	57.4	0	0.3	0.2	slesxi-1.sldemos-
vSphere2	64BIT-OL7-6	/tmp	40.6	17	7.1	10.4	slesxi-1.sldemos-
vSphere2	64BIT-OL7-6	/var/tmp	40.6	17	7.1	10.4	slesxi-1.sldemos-
vSphere2	64BIT-OL7-UEK4-DOCKER1	1	41.2	17	7.2	10.3	slesxi-1.sldemos-
vSphere2	64BIT-OL7-UEK4-DOCKER1	/boot	57.9	0	0.3	0.2	slesxi-1.sldemos-
vSphere2	64BIT-OL7-UEK4-DOCKER1	/tmp	41.2	17	7.2	10.3	slesxi-1.sldemos-
vSphere2	64BIT-OL7-UEK4-DOCKER1	/var/tmp	41.2	17	7.2	10.3	slesxi-1.sldemos-
vSphere2	QAWIN3	C:\	80.3	25	20.0	4.9	slesxi-1.sldemos-

Title Bar (possible features are):	🔹 Data OK Data connection state. Red indicates the Data
Open the previous and upper display.	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 an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed 	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
displays.	current and valid.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Note: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by the VMWare vSphere. Refer to VMWare vSphere documentation (<u>http://pubs.vmware.com/</u>

<u>vsphere-65/index.jsp#com.vmware.wssdk.apiref.doc/mo-types-landing.html</u> for more information regarding these fields

Filter By:

The display might include these filtering options:

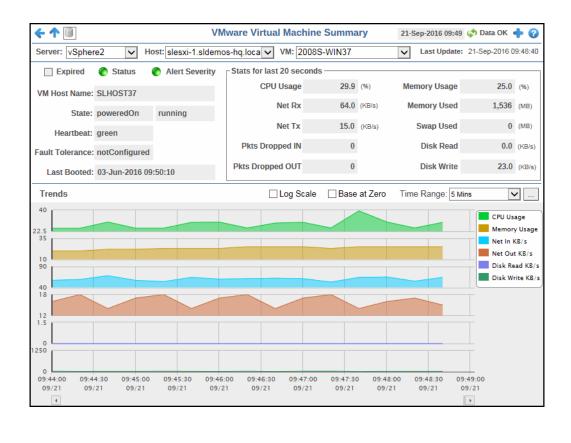
	Server	Select the server containing the virtual machine(s) for which you want to view data.
	Host	Select the host containing the virtual machine(s) for which you want to view data.
	VM	Select a virtual machine for which you want to view data, or select All VMs to view data for all virtual machines on the server/host combination.
	Count	Displays the current number of virtual machines listed in the table.
Fiel	ds and Data:	
	Server	The name of the server.*
	vSphere VM Name	The name of the virtual machine.*
	Disk Name	The name of the disk.*
	% Disk Usage	Displays the current percentage of disk space that is being used. *
	Capacity (GB)	Displays the total disk capacity, in gigabytes.*
	Disk Used (GB)	Displays the total disk space currently being used.*
	Disk Free (GB)	Displays the amount of available disk space, in gigabytes.*
	Host	Displays the name of the host.*
	Expired	When checked, performance data for that cluster has not been received in the time specified in the Duration region on the RTView Configuration > (Project Name/ MISCMON-LOCAL) > Solution Package Configuratio n > VMWare > DATA STORAGE tab.
	Timestamp	The date and time the row data was last updated.

Single VM Summary

View current and historical utilization and performance metrics for a single virtual machine. You can use this display to investigate performance issues for a particular virtual machine.

This display includes trend graphs tracing CPU and memory usage, amount of network data transmitted and received, number of incoming and outgoing packets that have been lost, and disk usage.

Choose a server, host, and virtual machine from the drop-down menus to view details for a specific virtual machine. You can use the **Time-Range** in the **Trends** region to "zoom-in" or "zoom-out" on a specific time frame in the trend graph.





Note: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by the VMWare vSphere. Refer to VMWare vsphere documentation (<u>http://pubs.vmware.com/vsphere-65/index.jsp#com.vmware.wssdk.apiref.doc/mo-types-landing.html</u>) for more information regarding these fields

Filter By:

The display might include these filtering options:

Server	Select the server containing the virtual machine for which you want to view data.
Host	Select the host containing the virtual machine for which you want to view data.
VM	Select the virtual machine for which you want to view data.
Last Update	The date and time that the data in the display was last updated.

Fields and Data:

Expired When checked, performance data for that cluster has not been received in the time specified in the **Duration** region on the RTView Configuration > (Project Name/MISCMON-LOCAL) > Solution Package Configuration > VMWare > DATA STORAGE tab. The general health status of the virtual machine.* Status Red indicates that the host is experiencing a problem. Yellow indicates that the host might have a problem. Grey indicates that the status of the host's health is unknown. Green indicates that host's status is OK. The current severity of alerts for the virtual machine. Alert Severity One or more alerts exceeded their ALARM LEVEL threshold. One or more alerts exceeded their WARNING LEVEL threshold. No alert thresholds have been exceeded. VM Host The name of the host.* Name State Displays whether or not the host/virtual machine is powered on.* Displays whether or not the virtual machine has a heartbeat.* Heartbeat Red indicates that heartbeating has stopped. Grey indicates that heartbeat status is disabled. Green indicates that heartbeat status is OK. Displays whether or not fault tolerance is configured (configured/ Fault Tolerance notConfigured).* Last Booted The date and time the virtual machine was last rebooted.* The percentage of CPU used in the last 20 seconds.* Status for CPU last 20 Usage seconds The amount of network data received, in kilobytes per second, in the Net Rx last 20 seconds.* The amount of network data transmitted, in kilobytes per second, in Net Tx the last 20 seconds.* Pkts The number of incoming packets that were dropped in the last 20 Dropped seconds.* IN Pkts The number of outgoing packets that were dropped in the last 20 Dropped seconds.* OUT Memory The percentage of memory used in the last 20 seconds.* Usage The amount of memory used, in megabytes, in the last 20 Memory Used seconds.* The amount of memory swapped, in megabytes, in the last 20 Swap Used seconds.* Disk Read The amount of data read from the disk, in kilobytes per second, in the last 20 seconds.3 Disk The amount of data written to the disk, in kilobytes per second, in the last 20 seconds.* Write

Trend Graphs

Traces the sum of process metrics for the virtual machine.

- CPU Usage: The percentage (%) CPU used.
- Memory Usage: The amount of memory used.
- Net In KB/s: The amount of network data received per second, in kilobytes.
- Net Out KB/s: The amount of network data transmitted per second, in kilobytes.
- Disk Read KB/s: The amount of data being read from the disk per second, in kilobytes.
- Disk Write KB/s: The amount of data being written to the disk 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 **S** 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.

Datastores View

The displays in this view provide a list of datastores on one or all servers, a list of all hosts mounted to a particular datastore, a list of all virtual machines hosted by a particular datastore, or data for a particular datastore. This View contains the following displays:

- "All Datastores Table": View all datastores, as well as data associated with the datastores, that exist on one server or on all servers.
- "Hosts by Datastore Table": View all hosts that are mounted to a particular datastore.
- "VMs by Datastore Table": View all virtual machines that are hosted by a particular datastore.
- "Single Datastore Summary": View metrics and trend data for a single datastore, as well as those hosts and virtual machines that are using the datastore.

All Datastores Table

View all datastores, as well as data associated with the datastores, that exist on one server or on all servers.

		VMw	are Datastores - 1	Fable	22-Mar-2017	7 10:44 < 🕉 Data OK	+ 6
Server: All Server	vers 🗸						
Count: 4			Datastores				
			Maintenance Mode =		Accessible?	Multiple Hosts? =	% Util
qavSphere1	datastore1	۲	normal	VMFS	~		
qavSphere1	datastore1 (1)	۲	normal	VMFS	2		
qavSphere1	datastore-A1	٢	normal	VMFS	2	v	
qavSphere1	datastore-A2	0	normal	VMFS	2	r	

Title Bar (possible features are):	🔹 Data OK Data connection state. Red indicates the Data
🗲 🔺 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed 	data source is connected. 23-Mar-2017 12:04 Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time
displays.	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.	Open the Alert Views - RTView Alerts Table display.

Note: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by the VMWare vSphere. Refer to VMWare vsphere documentation (http://pubs.vmware.com/ vsphere-65/index.jsp#com.vmware.wssdk.apiref.doc/mo-types-landing.html) for more information regarding these field.

Filter By: The display might include these filtering options:

Server

Select the server for which you want to view data.

	Count	The total number of datastores on the selected server(s), which are listed in the Datastores table.
Data	stores Table:	
	Server	The name of the server.
	Name	The name of the datastore.
	Overall Status	 The general health status of the datastore.* Red indicates that the datastore is experiencing a problem. Yellow indicates that the datastore might have a problem. Grey indicates that the status of the datastore's health is unknown. Green indicates that datastore's status is OK.
	Maintenance Mode	Lists current maintenance mode state of the datastore (normal, inMaintenance, enteringMaintenance).*
	Туре	Lists the type of file system volume, such as VMFS or NFS.*
	Accessible?	The connectivity status of the datastore. When checked, indicates that the datastore is accessible. st
	Multiple Hosts	When checked, indicates that more than one host has been configured with access to the datastore.*
	% Utilization	Lists the current space utilization percentage for the datastore. *
	Capacity (GB)	Displays the maximum capacity of the datastore, in gigabytes.*
	Free Space (GB)	Displays the amount of available space in the datastore, in gigabytes.*
	Space Uncommitted (GB)	Displays the amount of total additional storage space potentially used by all virtual machines on this datastore, in gigabytes.*
	Expired	When checked, performance data for that cluster has not been received in the time specified in the Duration region on the RTView Configuration > (Project Name/ MISCMON-LOCAL) > Solution Package Configuration > VMWare > DATA STORAGE tab.
	Timestamp	The date and time the row data was last updated.

Hosts by Datastore Table

View all hosts that are mounted to a particular datastore.

(VMware Datas	tor	re Hosts - Tab	le 22-M	Mar-2017 11:10	💠 Data OK 💠 🕜
Server: All	Serv	ers 🗸	Datasto	e: datastore-A1	~	·		Last Update:	22-Mar-2017 11:10:01
Count:	2			Hosts Mounting	Se	lected Datastor	e		
Server	Ξ	Datastore	e Name ≞	Host Name	Ξ	Access Mode =		Mounted?=	
qavSphere1		datastore-A		slesxi-1.sldemos-hq.local		readWrite	Ľ		/vmfs/volumes/511bac
qavSphere1		datastore-A	1	slesxi-2.sldemos-hq.local		readWrite	Ľ	Ľ	/vmfs/volumes/511bac
<									>

Title Bar (possible features are):	🕼 Data OK Data connection state. Red indicates the Data
🗲 🛧 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Note: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by the VMWare vSphere. Refer to VMWare vsphere documentation (http://pubs.vmware.com/ vsphere-65/index.jsp#com.vmware.wssdk.apiref.doc/mo-types-landing.html) for more information regarding these field.

Filter By: The display might include these filtering options:

Server

Select the server containing the datastore for which you want to view data, or select All Servers.

Datastore	Select the datastore for which you want to view data.					
_						

Count The total number of hosts connecting to a datastore, which are listed in the table.

Hosts Mounting Selected Datastore Table:

Server	The name of the server.
Datastore Name	The name of the datastore.
Host Name	The name of the host.
Access Mode	Lists the host system's access mode to the datastore (readWrite or readOnly). st
Accessible?	The connectivity status of the datastore. When checked, indicates that the datastore is accessible. st
Mounted	When checked, indicates that the datastore is mounted on the host. st
Mount Path	Lists the file path where the file system volume is mounted.*
Expired	When checked, performance data for that cluster has not been received in the time specified in the Duration region on the RTView Configuration > (Project Name/ MISCMON-LOCAL) > Solution Package Configuratio n > VMWare > DATA STORAGE tab.
Timestamp	The date and time the row data was last updated.

VMs by Datastore Table

View all virtual machines that are hosted by a particular datastore.

Server: All Serve	rs 🗸 Datastore: datasto	re-A1 🗸	Last Up	date: 22-Mar-2017 11:22:0
Count: 38		VMs Hosted by Datastore		
Server	Datastore Name	E VM Name	≣ Expired	Timestamp
qavSphere1	datastore-A1	2008S-IT1		22-Mar-2017 11:22:0
qavSphere1	datastore-A1	2008S-JIRA-DEV4		22-Mar-2017 11:22:0
qavSphere1	datastore-A1	2008S-SLHOST-WIN7		22-Mar-2017 11:22:0
qavSphere1	datastore-A1	2008S-SLHOST-WIN9		22-Mar-2017 11:22:0
qavSphere1	datastore-A1	2008S-WIN10		22-Mar-2017 11:22:0
qavSphere1	datastore-A1	2008S-WIN11		22-Mar-2017 11:22:0
qavSphere1	datastore-A1	2008S-WIN37		22-Mar-2017 11:22:0
qavSphere1	datastore-A1	2008S-WIN38		22-Mar-2017 11:22:0
qavSphere1	datastore-A1	2008S-WIN44		22-Mar-2017 11:22:0
qavSphere1	datastore-A1	2008S-WIN44-CLONE		22-Mar-2017 11:22:0
qavSphere1	datastore-A1	64BIT-OL7-0		22-Mar-2017 11:22:0
avSphere1	datastore-A1	64BIT-OL7-14		22-Mar-2017 11:22:0
qavSphere1	datastore-A1	64BIT-OL7-15		22-Mar-2017 11:22:0
qavSphere1	datastore-A1	64BIT-OL7-16		22-Mar-2017 11:22:0
qavSphere1	datastore-A1	64BIT-OL7-17		22-Mar-2017 11:22:0
qavSphere1	datastore-A1	64BIT-OL7-6		22-Mar-2017 11:22:0
qavSphere1	datastore-A1	64BIT-OL7-UEK4-0		22-Mar-2017 11:22:0
qavSphere1	datastore-A1	64BIT-OL7-UEK4-DOCKER1.11-0		22-Mar-2017 11:22:0
avSphere1	datastore-A1	64BIT-RH6.3-0		22-Mar-2017 11:22:0
qavSphere1	datastore-A1	64BIT-RH6-1		22-Mar-2017 11:22:0
avSphere1	datastore-A1	64BIT-RH6-3-1		22-Mar-2017 11:22:0
avSphere1	datastore-A1	64BIT-RH6-3-2		22-Mar-2017 11:22:0
avSphere1	datastore-A1	64BIT-RH6-3-3		22-Mar-2017 11:22:0
avSphere1	datastore-A1	64BIT-RH6-3-5		22-Mar-2017 11:22:0
qavSphere1	datastore-A1	64BIT-RH6-6-8		22-Mar-2017 11:22:0
avSphere1	datastore-A1	64BIT-RHEL7-1		22-Mar-2017 11:22:0
qavSphere1	datastore-A1	64BIT-SOL10-0		22-Mar-2017 11:22:0
avSphere1	datastore-A1	64BIT-W2008S-R2-0		22-Mar-2017 11:22:0
avSphere1	datastore-A1	OL7-20		22-Mar-2017 11:22:0

Title Bar (possible features are):	Data OK Data connection state. Red indicates the Data Server is not receiving data or the Display Server is not
🗲 👖 Open the previous and upper display.	receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	▲ Open the Alert Views - RTView Alerts Table display.

Note: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by the VMWare vSphere. Refer to VMWare vsphere documentation (<u>http://pubs.vmware.com/</u><u>vsphere-65/index.jsp#com.vmware.wssdk.apiref.doc/mo-types-landing.html</u>) for more information regarding these field.

Filter By: The display might include these filtering options:

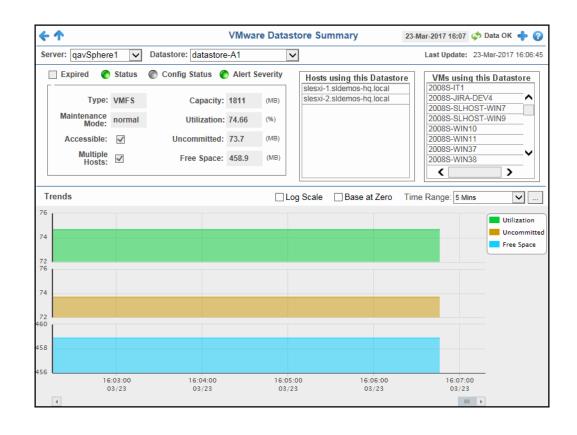
Server	Select the server containing the datastore for which you want to view data, or select All Servers .
Datastore	Select the datastore for which you want to view data.
Count	The total number of virtual machines connecting to a datastore, which are listed in the table.

VMs Hosted by Datastore Table:

Server	The name of the server.
Datastore Name	The name of the datastore.
VM Name	The name of the virtual machine hosted by the datastore.
Expired	When checked, performance data for that cluster has not been received in the time specified in the Duration region on the RTView Configuration > (Project Name/ MISCMON-LOCAL) > Solution Package Configuration > VMWare > DATA STORAGE tab.
Timestamp	The date and time the row data was last updated.

Single Datastore Summary

View metrics and trend data for a single datastore, as well as those hosts and virtual machines that are using the datastore.





Note: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by the VMWare vSphere. Refer to VMWare vsphere documentation (<u>http://pubs.vmware.com/vsphere-65/index.jsp#com.vmware.wssdk.apiref.doc/mo-types-landing.html)</u> for more information regarding these field.

Filter By:

The display might include these filtering options:

Server

Select the server containing the datastore for which you want to view data.

	Datastore	Select the datastore for which you want to view data.
	Last Update	The date and time the data in the display was last updated.
Field	s and Data:	
	Expired	When checked, performance data for that cluster has not been received in the time specified in the Duration region on the RTView Configuration > (Project Name/ MISCMON-LOCAL) > Solution Package Configuration > VMWare > DATA STORAGE tab.
	Status	 The general health status of the datastore.* Red indicates that the datastore is experiencing a problem. Yellow indicates that the datastore might have a problem. Grey indicates that the status of the datastore's health is unknown. Green indicates that datastore's status is OK.
	Config Status	 Indicates whether or not the system has detected a configuration issue involving the datastore. Red indicates that a problem has been detected involving the datastore. Yellow indicates a problem is about to occur or a transient condition has occurred. Grey indicates that configuration status of the datastore is not being monitored. Green indicates that no configuration issues have been detected.
	Alert Severity	 The current severity of alerts for the datastore. One or more alerts exceeded their ALARM LEVEL threshold. One or more alerts exceeded their WARNING LEVEL threshold. No alert thresholds have been exceeded.
	Туре	Lists the type of file system volume, such as VMFS or NFS.*
	Maintenance Mode	Lists current maintenance mode state of the datastore (normal, inMaintenance, enteringMaintenance).*
	Accessible?	The connectivity status of the datastore. When checked, indicates that the datastore is accessible.*
	Multiple Hosts	When checked, indicates that more than one host has been configured with access to the datastore.*
	Capacity (MB)	Displays the maximum capacity of the datastore, in megabytes.*
	Utilization (%)	Lists the current space utilization percentage for the datastore.*
	Uncommitted (MB)	Displays the amount of total additional storage space potentially used by all virtual machines on this datastore, in megabytes.*
	Free Space (MB)	Displays the amount of available space in the datastore, in megabytes. st
Host	s Using this Datastore	Lists the hosts using the datastore.

VMs using this Datastore -- Lists the virtual machines using the datastore.

Trend Graphs

Traces the sum of process metrics for the virtual machine.

- **Utilization**: Traces the current space utilization percentage for the datastore.
- **Uncommitted**: Traces the amount of total additional storage space potentially used by all virtual machines on this datastore, in megabytes.
- Free Space: Traces the amount of available space in the datastore, 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 ...

Select or Enter Date and Time:
Restore to Now
Ok Apply Cancel

By default, the time range end point is the current time. To change the time range end point, click Calendar _____ and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

Use the navigation arrows \square \square to move forward or backward one time period. NOTE: The time period is determined by your selection from the **Time Range** dropdown menu.

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

Networks View

The display in this View lists all networks, as well as data associated with the networks, that exist on one server or on all servers. The available display in this View is:

 "All Networks Table": View all networks, as well as data associated with the networks, that exist on one server or on all servers.

All Networks Table

View all networks, as well as data associated with the networks, that exist on one server or on all servers.

Data

< ↑	VMware	Networks - Ta	ble	22-Mar-2017 11:3	7 💠 Data OK 💠 🕜
Server: All Servers					
Count: 1		Networks			
	Overall Status: A	ccessible? =	IP Pool Name	Expired =	
qavSphere1 VM Network		r			22-Mar-2017 11:36:
<					
ar (possible features are): Open the previous and upper	displav.	Server is	not receivin	g data or th	te. Red indicates tl e Display Server is ver. Green indicate
	n an instance of this display in a new window.			ited.	ven oreen indicate
en an instance of this display in					
n the online help page for this display.		23-Mar-2017 12:04 Current date and time. Incorre might indicate the Monitor stopped running. Cor and green Data OK icon is a strong indication th			

Note: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by the VMWare vSphere. Refer to VMWare vsphere documentation (<u>http://pubs.vmware.com/</u> vsphere-65/index.isp#com.vmware.wssdk.apiref.doc/mo-types-landing.html) for more information regarding these field.

6,047

Filter By: The display might include these filtering options:

The number of items currently in the display.

Select the server for which you want to view data. Server The total number of networks on the selected server(s), which are listed in the Count table.

VM Networks Table:

Open the Alert Views - RTView Alerts Table display.

Server	The name of the server.
Network Name	The name of the network.
Overall Status	 The general health status of the network.* Red indicates that the network is experiencing a problem. Yellow indicates that the network might have a problem. Grey indicates that the status of the network's health is unknown. Green indicates that network's status is OK.
Accessible?	The connectivity status of the virtual machine. When checked, indicates that the virtual machine is accessible. *
IP Pool Name	Lists the name of the IP pool that is assigned to the network. *
Expired	When checked, performance data for that cluster has not been received in the time specified in the Duration region on the RTView Configuration > (Project Name/ MISCMON-LOCAL) > Solution Package Configuration > VMWare > DATA STORAGE tab.
Timestamp	The date and time the row data was last updated.

Events/Alarms View

The displays in this View allow you to view event data and alarm data for one server or for all servers. Available displays in this View are:

- "All Events Table": View all events, as well as data associated with the events, that exist on one server or on all servers.
- "All Alarms Table": View all alarms, as well as data associated with the alarms, that exist on one server or on all servers.

All Events Table

View all events, as well as data associated with the events, that exist on one server or on all servers.

~ ^		VN	/ware Eve	nts - Table	22-Mar-2017 11:	44 🗳 Data OK	+ (
Server: All Server	vers 🗸						
Count: 245			Evei	nts			
Server =		Event ID =	Chain ID ≡	Event Class	Event Type	User Name :	
qavSphere1	22-Mar-2017 08:47:22	184029	184029	UserLoginSessionEvent	info	qauser	Use
qavSphere1	22-Mar-2017 08:42:54	184028		UserLoginSessionEvent	info	qauser	Use
qavSphere1	22-Mar-2017 08:41:24	184027	184027	UserLoginSessionEvent	info	qauser	Use
qavSphere1	22-Mar-2017 08:24:55	184026	184026	UserLogoutSessionEvent	info	vmwarehost1	Use
qavSphere1	22-Mar-2017 07:54:50	184025	184025	UserLoginSessionEvent	info	vmwarehost1	Use
qavSphere1	22-Mar-2017 07:54:50	184024		UserLoginSessionEvent	info	qauser	Use
qavSphere1	22-Mar-2017 07:54:20	184023	184023	UserLogoutSessionEvent	info	qauser	Use
qavSphere1	22-Mar-2017 07:22:56	184022	184022	UserLogoutSessionEvent	info	qauser	Use
qavSphere1	22-Mar-2017 07:10:32	184021	184021	UserLogoutSessionEvent	info	vmwarehost1	Use
qavSphere1	22-Mar-2017 07:02:20	184020	184020	UserLogoutSessionEvent	info	qauser	Use
qavSphere1	22-Mar-2017 06:52:56	184019	184019	UserLoginSessionEvent	info	qauser	Use
qavSphere1	22-Mar-2017 06:40:29	184018	184018	UserLoginSessionEvent	info	vmwarehost1	Use
qavSphere1	22-Mar-2017 06:40:28	184017	184017	UserLoginSessionEvent	info	qauser	Use
qavSphere1	22-Mar-2017 06:38:13	184016	184016	UserLogoutSessionEvent	info	qauser	Use
qavSphere1	22-Mar-2017 06:35:38	184015	184015	UserLoginSessionEvent	info	qauser	Use
qavSphere1	22-Mar-2017 00:35:09	184014	184014	UserLogoutSessionEvent	info	qauser	Use
gavSphere1	22-Mar-2017 00:07:02	184013	184013	UserLoginSessionEvent	info	gauser	Use
gavSphere1	21-Mar-2017 18:06:58	184012	184012	UserLogoutSessionEvent	info	gauser	Use
qavSphere1	21-Mar-2017 17:44:07	184011	184011	UserLogoutSessionEvent	info	qauser	Use
gavSphere1	21-Mar-2017 17:34:10	184010	184010	UserLoginSessionEvent	info	gauser	Use
qavSphere1	21-Mar-2017 17:21:10	184009	184009	UserLogoutSessionEvent	info	qauser	Use
gavSphere1	21-Mar-2017 17:10:00	184008	184008	UserLoginSessionEvent	info	gauser	Use
gavSphere1	21-Mar-2017 17:03:30	184007	184007	AlarmStatusChangedEvent	info		Alar
gavSphere1	21-Mar-2017 17:03:09	184006	184006	AlarmStatusChangedEvent	info		Alar
qavSphere1	21-Mar-2017 17:01:49	184005		AlarmStatusChangedEvent	info		Alar
gavSphere1	21-Mar-2017 15:02:39	184004		UserLogoutSessionEvent	info	gauser	Use
gavSphere1	21-Mar-2017 14:53:56	184003		UserLogoutSessionEvent	info	vmwarehost1	Use
<							>

Title Bar (possible features are):	🔄 Data OK Data connection state. Red indicates the Data
Open the previous and upper display.	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 an instance of this display in a new window. Open the online help page for this display. 	23-Mar-2017 12:04 Current date and time. Incorrect time
Menu Table open commonly accessed displays.	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.	Open the Alert Views - RTView Alerts Table display.

Note: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by the VMWare vSphere. Refer to VMWare vsphere documentation (<u>http://pubs.vmware.com/</u> vsphere-65/index.jsp#com.vmware.wssdk.apiref.doc/mo-types-landing.html) for more information regarding these field.

Filter By: The display might include these filtering options:

Server

Select the server for which you want to view data.

	Count	The total number of events on the selected server(s), which are listed in the Events table.
Ever	nts Table:	
	Server	The name of the server.
	Created Time	The date and time the event was created.*
	Event ID	The ID of the event.*
	Chain ID	The parent or group ID.*
	Event Class	The type of event class.*
	Event Type	The type of event.*
	User Name	The user who caused the event.*
	Message Text	A formatted text message describing the event.*
	Host	The host object of the event.*
	Virtual Machine	The event's virtual machine.*
	Compute Resource	The event's compute resource.*
	Datacenter	The event's datacenter.*
	Datastore	The event's datastore.*
	Distributed Virtual Switch	The event's DistributedVirtualSwitch.*
	Network	The network associated with the event.*
	Expired	When checked, performance data for that cluster has not been received in the time specified in the Duration region on the RTView Configuration > (Project Name/ MISCMON-LOCAL) > Solution Package Configuratio n > VMWare > DATA STORAGE tab.
	Timestamp	The date and time the row data was last updated.

All Alarms Table

View all alarms, as well as data associated with the alarms, that exist on one server or on all servers.

erver: All Servers			
Count: 820	Alarm	IS	
Alarm Time = Serve		Overall Status:	Alarm Name
24-Jan-2017 10:00:50 qavSphere1	New Datacenter	Ø	Host connection and power state
24-Jan-2017 10:00:50 qavSphere1	New Datacenter	Õ	Timed out starting Secondary VM
24-Jan-2017 10:00:50 qavSphere1	New Datacenter	O	No compatible host for Secondary VM
24-Jan-2017 10:00:50 qavSphere1	New Datacenter	Õ	Host processor status
24-Jan-2017 10:00:50 qavSphere1	New Datacenter	O	Host memory status
24-Jan-2017 10:00:50 qavSphere1	New Datacenter	Ø	Host hardware fan status
24-Jan-2017 10:00:50 qavSphere1	New Datacenter	Ø	Host hardware voltage
24-Jan-2017 10:00:50 qavSphere1	New Datacenter	Ø	Host hardware temperature status
24-Jan-2017 10:00:50 qavSphere1	New Datacenter	0	Host hardware power status
24-Jan-2017 10:00:50 qavSphere1	New Datacenter	0	Host hardware system board status
24-Jan-2017 10:00:50 qavSphere1	New Datacenter	0	Host battery status
24-Jan-2017 10:00:50 qavSphere1	New Datacenter	0	Virtual Machine Fault Tolerance vLockStep int
24-Jan-2017 10:00:50 qavSphere1	New Datacenter	Ø	Status of other host hardware objects
24-Jan-2017 10:00:50 qavSphere1	New Datacenter	Ø	Host storage status
24-Jan-2017 10:00:50 qavSphere1	New Datacenter	Ø	Host error
24-Jan-2017 10:00:50 qavSphere1	New Datacenter	Ø	Virtual machine error
24-Jan-2017 10:00:50 qavSphere1	New Datacenter	0	Host connection failure
24-Jan-2017 10:00:50 qavSphere1	New Datacenter	0	Cannot connect to storage
24-Jan-2017 10:00:50 qavSphere1	New Datacenter	0	Migration error
24-Jan-2017 10:00:50 qavSphere1	New Datacenter	0	Exit standby error
24-Jan-2017 10:00:50 qavSphere1	New Datacenter	0	License error
24-Jan-2017 10:00:50 qavSphere1	New Datacenter	0	Health status changed alarm
24-Jan-2017 10:00:50 qavSphere1	New Datacenter	0	Host cpu usage
24-Jan-2017 10:00:50 qavSphere1	New Datacenter	0	Virtual machine Fault Tolerance state changed
24-Jan-2017 10:00:50 qavSphere1	New Datacenter	Õ	Network connectivity lost
24-Jan-2017 10:00:50 qavSphere1	New Datacenter	Ô	Network uplink redundancy lost
24-Jan-2017 10:00:50 gavSphere1	New Datacenter	Õ	Network uplink redundancy degraded

Title Bar (possible features are):	🔹 Data OK Data connection state. Red indicates the Data
 Open the previous and upper display. 	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
Open an instance of this display in a new window.	data source is connected.
 Open the online help page for this display. Menu , Table open commonly accessed 	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
displays.	current and valid.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Note: Fields/columns with an asterisk (*) at the end of the field/column definition contain data that is provided by the VMWare vSphere. Refer to VMWare vsphere documentation (<u>http://pubs.vmware.com/</u> vsphere-65/index.jsp#com.vmware.wssdk.apiref.doc/mo-types-landing.html) for more information regarding these field.

Filter By: The display might include these filtering options:

Server

Select the server for which you want to view data.

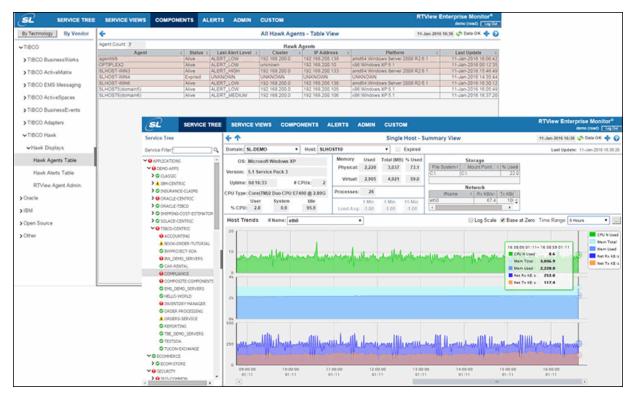
Count	The total number of datastores on the selected server(s), which are listed in the Datastores table.
Alarms Table:	
AlarmTime	The date and time of the alarm.*
Server	The name of the server in which the alarm occurred.*
Managed Object	The name of the managed object.*
Overall Status	 The general health status of the alarm.* Red indicates that the alarm is experiencing a problem. Yellow indicates that the alarm might have a problem. Grey indicates that the status of the alarm's health is unknown. Green indicates that alarm's status is OK.
Alarm Name	The name of the alarm.*
Acknowledged	Lists whether or not the alarm has been acknowledged.*
Acknowledged By	Lists the user who acknowledged the alarm.*
Acknowledged Time	Lists the date and time when the alarm was acknowledged. st
Description	The description of the alarm.*
Timestamp	The date and time the row data was last updated.

CHAPTER 18 Solution Package for TIBCO Hawk

RTView uses Solution Packages to facilitate monitoring for a number of different technologies, including TIBCO Hawk.

With the Solution Package for TIBCO Hawk[™] you can centralize alert events triggered by Hawk alert rule bases and performance data relevant to monitored hosts. This enables RTView to be the event correlation engine and event management system for alerts that are generated by:

- TIBCO Hawk
- RTView Enterprise Monitor, and
- Other monitoring tools such as Netcool and Oracle Enterprise Manager



This chapter includes:

- "Configuration Parameters You Need"
- "Configure Data Collection"
- "Troubleshoot"
- "TIBCO Hawk Displays"

Single TIBCO Console

When combined with other Solution Packages for TIBCO technologies, performance metrics and alerts from TIBCO EMS, TIBCO ActiveMatrix, TIBCO BusinessWorks, and Solution Package for TIBCO BusinessEvents can all be aggregated into a single view. The correlation of this information among the TIBCO technologies further enables cross-technology analytics, speeding troubleshooting, assessment of business impact, and resolution of issues.

By combining these TIBCO monitoring solutions along with other solutions under the RTView Enterprise Monitor umbrella, users can go further in determining how their TIBCO EMS and BW instances are affecting the critical applications in their enterprise. They can consolidate metrics from existing monitoring solutions and tools in order to provide visibility across an entire application infrastructure, including TIBCO applications and other critical application components. Using RTView Enterprise Monitor's Service Model functionality, users are able to create service models that allow them to trace service impact and prioritize issues based on their potential affect on the business.

Functionality

- Correlate available host resources with the associated Application or Service, as well as specific TIBCO components
- Identify hotspots and unavailable hosts across your infrastructure in real-time
- Understand when peak loads of host infrastructure occur or when resource usage trends are constantly growing through time-based historical analysis
- Enable individual groups to filter, correctly prioritize, and act on events of concern with an advanced event management system
- Enable users to set global thresholds and over-ride thresholds from one central console via advanced rule base control

See **README_sysreq.txt** for the full system requirements for RTView®.

Configuration Parameters You Need

- PackageName=hawkmon
- ServerDirectory=hawkmon
- AlertPrefix=Hawk

Configure Data Collection

Do the following in the order provided:

- "Configure CONNECTIONS": Set Java environment and provide server details to establish connection. This step is required.
- "Setup DATA COLLECTION": Set the poll rate interval for collecting data and enable/ disable autodiscover. This step is optional.
- "Configure DATA STORAGE": Set rules for how data is stored, as well as when data is reduced, expired and deleted. This step is optional.

Configure CONNECTIONS

This step is required.

To configure data connections for the Solution Package for TIBCO Hawk:

1. "Open the RTView Configuration Application", navigate to the **<Project Name>** and select **TIBCO Hawk** from the **Solution Pack Configuration** list.

्ब RTV	/iew [®] P	Project Configuration	n	•
	0	CUSTOM-LOCAL localhost:3278		
	0	EMSMON-LOCAL localhost:3178		l
	0	KAFKAMON-LOCAL localhost:3778		
	ø	MISCMON-LOCAL localhost:3978	Miscellaneous Monitor	
	0	MQMON-LOCAL localhost:3478		l
	0	OCMON-LOCAL localhost:3381		
	ø	RTVMGR-LOCAL localhost:3078	RTView Manager Monitor	

2. On the **CONNECTIONS** tab, provide the correct full paths to the directories containing the TIBCO Hawk, TIBCO EMS and TIBCO Rendezvous jar files in the **Classpath** fields.

e RTView [®]	■ MISCMON-LOCAL - Miscellaneous Monitor
HOME 🕒 SAVE	TIBCO Hawk
Docker	CONNECTIONS DATA COLLECTION DATA STORAGE
IBM DB2	
Microsoft SQL Server	Classpaths (Required) Directories containing TIBCO Jars.
MongoDB	The TIBCO Hawk and TIBCO Rendezvous jars are required to connect to TIBCO Hawk. The TIBCO EMS jars are required to connect to TIBCO Hawk agents running on EMS transports.
MySQL Database	In order to connect to TIBCO Hawk agents running on a TIBCO Rendezvous transport, you must also add the TIBCO Rendezvous bin directory to PATH on Windows and to LD_LIBRARY_PATH on Unix.
Node.js	Directory Containing TIBCO Hawk Jars
Oracle Database	ex: /bbc/hawk/5.2/lb or c'tibco/hawk/5.2/lb Always enclose environment variables in %, ex: %MY_ENV_VAR%
Oracle Enterprise Manager	Directory Containing TIBCO Rendezvous Jars
RTView Manager	
RedHat JBoss	ex: /tboo1brv6.3/tb or c1/tboo1brv6.3/tb Always enclose environment variables in %, ex: %MY_ENV_VAR%
TIBCO Active Spaces	Directory Containing TIBCO EMS Jars
TIBCO Adapters	ex.Nboolems/8.2/lb or c1/boolems/8.2/lb Always enclose environment variables in %, ex. %MY_ENV_VAR%
TIBCO BusinessEvents	
TIBCO Hawk	Connections
VMWare	To begin adding Connections, click +
hostmon	

3. Save.

- **4.** Click **•** to open the **Add Connection** dialog.
- 5. In the Add Connection dialog, enter the following:
- **Domain**: The domain name for the connection.
- **Transport Type**: Select the transport type from the drop-down menu.
- **Agents**: One is required and multiple agents are supported. For multiple agents use a comma-, Tab- or Enter-separated list.

Add Connection
Domain *
Transport Type *
Agents * (One Required) Unix
Enter agent name(s)
Windows
Enter agent name(s)
Multiple agents can be separated by commas, Tab or Enter
* Indicates required field
SAVE

6. Save to connect to the server. The newly created connection displays in the **Connections** section.

عد RTView [®]	≡ RTVMGR-LOCAL	- RTView Manager Mon	itor
A HOME 💾 SAVE	RTView Manager *		
Server Configuration	CONNECTIONS	DATA COLLECTION	DATA STORAGE
Data Server Historian	MyRTViewManagerServ //192.168.200.134:9999	rerName	/ 0 =
Solution Package Configuration			
RTView Manager *			

7. Repeat these instructions for each server to be monitored.

Proceed to "Setup DATA COLLECTION," next. Note that you can also "Setup DATA COLLECTION" later.

Setup DATA COLLECTION

This step is optional.

Use the RTView Configuration Application to configure data collection for the Solution Package for TIBCO Hawk. You can enable data collection for networks, processes and storage, specify **Poll Rates** (query interval, in seconds) that will be used to collect the metric data, set the Hawk domain name and the time to remove cleared Hawk alerts.

To configure data collection for the Solution Package for TIBCO Hawk:

- 1. "Open the RTView Configuration Application", navigate to the **<Project Name>** and select **TIBCO Hawk** from the **Solution Pack Configuration** list.
- 2. Choose the DATA COLLECTION tab.

	ONS	DATA COLLECTION	DATA STORAGE
Metric Selection Select which metrics t		isted are automatically collected and cannot be di	sabled.
Networ	ks		
Process	ses		
Storage	е		
Poll Rates Set the rate in second	ds at which to collect metric	data	
Poll Rate	Poll Rate Lar	ge	
30	300		
Hawk Host Domain M myHawkDomain Hawk Alerts Set options for collect	ting TIBCO Hawk alerts	f the Hawk caches	
Set the Domain Name Hawk Host Domain M myHawkDomain Hawk Alerts Set options for collect Time to Remove Clea	Name	f the Hawk caches	
Set the Domain Name Hawk Host Domain N myHawkDomain Hawk Alerts Set options for collect	Name	f the Hawk caches	

- **3.** Toggle to enable or disable the collection of data types.
- 4. Under Poll Rates, make the following entries:
- **Poll Rate**: Enter the poll interval, in seconds, for data updates.
- **5.** Under **Hawk Domain**, enter the domain name for Hawk caches. For example, **myHawkDomain**. This sets the value in the domain column for the following caches: HostConnections, HostLogs, HostNetwork, HostProcesses and HostStats.

- **6.** Under **Hawk Alerts**, enter the number of seconds to wait before removing cleared Hawk alerts. The default is **3600**.
- 7. Save your settings.

Proceed to (optionally) "Configure DATA STORAGE," next. Note that you can also "Configure DATA STORAGE" later.

Configure DATA STORAGE

This step is optional.

Use the RTView Configuration Application to configure data storage for the Solution Package for TIBCO Hawk. You can set the amount of time to wait for a response before metrics are expired or deleted.

To configure data storage for the Solution Package for TIBCO Hawk:

- 1. "Open the RTView Configuration Application", navigate to the **<Project Name>** and select **TIBCO Hawk** from the **Solution Pack Configuration** list.
- 2. Choose the DATA STORAGE tab.
- 3. Under **Duration**, make the following entries:

Expire Time: The number of seconds to wait for a response before a metric is expired. Caches impacted by this field are _HawkHostMemoryWin, _HawkHostUptime, _HawkHostMemoryUnix, _HawkHostCpuWin, _HawkHostCpuUnix, _HawkHostSwapUnix and _HawkHostPageWin.

Expire Time Large: The number of seconds to wait for a response before a metric is removed from displays. Caches impacted by this field are _HawkHostOS, _HawkHostArch and _HawkVersion.

- History Table Name Prefix field allows you to define a prefix that will be added to the database table names so that the Monitor can differentiate history data between data servers when you have multiple data servers with corresponding Historians using the same solution package(s) and database. In this case, each Historian needs to save to a different table, otherwise the corresponding data server will load metrics from both Historians on startup. Once you have defined the History Table Name Prefix, you will need to create the corresponding tables in your database as follows:
- Locate the .sql template for your database under RTViewTIBCOMonitor/em-tibco/ servers/hawkmon/logs and make a copy of it.
- Add the value you entered for the History Table Name Prefix to the beginning of all table names in the copied .sql template.
- Use the copied .sql template to create the tables in your database.
- **4. SAVE** your settings (choose **a** if **SAVE** is not visible, or expand your browser width).

Troubleshoot

When a Monitor component encounters an error, it outputs an error message to the console and/or to the corresponding log file. If you encounter issues, look for errors in the following log files:

- dataserver.log
- historian.log

which are located in the **RTViewTIBCOMonitor/em-tibco/servers/miscmon/logs** directory.

TIBCO Hawk Displays

The following TIBCO Hawk Views (and their associated displays) can be found under **Components** tab **> Connectors/TIBCO Hawk>**Hawk Displays after the Solution Package for IBM® WebSphere is installed.

This section contains the following:

Displays are:

- "Hawk Agents Table" on page 847
- "Hawk Alerts Table" on page 848
- "RTView Agent Administration" on page 850

Hawk Agents Table

This table provides a list of agents as well as network connectivity details about each agent.

+	All Hawk Agents - Table View 26-Oct-2016 10:07 💠 Data OK 💠 🕜				
Agent Count: 11 Hawk Agents					
Agent	Status	Last Alert Level	Cluster	IP Address	Platform
agentW46	Alive	ALERT_LOW	192.168.200.0	192.168.200.146	amd64:Windows Server 2008 R2
SLHOST93	Alive	ALERT_HIGH	192.168.200.0	192.168.200.93	amd64:Linux:2.6.32-358.11.1.el
WIN44	Alive	ALERT_HIGH	192.168.200.0	192.168.200.144	amd64:Windows Server 2008 R2
SLHOST21(dev)	Alive	ALERT_MEDIUM	192.168.200.0	192.168.200.121	amd64:Windows 7:6.1
SLHOST5(domain5)	Alive	ALERT_MEDIUM	192.168.200.0	192.168.200.105	x86:Windows XP:5.1
SLHOST6(domain6)	Alive	ALERT_MEDIUM	192.168.200.0	192.168.200.106	x86:Windows XP:5.1
SLHOST15(sl_amx)	Alive	ALERT_HIGH	192.168.200.0	192.168.200.115	amd64:Windows 7:6.1
SLHOST17(sl_amx)	Alive	ALERT_HIGH	192.168.200.0	192.168.200.117	amd64:Windows 7:6.1
SLHOST15(sl_qa_conn)	Alive	NO_ALERT	127.0.0.0	192.168.200.115	amd64:Windows 7:6.1
SLHOST16(sl_qa_conn)	Alive	ALERT_HIGH	192.168.200.0	192.168.200.116	amd64:Windows 7:6.1
SLHOST18(sl_qa_conn)	Alive	NO_ALERT	192.168.200.0	192.168.200.118	amd64:Windows 7:6.1

Title Bar (possible features are):	on Data OK Data connection state. Red indicates the Data
Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	▲ Open the Alert Views - RTView Alerts Table display.

Fields and Data:

Agent Count: The total number of agents in the table.

Table:

Each row in the table is a different agent.

Agent	The name for the agent which is composed of the hostname and Hawk domain (in parenthesis). Agent names which do not contain an explicit Hawk domain are members of the "default" domain.
Status	The agent status, either Alive or Expired .
Last Alert Level	The most recent and most critical alert level.
Cluster	The IP address of the cluster to which this agent belongs.
IP Address	The IP subnet address for the group of machines to which this agent belongs.
Platform	The physical CPU class and operating system version.
Last Update	The date and time the row data was last updated.

Hawk Alerts Table

Use this display to view all Hawk alerts that have occurred in the system.

Each row in the table is a different active alert. Use the drop-down menus to filter the alerts listed. Click a column heading to sort the table on that column data.

The row color indicates the following:

Row Color Code:

Tables with colored rows indicate the following:

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

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

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

Hawk Alerts Table 26-Oct-2016 10:27 O Data OK O					
Agent Filter All A	gents	•			
Alert Text Filter			Clear		
Rulebase Filter			Clear Sh	ow Cleared Alerts	Alert Count:10
Time	Agent	Alert ID	Alert Level	RuleBase	
26-Oct-2016 10:27:33	SLHOST6(domain6)	10	ALERT_MEDIUM	TibRV_Alerts	Received from
26-Oct-2016 10:27:19	SLHOST5(domain5)	10	ALERT_MEDIUM	TibRV_Alerts	Received from
26-Oct-2016 10:26:59	SLHOST5(domain5)		ALERT_LOW	System_Alerts	Server Proces
26-Oct-2016 10:17:32	SLHOST17(sl_amx)	7	ALERT_HIGH	test	Current Proces
26-Oct-2016 10:06:05	SLHOST5(domain5)		ALERT_LOW	System_Alerts	System Uptime
26-Oct-2016 10:02:46	SLHOST16(sl_qa_conn)		ALERT_HIGH	generate_Alerts	Current Proces
26-Oct-2016 10:01:26	SLHOST6(domain6)		ALERT_LOW	System_Alerts	System Uptime
26-Oct-2016 00:26:52	SLHOST6(domain6)		ALERT_LOW	System_Alerts	Server Proces
26-Oct-2016 00:20:33	SLHOST5(domain5)		ALERT_LOW	System_Alerts	Service Print S
26-Oct-2016 00:16:21	SLHOST6(domain6)	12	ALERT_LOW	System_Alerts	Service Print S
•	Ш				4

Title Bar (possible features are):	🔄 Data OK Data connection state. Red indicates the Data
🗲 🛧 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Agent Filter Choose one or All Agents.

Alert Text Filter	Enter a string to filter alerts listed. Clear to remove this filter.			
Rulebase Filter	Enter a rule to filter alerts listed. Clear to remove this filter.			
Show Cleared Alerts	When checked, cleared alerts are included in the table.			
Alert Count	The number of alerts in the table.			
	Time	The date and time the alert occurred.		

Agent	The name of the agent associated with the alert.			
Alert ID	The unique string identifier for the alert.			
Alert Level	ALERT_HIGH indicates that one or more alerts exceeded their ALARM LEVEL threshold in the table row.			
	ALERT_MEDIUM indicates that one or more alerts exceeded their WARNING LEVEL threshold in the table row.			
	ALERT_LOW indicates that no alerts exceeded their WARNING or ALARM LEVEL threshold in the table row.			
RuleBase	The alert system type (e.g.System_Alerts).			
Alert Text	Descriptive text about the alert.			
Cleared	When checked, the alert has been cleared.			

RTView Agent Administration

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

<	RTView Agent Metrics Administration				10-Nov-2014 16	:31 < Data OK 💠 💮	
	Data Received from Remote Agents						
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	
slymware	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	
slymware	SL-HOSTMON-Agent	30015	33,434	0	0.0	10-Nov-2014 16:31:31	

Title Bar (possible features are):	State OK Data connection state. Red indicates the Data
🗲 🔺 Open the previous and upper display.	Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the
 Open an instance of this display in a new window. Open the online help page for this display. Menu , Table open commonly accessed displays. 	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.
6,047 The number of items currently in the display.	Open the Alert Views - RTView Alerts Table display.

Data Received from Remote Agents Table

AgentName	Name of the agent.
AgentClass	Class of the agent.
Client ID	Unique client identifier.
Total Rows Rcvd	Total number of rows of data received.
Rows Rcvd/sec	Number of rows of data received per second.
Last Receive Time	Last time data was received from the agent.

APPENDIX A RTView Configuration Application

This section describes settings to configure, manage and optimize your RTView Enterprise Monitor sytem using the RTView Configuration Application. This sections includes:

- "Open the RTView Configuration Application"
- "HOME Page"
- "Apply Changes"
- "Settings for RTView Central Servers"
- "Settings for Solution Package Servers"

Open the RTView Configuration Application

1. In the RTView Enterprise Monitor, click 🔅 (upper right) to open the RTView Configuration Application.

Note: The **O** icon is only visible if you are logged in as admin. You also might need to disable your browser popup blocker. If you are not logged in as admin or cannot disable your popup blocker, open the RTView Configuration Application at the following URL:

http://localhost:8068/em-tibco_rtvadmin

2. Login to RTView Configuration Application.

User: rtvadmin

Password: rtvadmin

The RTView Configuration Application **HOME** page opens.

HOME Page

The home page allows access to your Central Server Project and all of your Solution Package Projects. The Central Server Project allows you to configure the Enterprise Monitor Central Servers: Central Config Server, Central Alert Server, Central Alert Historian and Central Display Server. The Solution Package Projects allow you to configure all Solution Package Servers to which the Central Servers are connected.

Select p	roject to configure	MANAGE DATA SERVER CONNECTIONS			
E	RTView Central Servers RTView Enterprise Monitor localhost:10018	REQUIRES RESTART			
17 M ANNU	BWMON-LOCAL TIBCO ActiveMatrix Businessworks 5 Monitor localhost:3378				
	EMSMON-LOCAL TIBCO Enterprise Message Service Monitor localhost:3178				
	MISCMON-LOCAL Miscellaneous Monitor localhost:3978				
	RTVMGR-LOCAL RTView Manager Monitor localhost:3078				
1710 HILLING	RTVRULES RTVRULES DataServer localhost:3878				

Select a project in the list to configure that project. The **MANAGE DATA SERVER CONNECTIONS** button is a shortcut to the Data Servers tab in the Central Server Project. The **REFRESH** button refreshes the Solution Package Project list.

After you have saved changes to a project, you will see the following button on the line for that project (on the home page as well as at the top of the project): **CRESTART DATASERVER**. This button indicates that you have an unapplied change. Click the button to automatically restart the data server, which will require you to wait for a couple of minutes for the data server to restart. Once the data server has restarted, you can select the project to verify your changes. Note that this process only restarts the data server. Changes for the display server or historian processes will not be applied until those processes are restarted using the **RTViewTIBCOMonitor\bin\stop_central_servers** (.bat or .sh) and **start_central_servers** (.bat or.sh) scripts and cannot be restarted from the RTView Configuration.

Apply Changes

Execute the **stop_central_servers** script, located in the **RTViewTIBCOMonitor/bin** directory, then the **start_central_servers** script to restart the Central Servers Project.

Execute the **stop_data_servers** script, located in the **RTViewTIBCOMonitor/bin** directory, then the **start_data_servers** script to restart the Solution Package Projects.

Settings for RTView Central Servers

This section describes pages and settings in the RTView Configuration Application for the RTView Central Servers. Pages are:

- "Central Server Configuration>General," next
- "Central Server Configuration>Data Servers>CONNECTIONS"
- "Central Server Configuration>Central Config Server"
- "Central Server Configuration>Central Alert Server"
- "Central Server Configuration>Central Alert Historian"
- "Central Server Configuration>Central Display Server"

The order of this section matches the RTView Central Server navigation tree, shown below.

A HOME 🔛 SAVE	General		
Server Configuration	COMMON	CUSTOM PROPERTIES	ABOUT
General			
Data Servers	Historian Database Connection Configure the Historian database connection		
Central Config Server	Url: jdbc:hsqldb:hsql://localhost:	9099/rtvhistory	
Central Alert Server	Driver: org.hsqldb.jdbcDriver		1
Central Alert Historian	Classpath:		Copy to clipboard Paste
Central Display Server	Alert Threshold Database Connec Configure the alert typeshold database	ction	

TIP: If you don't see the navigation tree, click \equiv (on the left side in the title bar).

Central Server Configuration>General

The **Central Server Configuration>General** page has three tabs, **COMMON**, **CUSTOM PROPERTIES** and **ABOUT**:

- "Central Configuration Server>General>COMMON Tab," next: Use this page to connect the Central Configuration Server, the Historian and Alert Threshold databases.
- "Central Server Configuration>General>CUSTOM PROPERTIES Tab": Use this page to enter custom properties.
- "Central Server Configuration>General>ABOUT Tab": Get details about your RTView Enterprise Monitor installation from this page.

Central Configuration Server>General>COMMON Tab

Location: In the RTView Configuration Application **HOME** page, choose **RTView Central Servers**. The **General>COMMON** tab is shown by default. Use this page to connect the Central Configuration Server, the Historian and Alert Threshold databases. The settings you make in the **COMMON** tab are applied to all Central Servers as well as all Solution Package Project Servers. For example, when you change the historian database connection in this tab, the database connection for the Central Alert Historian also changes, as well as for the Solution Package for EMS Project Server (servers\emsmon historian).

	■ RTView Central Servers - RTView Enterprise Monitor
A HOME 🔛 SAVE	General
_	Common CUSTOM PROPERTIES ABOUT Historian Database Connection Configure the Historian database connection Urf. jdbc:hsqldb:hsql://localhost:9099/rtvhistory Driver: org.hsqldb.jdbcDriver Classpath: Image: Copy to clipboard Paste Alert Threshold Database Connection Configure the alert threshold database connection Image: Copy to clipboard Paste Urf: jdbc:hsqldb:hsql://localhost:9099/alertdefs Driver: org.hsqldb.jdbcDriver Classpath: Image: Copy to clipboard Paste
	Access the Alert Threshold Database via the Central Config Server Instead of Connecting Directly Default Central Config Server (* Required) Configure the connection to the Central Config Server Iocalhost:10018 ex. localhost:10018 or http://hostlermsample_config_rtvdata Copy Common Configuration Copy common configuration values to selected server Connected Servers COPY

The **COMMON** tab has the following fields:

Field NameDescriptionHistorian Database
ConnectionThis is the connection to use for the Historian database. See the
"Configure Databases of the Central Servers" instructions on how to
populate this database with the correct table schemas.URL - Full URL to use when connecting to this database using the specified
JDBC driver.Driver - Fully qualified name of the driver class to use when connection to
this database via JDBC.Classpath - The classpath to the jar containing the driver class.Username - (optional) User name to enter into this database when
making a connection.Password - (optional) Password to enter into this database when making
a connection.

	Run Queries Concurrently - If true, each query on the connection is run on its own execution thread. ote: This option should be used with caution since it may cause SQL errors when used with some database configurations and may degrade performance due to additional database server overhead. See your database documentation to see whether it supports concurrent queries on multiple threads.
	TIP: Click Copy to clipboard on any RTView Central Servers database field to copy it to the clipboard. It can be pasted on any of the other RTView Central Servers database fields.
Alert Threshold Database Connection	This is the connection to use for the Alert Threshold database. This database contains all alert settings (warning and alarm thresholds, etc). See the "Configure Databases of the Central Servers" instructions on how to populate this database with the correct table schemas.
	URL - Full URL to use when connecting to this database using the specified JDBC driver.
	Driver - Fully qualified name of the driver class to use when connection to this database via JDBC.
	Classpath - The classpath to the jar containing the driver class.
	Username - (optional) User name to enter into this database when making a connection.
	Password - (optional) Password to enter into this database when making a connection.
	Run Queries Concurrently - If true, each query on the connection is run on its own execution thread. ote: This option should be used with caution since it may cause SQL errors when used with some database configurations and may degrade performance due to additional database server overhead. See your database documentation to see whether it supports concurrent queries on multiple threads.
	TIP: Click Copy to clipboard on any RTView Central Servers database field to copy it to the clipboard. It can be pasted on any of the other RTView Central Servers database fields.
Access the Alert Threshold Database via the Central Config Server Instead of Connecting Directly.	When enabled, the Solution Package Data Servers do not connect to the Alert Threshold Database. Instead all queries go through the Central Config Server.
Central Config Server Connection	Enter the url for connecting to the Central Config Server. This field is required. Example urls:
	direct socket connection - localhost:10018
	servlet connection - http://localhost/em-tibco_config_rtvdata
	fault tolerant pair - %PRIMARYHOST%:10018,%BACKUPHOST%:10018
Copy Common Configuration to Remote Servers	Copy the settings on this tab to a remote server. This is needed when you have a Solution Package Project that is not located under the same em- tibco directory as the central servers.

Central Server Configuration>General>CUSTOM PROPERTIES Tab

Use the **CUSTOM PROPERTIES** page to enter custom properties for the Central Servers.

The **CUSTOM PROPERTIES** tab has the following fields:

Field Name	Description
Custom Properties	Click 💿 to enter a custom property. To configure a custom property, you must know the name of the associated property, the syntax for the property value and the appropriate property filter.
	Property values are applied in the order specified with the last value taking precedence.
	Name - the property name
	Value - the property value
	Filter - the propery filter (optional)
	Comment - a comment describing this property (optional)

Central Server Configuration>General>ABOUT Tab

The **ABOUT** tab provides details about your RTView Enterprise Monitor installation:

Field Name	Description
Location	The location of the directory where the central servers are running.
Display Name	The display name.
Version	The version of the central servers.

Central Server Configuration>Data Servers>CONNECTIONS

In the RTView Configuration Application **HOME** page, choose **RTView Central Servers>Data Servers**. Use this page to configure, enable/disable, add/remove Data Servers and also to control which solution package displays are included in the **COMPONENTS** tab of the monitor. Changes are applied after you restart the Data Server.

<i>S</i> ■ RTView [®]	■ RTView Central Servers - RTView Enterprise Monitor	:
HOME 🔛 SAVE	Data Servers	
Server Configuration	CONNECTIONS	
General		•
Data Servers	Connections	
Central Config Server	Eff = enabled	
Central Alert Server	RTVRULES	
Central Alert Historian	EM-SERVICE	
Central Display Server	EMSMON-LOCAL	

The **Central Server Configuration**>**Data Servers**>**CONNECTIONS** page has the following fields:

Field Name Description

Connections Add and edit connections to Solution Package Data Servers. Click 🔸 to add a connection.

Name - Connection name. This must be unique and will be the lable used on the top level of the Configuration Application for this connection.

 $\ensuremath{\textbf{URL}}$ - The URL for this connection. This can be host:port or it can be a url to the rtvdata servlet. For example:

localhost:3178

http://localhost:8068/emsmon_rtvdata

Connection Enabled - If true, the central servers will connect to this data server.

Select Solution Packages or CI Types hosted by this data server - This controls which component types (CI Types) hosted by this data server will be included in the Service Model. Selecting Solution Packages includes all CI Types for that Solution Package. Select CI Types when you do not want all CI Types to be included.

Monitor Data Server (optional) - If true the RTView Manager will make a connection to the specified host:port so that you can monitor the process. This RTView Manager connection will use the Name.

Monitor Historian (optional) - If true the RTView Manager will make a connection to the specified **host:port** so that you can monitor the process. This RTView Manager connection will use the Name followed by **-HISTORIAN**.

Select Mode for Including Solution Packages on the COMPONENTS Tab Select a mode to control which Solution Package displays are included in the **COMPONENTS** tab:

- **Include all solution packages in enabled connections**: This will include displays for all solution packages specified for all enabled Data Server Connections in the COMPONENTS tab of the monitor.
- **Include all soluton packages in all connections**: This will include displays for all solution packages specified for all enabled and disabled Data Server Connections in the COMPONENTS tab of the monitor.
- **Include all installed solution packages**: This will include displays for all installed solution packages in the COMPONENTS tab of the monitor.
- **Choose solution packages to enable**: This allows you to select which solution packages will be included in the COMPONENTS tab of the monitor.

Central Server Configuration>Central Config Server

In the RTView Configuration Application **HOME** page, choose **RTView Central Servers>Central Config Server**. Use this page to configure the Central Config Server database connections, logging, memory and CMDB. This page has two tabs: the **CONFIGURATION SERVER** tab and the CMDB tab:

- "Central Config Server>CONFIGURATION SERVER Tab":
- "Central Config Server>CMDB Tab":

Central Config Server>CONFIGURATION SERVER Tab

Navigate to the RTView Configuration Application **HOME** page, choose **RTView Central Servers**, then choose **Central Config Server** from the navigation tree and the **CONFIGURATION SERVER** tab. Use this page to connect the Diagram Generator and Metric Explorer databases, and allocate memory.

	■ RTView Central Servers - RTView Enterprise Monitor	pr	1
🚰 HOME 🔛 SAVE	Central Config Server		
Server Configuration	CONFIGURATION SERVER	CMDB	
Data Servers Central Config Server Central Alert Server Central Alert Historian Central Display Server	Diagram Generator Configure the Diagram Generator database connection If = eached If : disc: hsqldb:hsql://localhost:9099/rtvdiagram If : disc: hsql://localhost:9099/rtvdiagram If : disc: hsql://localhost:9099/rtvdiagram	Copy to clipboard Paste	
	Memory Set the initial and maximum memory for this process. Specify a number followed by a unit. If no unit is Units are k (kilobyte), m (megabyte), g (gigabyte). Initial Memory 256m Max Memory 512m Set the log file name and location relative to the startup directory for this process Logs Set the log file name and location relative to the startup directory for this process Logs/config_dataserver.log	s used, the number is assumed to be bytes.	

The **CONFIGURATION SERVER tab** page has the following fields:

Field Name Description

Diagram Generator The connection to use for the Diagram Generator. This is only needed if you will be using the Diagram Generator.

URL - Full URL to use when connecting to this database using the specified JDBC driver.

Driver - Fully qualified name of the driver class to use when connection to this database via JDBC.

Classpath - The classpath to the jar containing the driver class.

Username - (optional) User name to enter into this database when making a connection.

Password - (optional) Password to enter into this database when making a connection.

Run Queries Concurrently - If true, each query on the connection is run on its own execution thread. ote: This option should be used with caution since it may cause SQL errors when used with some database configurations and may degrade performance due to additional database server overhead. See your database documentation to see whether it supports concurrent queries on multiple threads.

Enabled - Set to false to disable this database connection.

TIP: Click **Copy** to clipboard on any RTView Central Servers database field to copy it to the clipboard. It can be pasted on any of the other RTView Central Servers database fields.

Metric Explorer The connection to use for the Metric Explorer. This is only needed if you will be using the Metric Explorer.

URL - Full URL to use when connecting to this database using the specified JDBC driver.

 $\ensuremath{\text{Driver}}$ - Fully qualified name of the driver class to use when connection to this database via JDBC.

Classpath - The classpath to the jar containing the driver class.

Username - (optional) User name to enter into this database when making a connection.

Password - (optional) Password to enter into this database when making a connection.

Run Queries Concurrently - If true, each query on the connection is run on its own execution thread. ote: This option should be used with caution since it may cause SQL errors when used with some database configurations and may degrade performance due to additional database server overhead. See your database documentation to see whether it supports concurrent queries on multiple threads.

Enabled - Set to false to disable this database connection.

TIP: Click Copy to clipboard on any RTView Central Servers database field to copy it to the clipboard. It can be pasted on any of the other RTView Central Servers database fields.

- **Initial Memory*** The initial amount of memory to allocate for this process.
- **Max Memory*** The maximum amount of memory to allocate for this process.
- **Log File** The log file name and location relative to the startup directory for this process.

***Note:** Units for memory are k (kilobyte), m (megabyte), g (gigabyte). If no unit is used, the number is assumed to be bytes. Use caution when you change the memory allocation. If the memory allocation is too small the server might crash during startup (with an out of memory exception). If too large the server might eventually exceed the available CPU/memory on your system and fail.

Central Config Server>CMDB Tab

In the RTView Configuration Application **HOME** page, choose **RTView Central Servers**, then choose **Central Config Server** from the navigation tree and the **CMDB** tab. Use this page to connect and setup the CMDB (the Service Model that maps CIs being monitored).

e RTView [®]	E RTView Central Servers - RTView Enterprise Monitor	:
A HOME 🕒 SAVE	Central Config Server	
Server Configuration	CONFIGURATION SERVER	СМДВ
General		00
Data Servers	CMDB Database Connection Configure the CMDB database connection	
Central Config Server	S' = enabled	
Central Alert Server Central Alert Historian	Url: jdbc:hsqldb:hsql://localhost:9099/rtvcmdb Iniver: org.hsqldb.jdbcDriver Classpath:	/ 1
Central Display Server		Copy to clipboard Paste
	Read CMDB from Database	
	Enable this option to automatically generate CMDB entries for all components based on their CIType. The under Infrastructure. Organize Services by CIType	use entres are instead in the set time the
	CMDB Categories Separate CMDB items with semi-colons	
	Environment List	Default Environment Filter
	PRODUCTION; DR; UAT; DEVELOPMENT	PRODUCTION *
	Region List AMER; EMEA; APAC	
	Country List	
	Japan; UK; USA	
	City List	
	Chicago; Dallas; London; New York; Tokyo	
	Site List	
	Data Center; Headquarters; Remote	
	OS List	

Field Name Description

CMDB Database Connection The database connection to use for the CMDB. This is required if you enable the Read CMDB from Database option. See "Configure Databases of the Central Servers" instructions on how to populate this database with the correct table schemas.

URL - Full URL to use when connecting to this database using the specified JDBC driver.

Driver - Fully qualified name of the driver class to use when connection to this database via JDBC.

Classpath - The classpath to the jar containing the driver class.

Username - (optional) User name to enter into this database when making a connection.

Password - (optional) Password to enter into this database when making a connection.

Run Queries Concurrently - If true, each query on the connection is run on its own execution thread. ote: This option should be used with caution since it may cause SQL errors when used with some database configurations and may degrade performance due to additional database server overhead. See your database documentation to see whether it supports concurrent queries on multiple threads.

Enabled - Set to false to disable this database connection.

TIP: Click Copy to clipboard on any RTView Central Servers database field to copy it to the clipboard. It can be pasted on any of the other RTView Central Servers database fields.

Read CMDB from Database If **true**, read CMDB entries from the database defined in CMDB Database Connection

Organize Services by CIType If **true**, enables automatic generation of CMDB entries for all components based on their CIType. When enabled, this option organizes CIs in the Service Tree based on their CI Type.

Environment List A semi-colon delimited list of Environments to use for your CMDB entries. This populates the Environment filter list and also the list of available Environments in the CMDB Administration display.

 Default
 The initially selected value in the Environment filter field on the SERVICE

 Environment
 TREE and SERVICE VIEWS tabs in the monitor.

 Filter
 The initially selected value in the Environment filter field on the SERVICE

- **Region List** A semi-colon delimited list of Regions to use for your CMDB entries. This populates the list of available Regions in the CMDB Administration display.
- **Country List** A semi-colon delimited list of Countries to use for your CMDB entries. This populates the list of available Countries in the CMDB Administration display.
- **City List** A semi-colon delimited list of Cities to use for your CMDB entries. This populates the list of available Cities in the CMDB Administration display.
- **Site List** A semi-colon delimited list of Site to use for your CMDB entries. This populates the list of available Site in the CMDB Administration display.
- **OS List** A semi-colon delimited list of Operating Systems to use for your CMDB entries. This populates the list of available Operating Systems in the CMDB Administration display.

Central Server Configuration>Central Alert Server

In the RTView Configuration Application **HOME** page, choose **RTView Central Servers** and then choose **Central Alert Server** from the navigation tree.

The **Central Alert Server** page has three tabs: the **GENERAL** tab, the **ALERTS** tab and the **DATA STORAGE** tab:

- "Central Alert Server>GENERAL Tab," next: Use this page to specify memory allocations and log files for the Central Alert Server.
- "Central Alert Server>ALERTS Tab": Use this page to configure alert notifications and persistence.
- "Central Alert Server>DATA STORAGE Tab": Use this page to configure alert history storage.

Central Alert Server>GENERAL Tab

This section describes how to allocate memory and log files for the Central Alert Server.

If you are resuming setup for a saved project: Navigate to the RTView Configuration Application **HOME** page and choose **RTView Central Servers**. The **GENERAL** tab is shown by default.

Sult RTView [®]	■ RTView Central Ser Monitor	vers - RTView Enterprise	Requires restart	:
HOME 🖺 SAVE	Central Alert Server			
Server Configuration	GENERAL	ALERTS	DATA STORAGE	
General Data Servers Central Config Server	Memory Set the initial and maximum memory fo assumed to be bytes. Units are k (kilob	r this process. Specify a number followed by a unit. If yte), m (megabyte), g (gigabyte).	no unit is used, the number is	
Central Alert Server	Initial Memory 256m			
Central Alert Historian Central Display Server	Max Memory 512m			
	Logs Set the log file name and location relati Log File logs/alert_dataserver.log	ve to the startup directory for this process		

The **Central Alert Server>GENERAL tab** has the following fields:

Field Name Description

Initial
Memory*The initial amount of memory to allocate for this process.MaxThe maximum amount of memory to allocate for this process.

Memory*

Log File The log file name and location relative to the startup directory for this process.

***Note:** Units for memory are k (kilobyte), m (megabyte), g (gigabyte). If no unit is used, the number is assumed to be bytes. Note: Use caution when you change the memory allocation. If the memory allocation is too small the server might crash during startup (with an out of memory exception). If too large the server might eventually exceed the available CPU/ memory on your system and fail.

Central Alert Server>ALERTS Tab

This section describes how to setup alert notifications and persistence for high availability.

If you are resuming setup for a saved project: Navigate to the RTView Configuration Application **HOME** page and choose **Central Alert Server** and the **ALERTS** tab.

€ RTView [®]	RTView Central Servers - RTView Enterprise Monitor *		
🖶 HOME 🔛 SAVE	Central Alert Server		
Server Configuration	GENERAL ALERTS DATA STORAGE		
General Data Servers	• Go to the COMMON tab under General to configure the alert threshold database connection.		
Central Config Server *	Notifications Configure alert notifications to execute centrally. Alert notifications require additional setup in the central directory. See the documentation for more information.		
Central Alert Historian	Enable Alert Notifications Default		
Central Display Server	Notification Platform Default O Unix		
	Notify on New Alerts Default		
	Notify on First Severity Change Default		
	Notify on Cleared Alerts Default		
	Periodically Renotify on Unacknowledged Alerts Default Renotification Interval 300		
	Persistence for High Availability Select to persist alerts to the database for high availability Persist Alerts Default Persist Engine Name Central		

The **Central Alert Server>ALERTS tab** has the following fields:

Field Name	Description
Enable Alert Notifications	Set to true to enable alert notifications. By default, alert notifications will execute a script in the servers/central directory.
Notification Platform	Select the platform where the central alert server is running.
Notify on New Alerts	Set to true to notify on new alerts. This requires some additional setup: Copy the my_alert_actions (.bat or .sh) script from RTVAPM_HOME/ common/bin to em-tibco/servers/central and modify it to execute the action you want to perform.
Notify on First Severity Change	Set to true to notify the first time the Severity value changes on an alert. This requires some additional setup: Copy the my_alert_actions (.bat or .sh) script from R TVAPM_HOME/common/bin to em-tibco/servers/ central and modify it to execute the action you want to perform.
Notify on Cleared Alerts	Set to true to notify when an alert is cleared. This requires some additional setup: Copy the my_alert_actions (.bat or .sh) script from RTVAPM_HOME/common/bin to em-tibco/servers/central , rename it to my_alert_actions.cleared (.bat or .sh) and modify it to execute the action you want to perform.

Periodically Renotify on Unacknowledged Alerts	Set to true to notify on the Renotification Interval for all unacknowledged alerts. This requires some additional setup: Copy the my_alert_actions (.bat or .sh) script from RTVAPM_HOME/common/bin to em-tibco/servers/centra l, rename it to my_alert_actions.renotify (.bat or .sh) and modify it to execute the action you want to perform.
Renotification Interval	Set to the interval on which you want to renotify on unacknowledged alerts.
Persist Alerts	Set to true to persist the current alert table to the Alert Threshold Database. See the "Configure Databases of the Central Servers" instructions on how to populate this database with the correct table schemas.
Persist Engine Name	Assign a unique name for this data server. This is needed when multiple data servers persist alerts to the same database.

Central Alert Server>DATA STORAGE Tab

This section describes how to enable storage of alert history to the history database and create a prefix for the names of metrics stored in the history database.

If you are resuming setup for a saved project: Navigate to the RTView Configuration Application **HOME** page and choose **Central Alert Server** and the **DATA STORAGE** tab.

🔊 RTView ®	RTView Central Servers - RTView Enterprise Monitor *			
🖶 HOME 💾 SAVE	Central Alert Server			
Server Configuration	GENERAL	ALERTS		
General				
Data Servers	History Storage	History Storage Select to have the Central Alert Historian store alerts to the the history database.		
Central Config Server *	Select to have the Central Arent Historian store.	nens to the the history database.		
Central Alert Server	Store Alert History Default			
Central Alert Historian	History Table Name Prefix			
Central Display Server	Enter a value to prepend to the history table names	Enter a value to prepend to the history table names for all metrics. Note that this requires a change to your history database schema.		

The **Central Alert Server>DATA STORAGE** tab has the following fields:

Field Name	Description
Store Alert History	Set to true to have the Central Alert Historian store alert history to the Historian database.
History Table Name Prefix	The History Table Name Prefix field allows you to define a prefix that will be added to the database table names so that EM can differentiate history data between data servers when you have multiple Central Alert Servers. In this case, each Historian needs to save to a different table, otherwise the corresponding data server will load metrics from both Historians on startup. Once you have defined the History Table Name Prefix , you will need to create the corresponding tables in your database as follows:
	 Locate the .sql template for your database under RTVAPM_HOME/ common/dbconfig and make a copy of it.
	 Add the value you entered for the History Table Name Prefix to the beginning of all table names in the copied .sql template.
	• Use the copied .sql template to create the tables in your database.

Central Server Configuration>Central Alert Historian

In the RTView Configuration Application **HOME** page and choose **RTView Central Servers>Central Alert Historian**. Use this page to allocate memory and set log files for the Central Alert Historian.

€ RTView [®]	RTView Central Servers - RTView Enterprise Monitor Requires restart 2 :
👫 HOME 🔛 SAVE	Central Alert Historian
Server Configuration	ALERT HISTORIAN
General	
Data Servers	Memory Set the initial and maximum memory for this process. Specify a number followed by a unit. If no unit is used, the number is assumed to be bytes. Units
Central Config Server	are k (kilobyte), m (megabyte), g (gigabyte). Initial Memory
Central Alert Server	128m
Central Alert Historian	Max Memory
Central Display Server	512m
	Logs Set the log file name and location relative to the startup directory for this process Log File logs/alert_historian.log

The **Central Alert Historian>ALERT HISTORIAN** tab has the following fields:

Field Name Description

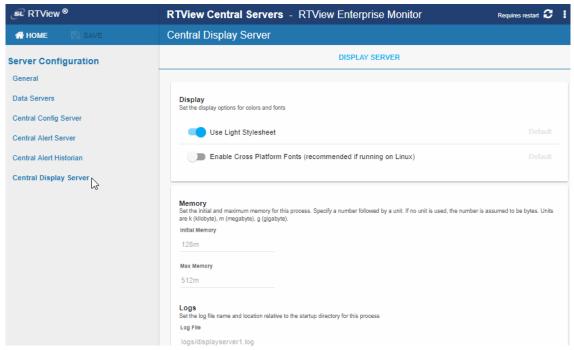
Initial Memory*	The initial amount of memory to allocate for this process.
Max Memory*	The maximum amount of memory to allocate for this process.

Log File The log file name and location relative to the startup directory for this process.

***Note:** Units for memory are k (kilobyte), m (megabyte), g (gigabyte). If no unit is used, the number is assumed to be bytes. Note: Use caution when you change the memory allocation. If the memory allocation is too small the server might crash during startup (with an out of memory exception). If too large the server might eventually exceed the available CPU/ memory on your system and fail.

Central Server Configuration>Central Display Server

In the RTView Configuration Application **HOME** page choose **RTView Central Servers>Central Display Server**. Use this page to choose the light or dark version of the Monitor GUI, enable the use of cross platform fonts and allocate memory and log files for the Display Server process.



The Central Display Server>DISPLAY SERVER page has the following fields:

Field Name Description

Use Light
StylesheetSet to true to use the light colored stylesheet, false to use the dark stylesheet.Enable
Cross
Platform
FontsLINUX users might see inconsistently aligned labels in displays. To resolve, this to
true.Initial
Memory*The initial amount of memory to allocate for this process.Max
Memory*The maximum amount of memory to allocate for this process.

Log File The log file name and location relative to the startup directory for this process.

***Note:** Units for memory are k (kilobyte), m (megabyte), g (gigabyte). If no unit is used, the number is assumed to be bytes. Note: Use caution when you change the memory allocation. If the memory allocation is too small the server might crash during startup (with an out of memory exception). If too large the server might eventually exceed the available CPU/ memory on your system and fail.

Settings for Solution Package Servers

This section describes the pages and settings in the RTView Configuration Application for the Solution Package Servers. Pages are:

- "Solution Package Server Configuration>General"
- "Solution Package Server Configuration>Data Server"
- "Solution Package Server Configuration>Historian"
- "Solution Package Server->Solution Package Configuration"

Solution Package Server Configuration>General

This section describes how to configure General server settings for your Solution Package projects. This page has three tabs:

- "Solution Package Server Configuration>General>GENERAL Tab": Use this page to get details about your project, set unique identifier and ports.
- "Solution Package Server Configuration>General>ALERTS Tab": Use this page to configure alert settings.
- "Solution Package Server Configuration>General>CUSTOM PROPERTIES Tab": Use this
 page to enter custom properties.

Note: We use the Solution Package for RTView Manager to illustrate. Remember that each Project has it's own specifications so you might see fields or values that are not in the Solution Package for RTView Manager.

Solution Package Server Configuration>General>GENERAL Tab

In the RTView Configuration Application home page, choose **<Project Name> ->Server Configuration>General**. The **GENERAL** tab is shown by default.

Field Name	Description
URL	The Data Server URL that was used to connect to this project. This cannot be edited.
Location	The path to the Solution Package project directory. This field cannot be edited.
Version	The version of the Solution Package Data Server. This field cannot be edited.
Project Type	Displays the type of project (Standard, Sender, or ConfigClient). This field cannot be edited.
Display Name	Set the name for the project which displays on the HOME/ RTView Project Configuration (top level) page. This field can be edited.
Description	Optionally specify a description that will display on the HOME/ RTView Project Configuration (top level) page.

Project ID	A default unique identifier for the project.
Port Prefix	Displays the default port prefix (first two numbers used for the port) that will be used for all ports, which you can modify. The latter two numbers in the port are predefined and cannot be modified. Click Show Port Assignments to view the Port Assignments.

Solution Package Server Configuration>General>ALERTS Tab

In the RTView Configuration Application home page, choose **<Project Name> ->Server Configuration>General** and go to the **ALERTS** tab.

GENERAL		CUSTOM PROPERTIES
-	Connection se connection locally for this server instead of using th abase connection instead of the central ale	-
Server. Alert notifications require add	te locally in this server in addition to the central notific litional setup in the project directory. See the documer ons for this server in addition to central not	tation for more information.
	se for high availability	
	se for high availability	
Select to persist alerts to the databas Persist Alerts History		
Persistence Select to persist alerts to the databas Persist Alerts History Select to have the Historian save ale Store Alert History		

Field Name	Description
Alert Threshold Database Connection	By default, all Solution Package projects use the Alert Threshold Database connection defined under RTView Central Servers - > General->COMMON which is the recommended setup. To use a different database for this Solution Package project, turn on the Use local alert database connection instead of the central alert database connection toggle and fill in the database connection information as follows:
	URL - Full URL to use when connecting to this database using the specified JDBC driver.
	Driver - Fully qualified name of the driver class to use when connection to this database via JDBC.
	Classpath - The classpath to the jar containing the driver class.

	Username - (optional) User name to enter into this database when making a connection.
	Password - (optional) Password to enter into this database when making a connection.
	Run Queries Concurrently - If true, each query on the connection is run on its own execution thread. ote: This option should be used with caution since it may cause SQL errors when used with some database configurations and may degrade performance due to additional database server overhead. See your database documentation to see whether it supports concurrent queries on multiple threads.
	Note that these limitations apply when you configure a Solution Package project to use a database other than the one specified under RTView Central Servers->General->COMMON :
	1. In the monitor, the ADMIN-Alert Administration->Alert Administration display cannot be used to set thresholds for this solution package project. Instead you must navigate to the ADMIN- Architecture->Data Server Summary display, select the data server for this project and click on the Alert Admin button.
	2. Key metrics get alert thresholds from the database defined under RTView Central Servers->General->COMMON .
Notifications	By default, alert notifications are disabled in the Solution Package projects since the Central Alert Server executes notifications for all alerts. To notify from this Solution Package project in addition to notifying from the Central Alert Server, turn on the Configure notifications for this server in addition to central notifications toggle and fill in the fields as follows:
	Enable Alert Notifications : Set to true to enable alert notifications. By default, alert notifications will execute a script in the em-tibco/ servers/<project directory=""></project> directory.
	Notification Platform : Select the platform where the solution package project is running.
	Notify on New Alerts: Set to true to notify on new alerts. This requires some additional setup: Copy the my_alert_actions(.bat or .sh) script from RTVAPM_HOME/common/bin to em-tibco/ servers/ <project directory=""> and modify it to execute the action you want to perform.</project>
	Notify on First Severity Change: Set to true to notify the first time the Severity value changes on an alert. This requires some additional setup: Copy the my_alert_actions(.bat or .sh) script from RTVAPM_HOME/common/bin to em-tibco/servers/ <project directory> and modify it to execute the action you want to perform.</project
	Notify on Cleared Alerts: Set to true to notify when an alert is cleared. This requires some additional setup: Copy the my_alert_actions(.bat or .sh) script from RTVAPM_HOME/ common/bin to em-tibco/servers/ <project directory="">, rename it to my_alert_actions.cleared(.bat or .sh) and modify it to execute the action you want to perform.</project>
	Periodically Renotify on Unacknowledged Alerts: Set to true to notify on the Renotification Interval for all unacknowledged alerts. This requires some additional setup: Copy the my_alert_actions(.bat or .sh) script from RTVAPM_HOME/common/bin to em-tibco/ servers/ <project directory="">, rename it to my_alert_actions.renotify(.bat or .sh) and modify it to execute the action you want to perform.</project>
	Renotification Interval : Set to the interval on which you want to renotify on unacknowledged alerts.

Persist Alerts	Set to true to persist the current alert table to the Alert Threshold Database. See "Configure Databases of the Central Servers" instructions on how to populate this database with the correct table schemas.
History	Set to true to have the Historian save alert history to the history database (the Historian must be running).
History Table Name Prefix	The History Table Name Prefix field allows you to define a prefix that will be added to the database table names so that EM can differentiate history data between data servers when you have multiple Central Alert Servers. In this case, each Historian needs to save to a different table, otherwise the corresponding data server will load metrics from both Historians on startup. Once you have defined the History Table Name Prefix, you will need to create the corresponding tables in your database as follows:
	Locate the .sql template for your database under RTVAPM_HOME/ common/dbconfig and make a copy of it.
	Add the value you entered for the History Table Name Prefix to the beginning of all table names in the copied .sql template
	Use the copied .sql template to create the tables in your database.

Solution Package Server Configuration>General>CUSTOM PROPERTIES Tab

Use the **CUSTOM PROPERTIES** page to enter custom properties for the Solution Package Servers.

The **CUSTOM PROPERTIES** tab has the following fields:

Field Name	Description
Custom Properties	Click 💿 to enter a custom property. To configure a custom property, you must know the name of the associated property, the syntax for the property value and the appropriate property filter.
	Property values are applied in the order specified with the last value taking precedence.
	Name - the property name.
	Value - the property value.
	Filter - the propery filter (optional).
	Comment - a comment describing this property (optional).

Solution Package Server Configuration>Data Server

This section describes how to configure data server settings for your Solution Package projects. This page has two tabs:

- "Solution Package Server Configuration>Data Server>DATA SERVER Tab": Use this page to allocate memory and set log files.
- "Solution Package Server Configuration>Data Server>SENDER Tab": Use this page to configure sender settings. This tab is only visible if the project type is sender (i.e. the project is run with the -propfilter:sender command line argument).

Solution Package Server Configuration>Data Server>DATA SERVER Tab

In the RTView Configuration Application home page, choose **<Project Name> ->Server Configuration>Data Server.** The **DATA SERVER** tab is shown by default.

Field Name	Description
Initial Memory*	The initial amount of memory to allocate for this process.
Max Memory*	The maximum amount of memory to allocate for this process.
Log File	The log file name and location relative to the startup directory for this process.
HTML Server Enabled	Enable the Eclipse Jetty HTML Server in the Data Server. If enabled, it will host the RTView Servlets at http://localhost:XX70 where XX is the port prefix specified on the General tab. Note that you cannot disable this option if the Configuration Application is being hosted by Eclipse Jetty in the Data Server. All RTView Servlets hosted by Eclipse Jetty are automcatically configured with the correct Data Server port at runtime. The following RTView Servlets are hosted in Eclipse Jetty: rtvadmin rtvdata rtvquery rtvagent rtvpost

***Note:** Units for memory are k (kilobyte), m (megabyte), g (gigabyte). If no unit is used, the number is assumed to be bytes. Note: Use caution when you change the memory allocation. If the memory allocation is too small the server might crash during startup (with an out of memory exception). If too large the server might eventually exceed the available CPU/ memory on your system and fail.

Solution Package Server Configuration>Data Server>SENDER Tab

In the RTView Configuration Application home page, choose **<Project Name> ->Server Configuration>Data Server** and go to the **SENDER** tab. This tab is only visible if the project was run with the **-propfilter:sender** command line argument.

Field Name	Description
Sender Targets	Sender Targets : You can specify multiple targets by adding them one at a time. All fields on the Add Sender dialog are required. Click the icon to open the Add Sender dialog, which has the following fields:
	ID : A unique name for the target.
	URL : Specify the URL for the receiver. The url can be host:port (for example, somehost:3372) or an http url for the rtvagent servlet on the receiver (for example, http://somehost:8068/bwmon_rtvagent or http://somehost:8068/ bw6mon_rtvagent).
	Targets: Select the All solution packages option.
	Enabled : Select this check box to enable the target.

Logs	The log file name and location relative to the startup directory for this process.
Sender Identifier	A unique name for the sender data server, which is typically your machine's name.

Solution Package Server Configuration>Historian

In the RTView Configuration Application home page, choose **<Project Name> ->Server Configuration>Historian**.

	HISTORIAN
	Historian Database Connection Configure the Historian database connection locally for this server instead of using the central settings in RTView Central Server
	somgere are national database connection roberty for the server instead of dang the output searge in the test output output of the
	Use local historian database connection instead of the central historian database connection • Default
	~
	Memory
	Set the initial and maximum memory for this process. Specify a number followed by a unit. If no unit is used, the number is assumed to be bytes. Un are k (kilobyte), m (megabyte), g (gigabyte).
	initial Memory
	nitial Memory
	128m
	Max Memory
	384m
1	Logs
	- 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5
1	
	Log File
	Log File

Field Name	Description
Historian Database Connection	By default,all Solution Package projects use the Historian Database connection defined under RTView Central Servers->General->COMMON which is the recommended setup. To use a different database for this Solution Package project, turn on the Use local historian database connection instead of the central alert database connection toggle and fill in the database connection information as follows:
	URL - Full URL to use when connecting to this database using the specified JDBC driver.
	Driver - Fully qualified name of the driver class to use when connection to this database via JDBC.
	Classpath - The classpath to the jar containing the driver class.
	Username - (optional) User name to enter into this database when making a connection.
	Password - (optional) Password to enter into this database when making a connection.

	Run Queries Concurrently - If true , each query on the connection is run on its own execution thread. Note: This option should be used with caution since it may cause SQL errors when used with some database configurations and may degrade performance due to additional database server overhead. See your database documentation to see whether it supports concurrent queries on multiple threads.
Initial Memory*	The initial amount of memory to allocate for this process.
Max Memory*	The maximum amount of memory to allocate for this process.
Log File	The log file name and location relative to the startup directory for this process.

***Note:** Units for memory are k (kilobyte), m (megabyte), g (gigabyte). If no unit is used, the number is assumed to be bytes. Note: Use caution when you change the memory allocation. If the memory allocation is too small the server might crash during startup (with an out of memory exception). If too large the server might eventually exceed the available CPU/ memory on your system and fail.

Solution Package Server->Solution Package Configuration

This section describes how to add/remove and configure solution packages in your Solution Package projects. In the RTView Configuration Application home page, choose **<Project Name>**. In the naviagation tree, look for **Solution Package Configuration**. Listed under that heading are the solution packages that are included in this Solution Package project.

To add or remove a solution package, click 📿 .

Select the solution packages you want to include and click **SAVE** to close the dialog. Note that the list of solution packages in the navigation tree updates to show the solution packages you selected.

To configure a solution package, select it in the navigation tree. See the chapter for your solution package for information about the configuration options. If you see the following message, you cannot configure the selected solution package in the Configuration Application:

This solution package is not configurable in this application

In that case, follow the instructions in the chapter for your solution package and in "Properties" to create a properties file in a text editor.

Note that you must restart your solution package project after adding a solution package before you can configure it.

APPENDIX B RTView EM Scripts

This section describes scripts that are available for RTView Enterprise Monitor and the **rtvservers.dat** configuration file. This section includes:

- "Scripts"
- "rtvservers.dat"

Scripts

The following scripts are available when used from an initialized command window. The scripts can be executed from a Windows Command Prompt or UNIX terminal window. On Windows, you can type the commands as described in this section. On UNIX systems, you must add **.sh** to each command. For example, **rtvapm_init.sh**.

These instructions assume use of a DASH of a DASH-compliant shell.	These instructions assume use	of a BASH or a	BASH-compliant shell.
--	-------------------------------	----------------	-----------------------

Script Name	Description	
my_alert_actions.bat/sh	Sample script to define actions for alerts.	
	Location:	
	rtvapm/common/bin	
	Format:	
	my_alert_actions (Append .sh on UNIX)	
rtv_setup.bat/sh	Initializes a command prompt or terminal window.	
	Location:	
	<installation directory="">/bin</installation>	
	This script must be executed in the directory in which it resides.	
	Format:	
	rtv_setup (Append .sh on UNIX)	
rtvapm_init.bat/sh	Initializes a command window.	
rtvapin_init.bat/ sii	Location:	
	rtvapm_home	
	This script must be executed in the directory in which it resides.	
	Format:	
	rtvapm_init (Append .sh on UNIX)	

rtvapm_user_init.bat/sh	Initializes a user command window. Note that this script is called by rtv_setup.bat/sh as well as the start/stop server scripts.
	Location:
	project directory
	This script must be executed in the directory in which it resides.
	Format:
	rtvapm_user_init (Append .sh on UNIX)
	Note: This script is not available in RTViewDataCollectorSPs and RTViewDataServerSPs.
start_central_servers.bat/sh	Starts the RTView Enterprise Monitor Central Servers.
	Location:
	<installation directory="">/bin</installation>
	This script must be executed in the directory in which it resides. You can also execute the script by double-clicking in an Explorer window.
	Format:
	<pre>start_central_servers (Append .sh on UNIX)</pre>
start_cmd.bat	Starts an initialized Command Prompt window on Windows.
start_cmd.bat	Location:
start_cmd.bat	Location: <installation directory="">/bin</installation>
start_cmd.bat	Location:
start_cmd.bat start_collector.bat/sh	Location: <installation directory="">/bin This script must be executed in the directory in which it resides. You can also execute the script by double-clicking in an Explorer</installation>
	Location: <installation directory="">/bin</installation> This script must be executed in the directory in which it resides. You can also execute the script by double-clicking in an Explorer window.
	Location: <installation directory="">/bin</installation> This script must be executed in the directory in which it resides. You can also execute the script by double-clicking in an Explorer window. Starts the RTViewDataCollectorSP server.
	Location: <installation directory="">/bin This script must be executed in the directory in which it resides. You can also execute the script by double-clicking in an Explorer window. Starts the RTViewDataCollectorSP server. Location:</installation>
	Location: <installation directory="">/bin This script must be executed in the directory in which it resides. You can also execute the script by double-clicking in an Explorer window. Starts the RTViewDataCollectorSP server. Location: <installation directory=""> This script must be executed in the directory in which it resides. You can also execute the script by double-clicking in an Explorer</installation></installation>

start_rtv.bat/sh	Starts processes in an RTView Enterprise Monitor configuration as specified in the rtvservers.dat configuration file.
	Location: project directory
	This script must be executed in the project directory (the directory containing the rtvservers.dat file).
	An RTView Enterprise Monitor configuration might include a Data Server or Display Server, an Historian and a Central Server Database. start_rtv only attempts to start processes it detects are not running. The action can be applied to all RTView Enterprise Monitor configurations, a single RTView Enterprise Monitor configuration or a single process in an RTView Enterprise Monitor configuration.
	Additional arguments can be included on the command line in which case they are passed to every server specified by the command. Additional arguments can also be included in the rtvservers.dat file, in which case they are only applied to the specific server in whose command they are included.
	Note: If you use the -properties or -propfilter argument with start_rtv , you should also use them with status_rtv and stop_rtv . Those commands use the JMX ports defined for the server, and if any of the properties specified by -properties or -propfilter arguments change those ports, subsequent commands will be unable to find the server unless also given those properties.
	-console (or -c) - Start the processes with a command window (which is useful for testing).
	When used without arguments, this script returns usage information and a list of available configurations. For example, start_rtv returns:
	Usage: start rtv config or 'all' [server or 'all']
	[args]
	Available configs:
	default
	dataserver
	historian
	displayserver
	database
	sender
	dataserver
	all
	Starts all RTView Enterprise Monitor configurations that are specified in the rtvservers.dat file.
	all applies the action to all RTView Enterprise Monitor configurations specified in the rtvservers.dat file (and corresponding servers or clients specified in each configuration). Note: When multiple configurations are specified in the rtvservers.dat file and they have different project settings directory locations, the all argument processes all the configurations. However, if the configurations have the same project settings directory locations, the all argument processes only the first configuration as the others are considered

Example:

start_rtv all (Append .sh on UNIX)

	[Configuration Name]
	Starts a single RTView Enterprise Monitor configuration specified in the rtvservers.dat file:
	<pre>start_rtv [Configuration Name] (Append .sh on UNIX)</pre>
	Configuration Name is the RTView Enterprise Monitor configuration name specified in the rtvservers.dat file. The action applies to all servers or clients specified in the configuration.
	Example:
	start_rtv web_deployment (Append .sh on UNIX)
	[Server Name]
	Starts a single process in an RTView Enterprise Monitor configuration specified in the rtvservers.dat file:
	<pre>start_rtv [Configuration Name] [Server Name] (Append .sh on UNIX)</pre>
	Server Name is the name of a server or client member in the configuration. For example, dataserver , displayserver , historian and database . The action applies only to that server or client in the configuration.
	Example:
	start_rtv web_deployment dataserver (Append .sh on UNIX)
start_server.bat/sh	Starts the RTViewDataServerSP server.
	Location:
	<installation directory=""></installation>
	This script must be executed in the directory in which it resides. You can also execute the script by double-clicking in an Explorer window.
	Format:
	start_server (Append .sh on UNIX)
start_servers.bat/sh	Starts the RTView Enterprise Monitor servers.
	Location:
	<installation directory="">/bin</installation>
	This script must be executed in the directory in which it resides. You can also execute the script by double-clicking in an Explorer window.
	Format:
	start_servers (Append .sh on UNIX)
start_tomcat.bat/sh	Starts Apache Tomcat.
	Location:
	<installation directory="">/bin</installation>
	This script must be executed in the directory in which it resides. You can also execute the script by double-clicking in an Explorer window.
	Format:

status_rtv.bat/sh

Returns the status of all RTView Enterprise Monitor configurations that are specified in the **rtvservers.dat** configuration file.

Location:

project directory

This script must be executed in the project directory (the directory containing the **rtvservers.dat** file).

This action uses defined JMX ports. An RTView Enterprise Monitor configuration might include a Data Server, a Display Server or Viewer, an Historian and a Central Server Database. **status_rtv** only attempts to start processes it detects are not running. The action can be applied to all RTView Enterprise Monitor configurations, a single RTView Enterprise Monitor configuration or a single process in an RTView Enterprise Monitor configuration.

Additional arguments can be included on the command line in which case they are passed to every server specified by the command. Additional arguments can also be included in the **rtvservers.dat** file, in which case they are only applied to the specific server in whose command they are included.

Note that if you use **-properties** or **-propfilter** arguments with **start_rtv**, you should also use them with **status_rtv** and **stop_rtv**. Those commands use the JMX ports defined for the server, and if any of the properties specified by **-properties** or **- propfilter** arguments change those ports, subsequent commands will be unable to find the server unless also given those properties.

all

Returns the status of all RTView Enterprise Monitor configurations specified in the **rtvservers.dat** file. **Note:** When multiple configurations are specified in the **rtvservers.dat** file and they have different project settings directory locations, the **all** argument processes all the configurations. However, if the configurations have the same project settings directory locations, the **all** argument processes only the first configuration as the others are considered alternative configurations.

Example:

status_rtv all
(Append .sh on UNIX)

[Configuration Name]

Returns the status of a single RTView Enterprise Monitor configuration specified in the **rtvservers.dat** file:

status_rtv [Configuration Name] (Append .sh on UNIX)

Configuration Name is the RTView Enterprise Monitor configuration name specified in the **rtvservers.dat** file. The action applies to all servers or clients specified in the configuration.

Example:

status_rtv web_deployment
(Append .sh on UNIX)

	[Server Name]
	Returns the status of a single process in an RTView Enterprise Monitor configuration specified in the rtvservers.dat file:
	<pre>status_rtv [Configuration Name] [Server Name] (Append .sh on UNIX)</pre>
	Server Name is the name of a server or client member in the configuration. For example, dataserver , displayserver , historian and database . The action applies only to that server or client in the configuration.
	Example:
	status_rtv web_deployment dataserver (Append .sh on UNIX)
stop_central_servers.bat/sh	Stops the RTView Enterprise Monitor Central Servers.
	Location:
	<installation directory="">/bin</installation>
	This script must be executed in the directory in which it resides. You can also execute the script by double-clicking in an Explorer window.
	Format:
	stop_central_servers (Append .sh on UNIX)
stop_collector.bat/sh	Stops the RTViewDataCollectorSP server.
	Location:
	<installation directory=""></installation>
	This script must be executed in the directory in which it resides. You can also execute the script by double-clicking in an Explorer window.
	Format:
	stop_collector (Append .sh on UNIX)
stop_data_servers.bat/sh	Stops the data servers.
	Location:
	<installation directory="">/bin</installation>
	This script must be executed in the directory in which it resides. You can also execute the script by double-clicking in an Explorer window.
	Format:
	stop_data_servers (Append .sh on UNIX)

stop_rtv.bat/sh

Stops processes in an RTView Enterprise Monitor configuration as specified in the **rtvservers.dat** configuration file.

Location: project directory

This script must be executed in the project directory (the directory containing the **rtvservers.dat** file).

This action uses defined JMX ports. An RTView Enterprise Monitor configuration might include a Data Server or a Display Server, an Historian and a Central Server Database. **stop_rtv** only attempts to start processes it detects are not running. The action can be applied to all RTView Enterprise Monitor configurations, a single RTView Enterprise Monitor configuration or a single process in an RTView Enterprise Monitor configuration.

Additional arguments can be included on the command line in which case they are passed to every server specified by the command. Additional arguments can also be included in the **rtvservers.dat** file, in which case they are only applied to the specific server in whose command they are included.

Note that if you use **-properties** or **-propfilter** arguments with **start_rtv**, you should also use them with **status_rtv** and **stop_rtv**. Those commands use the JMX ports defined for the server, and if any of the properties specified by **-properties** or **- propfilter** arguments change those ports, subsequent commands will be unable to find the server unless also given those properties.

Location:

project directory

This script must be executed in the project directory (the directory containing the **rtvservers.dat** file).

all

Stops all RTView Enterprise Monitor configurations that are specified in the **rtvservers.dat** file. **all** applies the action to all RTView Enterprise Monitor configurations specified in the **rtvservers.dat** file (and corresponding servers or clients specified in each configuration). **Note:** When multiple configurations are specified in the **rtvservers.dat** file and they have different project settings directory locations, the **all** argument processes all the configurations. However, if the configurations have the same project settings directory locations, the **all** argument processes only the first configuration as the others are considered alternative configurations.

Example:

stop_rtv all
(Append .sh on UNIX)

[Configuration Name]

Stops a single RTView Enterprise Monitor configuration specified in the **rtvservers.dat** file:

stop_rtv [Configuration Name] (Append .sh on UNIX)

Configuration Name is the RTView Enterprise Monitor configuration name specified in the **rtvservers.dat** file. The action applies to all servers or clients specified in the configuration.

Example:

stop_rtv web_deployment

	[Server Name]
	Stops a single process in an RTView Enterprise Monitor configuration specified in the rtvservers.dat file:
	<pre>stop_rtv [Configuration Name] [Server Name] (Append .sh on UNIX)</pre>
	Server Name is the name of a server or client member in the configuration. For example, dataserver, displayserver, historian and database. The action applies only to that server or client in the configuration.
	Example:
	stop_rtv web_deployment dataserver (Append .sh on UNIX)
stop_server.bat/sh	Stops the RTViewDataServerSP server.
	Location:
	project directory/bin
	This script must be executed in the directory in which it resides.
	Format:
	stop_server (Append .sh on UNIX)
stop_servers.bat/sh	Stops the RTView Enterprise Monitor servers.
	Location:
	<installation directory="">/bin</installation>
	This script must be executed in the directory in which it resides. You can also execute the script by double-clicking in an Explorer window.
	Format:
	stop_servers (Append .sh on UNIX)

stop_tomcat.bat/sh	Stops Apache Tomcat.
	Location:
	<installation directory="">/bin</installation>
	This script must be executed in the directory in which it resides.
	Format:
	start_tomcat (Append .sh on UNIX)
validate_install.bat/sh	Use this script if you encounter error messages when starting servers, to verify your system environment (for example, to verify that Java is installed) as well as your installation directories.
	Location:
	<installation directory="">/bin</installation>
	This script must be executed in the directory in which it resides.
	Also, in Unix, this script checks and corrects file permissions and file formats (if, for example, the wrong unzip command was used during installation). If file permissions or formats are fixed, the script returns a count of the files fixed. Additionally, if invoked with the argument "-v" (verbose) it returns the names of the files fixed.
	The script returns the following information (where <pre></pre> <pre><pre><rtviewinstallation></rtviewinstallation> is your RTView installation):</pre></pre>
	• In Windows
	Validating installation in /opt/rtview/ <rtviewinstallation> Java installation correct.</rtviewinstallation>
	 rtvapm installation correct.In UNIX
	Validating installation in /opt/rtview/ <rtviewinstallation> Java installation correct. rtvapm installation correct. file permissions correct. file formats correct.</rtviewinstallation>

rtvservers.dat

This section describes the **rtvservers.dat** configuration file which is used to manage your RTView Enterprise Monitor deployment and RTView Enterprise Monitor processes. This section includes:

- "Single Configuration File"
- "Multiple Configuration File"

The **rtvservers.dat** text file contains one or more RTView Enterprise Monitor configurations. An RTView Enterprise Monitor configuration is a group of servers that should be started together. For example, the configuration might include any of the following: a Data Server, Historian, HSQLDB database, and a Display Server (for a Web Deployment). The **rtvservers.dat** file is used when the following scripts are executed:

- start_rtv Starts RTView Enterprise Monitor processes specified in the rtvservers.dat file.
- stop_rtv Stops the RTView Enterprise Monitor processes specified in the rtvservers.dat file.
- status_rtv Returns status information for RTView Enterprise Monitor processes specified in the rtvservers.dat file.

Single Configuration File

The following **rtvservers.dat** file, located in your project directory, contains a single RTView Enterprise Monitor configuration, named **default**.

default . dataserver rundata default . historian runhist -ds default . displayserver rundisp -ds default . database rundb

Note: The last line in the **rtvservers.dat** file must end with a new line, or be followed by a blank line.

In this example, to start the **default** configuration type: **start_rtv default** or **start_rtv all**. To start a single server in the configuration, type **start_rtv <Configuration Name> <Server Name>**. For example: **start_rtv default displayserver**.

Each line has the following format consisting of four fields:

<configuration name=""> <project directory="" location="" settings=""> <property filter<="" th=""></property></project></configuration>
Identifying the Server> <command/>

<configuration name=""></configuration>	The name of the RTView Enterprise Monitor configuration (default in this example).
<project settings<br="">Directory Location></project>	The RTView Enterprise Monitor project settings directory location, relative to the location of the rtvservers.dat file (., the current directory, in this example).
<property filter<br="">Identifying the Server></property>	The property filter that identifies the server, which is the property filter under which the server's JMX port is defined. By default, this is the server name, such as dataserver , displayserver and historian .
<command/>	 The script used to start the process. Valid values are: rundata: Starts the Data Server. runhist: Starts the Historian. rundisp: Starts the Display Server. rundb: Starts the HSQLDB Database.

Multiple Configuration File

When multiple configurations are specified in the **rtvservers.dat** file and they have different project settings directory locations, the **all** argument processes all the configurations. However, if the configurations have the same project settings directory locations, the all argument processes only the first configuration as the others are considered alternative configurations. Alternative configurations allow you to alternate between two configurations for a single RTView Enterprise Monitor deployment.

For example, the following **rtvservers.dat** file, located in your project directory**/servers** directory, contains two configurations, **bwmon** and **emsmon**. Note that the project settings directory locations differ (**./bwmon** and **./emsmon**, respectively).

bwmon ./bwmon dataserver rundata

bwmon ./bwmon historian runhist -ds

bwmon ./bwmon displayserver rundisp -ds

emsmon ./emsmon dataserver rundata

emsmon ./emsmon historian runhist -ds

emsmon ./emsmon displayserver rundisp -ds

Because the project settings directory locations differ, you can use type **start_rtv all** to start both configurations. To start only the bwmon configuration, type: **start_rtv bwmon**. To start a single server in the **bwmon** configuration, type **start_rtv <Configuration Name> <Server Name>**. For example: **start_rtv bwmon displayserver**.

APPENDIX C Properties

This section describes properties that are available for RTView Enterprise Monitor and how to configure them. This section includes:

- "Overview," next
- "Properties File Format": Describes property format and naming conventions.
- "Applying Properties Files and Filters": Describes how to use properties files and filters on the command line and by editing the **rtvservers.dat** file.
- "Sample Properties Files": Describes where to get sample properties files for Solution Packages, the configurations that sample properties specify and how to create custom properties files.

Overview

RTView Enterprise Monitor configuration is specified using a series of properties. Most properties are configured via the "RTView Configuration Application" which reads and writes the following properties files:

- em-tibco/servers/<project directory>/project.properties
- em-tibco/servers/<project directory>/project.properties.json
- em-tibco/conf/project-common.properties
- em-tibco/conf/project-common.properties.json

These properties files are automatically read at startup. They are added to the end of the properties file list so that they will override properties in all other properties files. Users should never modify these files directly. They should only be edited via the "RTView Configuration Application". However, you can optionally create additional properties files in a text editor. This is required for solution packages that are not included in the "RTView Configuration Application" and can be useful in cases where you want to generate a properties file of connections from an existing list.

Properties File Format

The properties files used by RTView Enterprise Monitor are the in standard Java properties file format. Each property is specified on a separate line as follows:

propertyName=propertyValue

For example,

sl.rtview.cache.config=mycachefile.rtv

Filters are available to limit the scope to which a property is applied.

Property Filters

Filters precede the property name as follows:

propertyFilter.sl.rtview.cache.config=mycachefile.rtv

The following RTView Enterprise Monitor property filters are predefined and apply automatically depending on what tool is being executed:

Filter	Description
builder	Applies the property to the Display Builder. For example: builder.sl.rtview.stylesheet
collector	Applies the property to the Data Collection Server. For example: collector.sl.rtview.jmx.jmx_metrics_period=15000
dataserver	Applies the property to the Data Server. For example: dataserver.sl.rtview.dataserver.socket=true
displayserver	Applies the property to the Display Server. For example: displayserver.sl.rtview.displayserver.port=3079
historian	Applies the property to the Historian. For example: historian.sl.rtview.historian.driver=org.hsqldb.jdbcDriver
proxyclient	Applies the property to the proxy client. For example: proxyclient.sl.rtview.dataserver.port=2078
rtvanalyzer	Applies the property to the RTView Analyzer. For example: rtvanalyzer.sl.rtview.stylesheet=rtv_default,rtv_flat

You can also define your own property filters and use them as prefixes in your properties files.

Applying Properties Files and Filters

To use a properties file, add it to the command line as follows:

-properties:propertyFileName

To specify a property filter, add it to the command line as follows:

-propfilter:propertyFilter

These command line options can be added to the end of the line in **em-tibco/servers/ rtvservers.dat** so that they are automatically applied by the start and stop server scripts. For example, to add a properties file named **myproperties.properties** and a propfilter named **mypropfilter** to the miscmon project, you would edit the **rtvservers.dat** as follows:

miscmon propfilter:my	./miscmon propfilter	dataserver	rundata -properties:myproperties -
miscmon propfilter:my	./miscmon propfilter	historian	runhist -ds -properties:myproperties -

Sample Properties Files

A sample properties file is provided for each solution package in **RTVAPM_HOME/<sp>/ conf/sample.properties**. For example, the sample properties file for the Solution Package for TIBCO Enterprise Monitor is located under **RTVAPM_HOME/emsmon/conf/ sample.properties**. This file contains the properties needed to configure classpath, connections and history. When creating your own properties file, copy properties from the appropriate **sample.properties** file into the properties file in your project directory.

APPENDIX D Alert Definitions

This section describes alerts that are available with RTView Enterprise Monitor and Solution Packages. This section includes:

- "RTView Host Agent"
- "RTView Manager and RTView Rules"
- "TIBCO ActiveMatrix BusinessWorks"
- "TIBCO ActiveSpaces"
- "TIBCO Adapters"
- "TIBCO BusinessEvents"
- "TIBCO Enterprise Message Service"
- "TIBCO FTL"
- "VMware vCenter"

RTView Host Agent

The following alerts are available for RTView Host Agent. Default settings for warning and alarm thresholds, duration and whether the alert is enabled (true/false) are shown.

Alert	Warning Level	Alarm Level	Duration	Enabled
HostCpuLoadAvg1High	50	75	30	FALSE
Executes a single warning alert and a single alarm alert if the average CPU load per minute exceeds the specified threshold.				
Index Type(s): PerHost				
Metric: loadAvg1				
HostCpuLoadAvg5High	50	75	30	FALSE
Executes a single warning alert and a single alarm alert if the average CPU load per 5 minutes exceeds the specified threshold.				
Index Type(s): PerHost				
Metric: loadAvq5				

HostCpuLoadAvg15High	50	75	30	FALSE
Executes a single warning alert and a single alarm alert if the average CPU load per 15 minutes exceeds the specified threshold.				
Index Type(s): PerHost				
Metric: loadAvg15				
HostCpuPercentHigh	50	75	30	FALSE
Executes a single warning alert and a single alarm alert if the percent CPU load exceeds the specified threshold.				
Index Type(s): PerHost				
Metric: hostCpuPercent				
HostMemoryUsedHigh	75	90	5	FALSE
Executes a single warning alert and a single alarm alert if the percent of physical memory used exceeds the specified threshold.				
Index Type(s): PerHost				
Metric: MemUsedPerCent				
HostNetworkRxRateHigh	50	75	30	FALSE
Executes a single warning alert and a single alarm alert if the inbound network data rate, in kilobytes per second, exceeds the specified threshold.				
Index Type(s): PerHost				
Metric: RateRxKBytes				
HostNetworkTxRateHigh	50	75	30	FALSE
Executes a single warning alert and a single alarm alert if the outbound network transmission rate, in kilobytes per second, exceeds the specified threshold.				
Index Type(s): PerHost				
Metric: RateTxKBytes				
HostProcessCountLow	80	90	30	FALSE
Executes a single warning alert and a single alarm alert if the process count exceeds the specified threshold.				
Index Type(s): PerHost				
Metric: Count				
HostStaleData	NaN	NaN	30	FALSE
Executes a single alarm alert and sets the Expired flag to true if data is not received from the given host within the specified expiration time interval.				
Index Type(s): PerHost				
Metric: Expired				
HostStorageUsedHigh	80	90	5	FALSE
Executes a single warning alert and a single alarm alert if the percent of space used on the storage medium exceeds the specified threshold.				
Index Type(s): PerStorage				
Metric: percentused				

HostSwapUsedHigh	75	90	30	FALSE
Executes a single warning alert and a single alarm alert if the percent of used swap space exceeds the specified threshold.				
Index Type(s): PerHost				
Metric: swapUsedPerCent				
HostVirtualMemoryUsedHigh	75	90	30	FALSE
HostVirtualMemoryUsedHigh Executes a single warning alert and a single alarm alert if the percent of used virtual memory exceeds the specified threshold.	75	90	30	FALSE
Executes a single warning alert and a single alarm alert if the percent of used virtual memory exceeds	75	90	30	FALSE
Executes a single warning alert and a single alarm alert if the percent of used virtual memory exceeds the specified threshold.	75	90	30	FALSE

RTView Manager and RTView Rules

If the Solution Packages for RTView Server Mangaer and RTView Rules (which come with RTView Enterprise Monitor) are installed on your system you might see the following alert types for RTView Servers (Data Servers, Display Servers and Historian Servers):

RTView Server Manager Alert Types

JvmCpuPercentHigh	Executes a single warning alert and a single alarm alert if the percent of JVM CPU used exceeds the specified threshold.
	Index Type: Per JVM
	Metric:: CpuPercent
JvmGcDutyCycleHigh	Executes a single warning alert and a single alarm alert if the garbage collector duty cycle exceeds the specified threshold.
	Index Type: Per GC Source
	Metric: DutyCycle
JvmMemoryUsedAfterGCHigh	Executes a single warning alert and a single alarm alert if the percent of memory used after garbage collection exceeds the specified threshold.
	Index Type: Per GC Source
	Metric: PctMemoryUsedAfterGC
JvmMemoryUsedHigh	Executes a single warning alert and a single alarm alert if the percent of memory used exceeds the specified threshold.
	Inday Type (c), Der 1)(M
	Index Type(s): Per JVM

JvmNotConnected	Executes a single alert if the JVM is disconnected, indicating that it might have crashed.
	Index Type(s): Per JVM
	Metric: Connected
JvmStaleData	Executes a single alert if the data update wait time exceeds the specified duration threshold. Index Type(s): Per JVM Metric: Expired
JvmThreadCountHigh	Executes a single warning alert and a single alarm alert if the number of threads exceeds the specified threshold.
	Index Type(s): Per JVM
	Metric: ThreadCount
TomcatAccessRateHigh	Executes a single warning alert and a single alarm alert if the number of accesses per second exceeds the specified threshold.
	Index Type(s): Per Server
	Metric: RateaccessCount
TomcatActiveSessionsHigh	Executes a single warning alert and a single alarm alert if the number of active sessions exceeds the specified threshold.
	Index Type(s): Per Server
	Metric: activeSessions
TomcatAppAccessRateHigh	Executes a single warning alert and a single alarm alert if the number of accesses per second exceeds the specified threshold.
	Index Type(s): Per Application
	Metric: RateaccessCount
TomcatAppActiveSessionsHigh	Executes a single warning alert and a single alarm alert if the number of active sessions exceeds the specified threshold.
	Index Type(s): Per Application
	Metric: activeSessions

RTView Rules Alert Types

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

TIBCO ActiveMatrix BusinessWorks

The following alerts are available with both the solution package and standalone versions for TIBCO® ActiveMatrix BusinessWorks[™]. Default settings for warning and alarm thresholds, duration and whether the alert is enabled (true/false) are shown.

Alert	Warning Level	Alarm Level	Duration	Enabled
BW6AppErrorState BW6 application status is not Running or Stopped (status is Impaired, AppError or StartFailed) Index Type: PerApp	NaN	NaN	30	FALSE
Metric: State				
Bw6AppExpired BW6 application expired due to application inactivity.	NaN	NaN	30	FALSE
Index Type: PerApp				
Metric: Stopped				
Bw6AppNodeCpuUsedHigh BW6 AppNode CPU usage exceeded limit. CPU Usage is the CPU time in use by all processes expressed as a percentage of the total CPU time available.	50	80	30	FALSE
Index Type: PerAppNode				
Metric: CPU Usage%				
Bw6AppNodeMemUsedHigh BW6 AppNode memory usage exceeded limit. Memory usage is the percentage of total JVM memory currently consumed by this appnode.	50	80	30	FALSE
Index Type: PerAppNode				
Metric: Memory Usage%				
Bw6AppNodeStopped BW6 AppNode stopped purposefully (for example, an administrator stopped the AppNode process).	NaN	NaN	10	FALSE
Index Type: PerAppNode				
Metric: State				
Bw6AppNodeUnreachable BW6 AppNode stopped abnormally (for example, the AppNode process crashed).	NaN	NaN	10	FALSE
Index Type: PerAppNode				
Metric: State				
Bw6AppProcessCreatedRateHigh BW6 Process created rate for application exceeded limit.	50	80	30	FALSE
Index Type: PerApp				
Metric: App Created Rate				
Bw6AppProcessElapsedTimeHigh BW6 Process delta elapsed time rate of increase for application exceeded limit.	200	400	30	FALSE
Index Type: PerApp				
index type: teltapp				

Bw6AppProcessExecutionTimeHigh BW6 Process delta execution time rate of increase for application exceeded limit.	200	400	30	FALSE
Index Type: PerApp				
Metric: App Execution Rate				
······································				
Bw6AppProcessFailedRateHigh BW6 Process failed rate for application exceeded limit.	50	80	30	FALSE
Index Type: PerApp				
Metric: App Failed Rate				
Bw6AppStopped	NaN	NaN	30	FALSE
BW6 application stopped.				
Index Type: PerApp				
Metric: Stopped				
Bw6ProcessActivityErrorRateHigh BW6 Process error rate exceeded limit.	50	80	30	FALSE
Index Type: PerProcess				
Metric: Process Failed Rate				
Bw6ProcessCreatedRateHigh BW6 Process error rate exceeded limit.	50	80	30	FALSE
Index Type: PerProcess				
Metric: Process Failed Rate				
Bw6ProcessElapsedTimeHigh BW6 Process delta elapsed time rate of increase exceeded limit.	200	400	30	FALSE
Index Type: PerProcess				
Metric: Delta Exec Rate				
Bw6ProcessExecutionTimeHigh BW6 Process delta execution time rate of increase exceeded limit.	200	400	30	FALSE
Index Type: PerProcess				
Metric: Delta Time Rate				
Bw6ProcessFailedRateHigh BW6 Process suspended rate exceeded limit.	50	80	30	FALSE
Index Type: PerProcess				
Metric: Suspended Rate				
Bw6ProcessSuspendRateHigh BW6 Process failed rate exceeded limit.	50	80	30	FALSE
Index Type: PerProcess				
Metric: Failed Rate				
BwActivityErrorRateHigh	50	80	30	FALSE
	50	00	20	TALOL
BW5 Activity error rate exceeded limit. The rate is calculated by taking the delta of total error returns in this update period and dividing by the length of the period.				
calculated by taking the delta of total error returns in this				

BwActivityExecutionTimeHigh BW5 Activity execution time rate of increase exceeded limit The rate is calculated by taking the delta of total execution time in this update period and dividing by the length of the period. Index Type: PerActivity Metric: RateExecutionTime	200	400	30	FALSE
BwEngineCpuUsedHigh BW Engine CPU usage (% of total) exceeded limit. CPU Usage is the CPU time used by the BW engine expressed as a percentage of the total CPU time available. Index Type: PerEngine Metric: CPU Usage%	50	80	30	FALSE
BwEngineMemUsedHigh BW Engine memory usage (% of total) exceeded limit. Memory usage is the percentage of total JVM memory currently consumed by this engine. Index Type: PerEngine Metric: PercentUsed	50	80	30	FALSE
BwEngineStopped BW Engine has stopped running. Index Type: PerEngine Metric: Stopped	NaN	NaN	30	FALSE
BwEngineUnreachable BW engine stopped abnormally. Index Type: PerEngine Metric: State	NaN	NaN	30	FALSE
BwProcessAbortRateHigh BW Process aborted rate exceeded limit. The rate is calculated by taking the delta of total aborts in this update period and dividing by the length of the period. Index Type: PerProcess Metric: RateAborted	50	80	30	FALSE
BwProcessAvgElapsedTimeHigh BW Process Average Elapsed Time exceeded limit. Value is calculated by dividing the delta elapsed time for the interval by the delta completed, or the number of process instances that completed in the interval. Index Type: PerProcess Metric: Process Avg Elapsed Time	100	200	30	FALSE
BwProcessAvgExecutionTimeHigh BW Process average execution time exceeded limit. Index Type: PerProcess Metric: AverageExecution	0	0	0	FALSE
BwProcessCreatedRateHigh BW Process creation rate exceeded limit. The rate is calculated by taking the number of process instances created in the interval and dividing by the length of the interval in seconds. Index Type: PerProcess Metric: Processes Created/sec	100	200	30	FALSE

BwProcessCreatedRateLow BW Process creation rate per second went below limit.	0	0	0	FALSE
Index Type: PerProcess				
Metric: App Created Rate				
BwProcessElapsedTimeHigh BW Process elapsed time rate of increase exceeded limit. The rate is calculated by taking the delta of total elapsed time in this update period and dividing by the length of the period.		80	30	FALSE
Index Type: PerProcess				
Metric: RateTotalElapsed				
BwProcessExecutionTimeHigh BW Process execution time rate of increase exceeded limit. The rate is calculated by taking the delta of total execution time in this update period and dividing by the length of the period. Index Type: PerProcess	50	80	30	FALSE
Metric: RateTotalExecution				
BwProcessSuspendRateHigh	50	80	30	FALSE
BW Process suspended rate exceeded limit. The rate is calculated by taking the delta of total suspends in this update period and dividing by the length of the period.	50	80	50	TALSL
Index Type: PerProcess				
Metric: RateSuspended				
BwProcessTotalCpuPercentHigh	50	75	30	FALSE
BW Process CPU percent utilization exceeded limit. This is the percent CPU used by all process instances executing over the interval.				
Index Type: PerProcess				
Metric: Process Total CPU Percent				
BwServerCpuUsedHigh BW Server CPU usage (% of total) exceeded limit. CPU Usage is the CPU time in use by all processes expressed as a percentage of the total CPU time available.	60	85	30	FALSE
Index Type: PerServer				
Metric: CPU Usage%				
BwServerFreeMemLow BW Server free memory available (in megabytes) is below limit. Free memory means available physical (RAM) memory.	15	5	30	FALSE
Index Type: PerServer				
Metric: Memory Free Mbytes				
BwServerInactive BW Server has become inactive. The period of time specified by the substitution variable \$bwserverExpirationTime has passed since data was last received from the server.	NaN	NaN	30	FALSE
Index Type: PerServer				
Metric: Expired				

BwServerMemUsedHigh BW Server memory usage (% of total) exceeded limit. Memory usage is the virtual memory in use expressed as a percentage of the available virtual memory. The meaning of available virtual memory is system- dependent: on Windows it refers to pagefile space; on Unix systems it refers to swap space. Index Type: PerServer	50	80	30	FALSE
Metric: Virtual Memory Used%				
HawkAlert Display Hawk alerts throughout the Monitor. To enable Hawk Alerts to be included in alert counts and displayed throughout the Monitor, scroll down to HawkAlert in the Active Alert Table and select the Alert Enabled checkbox. It is possible to filter unwanted alerts from the cache data so that those alerts are not included throughout the Monitor.	NaN	NaN	-1	TRUE
To filter unwanted alerts out of the Hawk cache data, enter the following into the sample.properties file (located in the project directory you created). NOTE: Unwanted alerts are filtered out according to the AlertText.				
sl.rtview.sub=\$hawkAlertTextFilterOut:AlertText				
For example, to filter out all Hawk Alerts in which the AlertText contains Source you would enter the following:				
sl.rtview.sub=\$hawkAlertTextFilterOut:Source				
The default time to remove cleared Hawk Alerts from the table is 3600 seconds. To adjust this setting, edit the following in sample.properties :				
sl.rtview.sub=\$hawkAlertTextFilterOut:3600				
Index Type: PerServer				
Metric: Hawk				
JvmCpuPercentHigh The percentage of CPU that has been reached by the JVM is above the limit. Index Type: PerJVM Metric: CpuPercent	50	75	30	FALSE
JvmGcDutyCycleHigh	50	75	30	FALSE
The duty cycle is out the upper limit. Index Type: PerGC Metric: DutyCycle				
JvmMemoryUsedHigh The memory used out the upper limit Index Type: PerJVM Metric: MemoryUsedPercent	50	75	30	FALSE
JvmNotConnected The JVM in not connected. Index Type: PerJVM Metric: Connected	NaN	NaN	30	FALSE
JvmStaleData Cut in reception from that JVM. Index Type: PerJVM Metric: Expired	NaN	NaN	30	FALSE

TIBCO ActiveSpaces

The following alerts are available for TIBCO ActiveSpaces. Default settings for warning and alarm thresholds, duration and whether the alert is enabled (true/false) are shown.

Alert Name	WARN. LEVEL	ALARM LEVEL	DURATION	ENABLED
TasMemberCpuHigh	80	95	30	FALSE
The CPU usage is above the defined thresholds.				
Index Type(s): PerMember				
TasMemberEntriesHigh	8000	10000	30	FALSE
The number of objects inserted into the space is above the defined thresholds.				
Index Type(s): PerMember				
TasMemberEvictsRateHigh	80	100	30	FALSE
The rate at which 'evicts' are occurring is above the defined thresholds.				
Index Type(s): PerMember				
TasMemberExpireRateHigh	80	100	30	FALSE
The rate at which 'expires' are occurring is above the defined thresholds.				
Index Type(s): PerMember				
TasMemberGetRateHigh	80	100	30	FALSE
The rate at which 'gets' are occurring is above the defined thresholds.				
Index Type(s): PerMember				
TasMemberJvmMemoryUsedHigh	80	95	30	FALSE
The percent JVM memory used is above the defined thresholds.				
Index Type(s): PerMember				
TasMemberMemoryUsedHigh	80	95	30	FALSE
The percent memory used is above the defined thresholds.				
Index Type(s): PerMember				
TasMemberPutRateHigh	80	100	30	FALSE
The rate at which 'puts' are occurring is above the defined thresholds.				
Index Type(s): PerMember				
TasMemberSeederCapacity	80	90	30	FALSE
The percentage utilization (number of entries/ capacity)*100 of the seeder is high for the given space. "Capacity per seeder" must be set in the space definition for this alarm to be effective.				
Index Type(s): PerMemberandSpace				

TasMemberTakeRateHigh	80	100	30	FALSE
The rate at which 'takes' are occurring is above the defined thresholds.				
Index Type(s): PerMember				
TasMetaspaceEntriesHigh	8000	100000	30	FALSE
The number of objects inserted into the metaspace is above the defined thresholds.				
Index Type(s): PerMetaspace				
TasMetaspaceEvictsRateHigh	80	100	30	FALSE
The rate at which 'evicts' are occurring is above the defined thresholds.				
Index Type(s): PerMetaspace				
TasMetaspaceExpireRateHigh	80	100	30	FALSE
The rate at which 'expires' are occurring is above the defined thresholds.				
Index Type(s): PerMetaspace				
TasMetaspaceGetRateHigh	80	100	30	FALSE
The rate at which 'gets' are occurring is above the defined thresholds.				
Index Type(s): PerMetaspace				
TasMetaspacePutRateHigh	80	100	30	FALSE
The rate at which 'puts' are occurring is above the defined thresholds.				
Index Type(s): PerMetaspace				
TasMetaspaceTakeRateHigh	80	100	30	FALSE
The rate at which 'takes' are occurring is above the				
defined thresholds.				
Index Type(s): PerMetaspace				
TasQueryDurationHigh	4	5	30	FALSE
The query duration (in seconds) is above the defined threshold (in seconds).				
Index Type(s): PerSpace				
TasSpaceEntriesHigh	8000	100000	30	FALSE
The number of objects inserted into the space is				
above the defined thresholds. Index Type(s): PerSpace				
	80	100	30	FALSE
TasSpaceEvictsRateHigh The rate at which 'evicts' are occurring is above the	80	100	30	FALSL
defined thresholds.				
Index Type(s): PerSpace				
TasSpaceExpireRateHigh	80	100	30	FALSE
The rate at which 'expires' are occurring is above the defined thresholds.				
Index Type(s): PerSpace				
TasSpaceGetRateHigh	80	100	30	FALSE
The rate at which 'gets' are occurring is above the				
defined thresholds. Index Type(s): PerSpace				

TasSpacePutRateHigh	80	100	30	FALSE
The rate at which 'puts' are occurring is above the defined thresholds.				
Index Type(s): PerSpace				
TasSpaceSeederCountLow	NaN	NaN	30	FALSE
Not enough seeders are available.				
Index Type(s): PerSpace				
TasSpaceState	NaN	NaN	30	FALSE
The state of the space is "not ready".				
Index Type(s): PerSpace				
TasSpaceTakeRateHigh	80	100	30	FALSE
The rate at which 'takes' are occurring is above the defined thresholds.				
Index Type(s): PerSpace				

TIBCO Adapters

The following alerts are available for TIBCO Adapters. Default settings for warning and alarm thresholds, duration and whether the alert is enabled (true/false) are shown.

Alert Name	WARN. LEVEL	ALARM LEVEL	DURATION	ENABLED
TadAdapterDeltaErrorsHigh	1600	2000	30	FALSE
The number of errors incurred by the adapter in last measurement interval is above the defined threshold.				
Index Type(s): PerAdapter				
TadAdapterExpired	NaN	NaN	0	FALSE
The data from this adapter has not been updated since the last measurement interval. The data shown from this adapter is currently stale.				
Index Type(s): PerAdapter				
TadAdapterMsgsRcvdRateHigh	1600	2000	60	FALSE
The number of messages received by this adapter since the last measurement interval is above the defined threshold.				
Index Type(s): PerAdapter				
TadAdapterMsgsSentRateHigh	1	2	60	FALSE
The number of messages sent by the adapter in the last measurement interval is above the defined threshold.				
Index Type(s): PerAdapter				

TIBCO BusinessEvents

The following alerts are available with both the solution package and standalone versions for TIBCO® BusinessEvents®.

TbeBackingStoreEraseRateHigh	This alert executes a single warning alert and a single alarm alert if the rate at which entries are erased from the backing store exceeds the specified threshold. The warning default threshold is 80 and the alarm default threshold is 95 .
TbeBackingStoreLoadRateHigh	This alert executes a single warning alert and a single alarm alert if the rate at which entries are loaded from the backing store exceeds the specified threshold. The warning default threshold is 80 and the alarm default threshold is 95 .
TbeBackingStoreStoreRateHigh	This alert executes a single warning alert and a single alarm alert if the rate at which entries are written to the backing store exceeds the specified threshold. The warning default threshold is 80 and the alarm default threshold is 95 .
TbeClusterMalformed	This alert executes for any cluster where the member count is not equal to the expected cluster size. The expected cluster size is a count of the number of nodes that have the same cluster name, as discovered by reading the cluster MBean for each node in the connection property file. The MemberCount attribute is also read from the same cluster MBean, and is the number of nodes in the (sub)cluster which the current node has joined.
	The condition where these counts differ can occur if there are missing connections in the property file (for example, some nodes are unmonitored). It can also occur if, due to network or other anomalies, some nodes do not join the "main" cluster, but instead form a "sub-cluster" of one or more nodes. This condition is commonly referred to as "split-brain".
TbeDestinationStatusRecvdEven tsRateHigh	This alert executes a single warning alert and a single alarm alert if the rate at which events are received from the channel exceeds the specified threshold. The warning default threshold is 80 and the alarm default threshold is 95 .
TbeNodeConceptsGetRateHigh	This alert executes a single warning alert and a single alarm alert if the rate at which concepts are received from the cache exceeds the specified threshold. The warning default threshold is 80 and the alarm default threshold is 95 .
TbeNodeConceptsPutRateHigh	This alert executes a single warning alert and a single alarm alert if the rate at which concepts are written to the cache exceeds the specified threshold. The warning default threshold is 80 and the alarm default threshold is 95 .
TbeNodeConceptsRemoveRateHi gh	This alert executes a single warning alert and a single alarm alert if the rate which concepts are removed from the cache exceeds the specified threshold. The warning default threshold is 80 and the alarm default threshold is 95 .
TbeNodeConnectionLoss	This discrete alert executes when the JMX Connection to the TIBCO BusinessEvents agent is lost (the TCP connection flag for an engine is false).
TbeNodeEventsGetRateHigh	This alert executes a single warning alert and a single alarm alert if the rate at which events are received from the cache exceeds the specified threshold. The warning default threshold is 80 and the alarm default threshold is 95 .

TbeNodeEventsPutRateHigh	This alert executes a single warning alert and a single alarm alert if the rate at which events are written to the cache exceeds the specified threshold. The warning default threshold is 80 and the alarm default threshold is 95 .
TbeNodeEventsRemoveRateHigh	This alert executes a single warning alert and a single alarm alert if the rate which events are removed from the cache exceeds the specified threshold. The warning default threshold is 80 and the alarm default threshold is 95 .
TbeObjectTableExtldSize	This alert executes a single warning alert and a single alarm alert if the number of external object IDs exceeds the specified threshold. The warning default threshold is 9000 and the alarm default threshold is 10000 .
TbeObjectTableSize	This alert executes a single warning alert and a single alarm alert if the number of objects maintained by the cache exceeds the specified threshold. The warning default threshold is 9000 and the alarm default threshold is 10000 .
TbeRuleFiringRateHigh	This alert executes a single warning alert and a single alarm alert if the rate at which rules are executing exceeds the specified threshold. The warning default threshold is 80 and the alarm default threshold is 95 .

TIBCO Enterprise Message Service

The following alerts are available with both the solution package and standalone versions for TIBCO® Enterprise Message Service[™]. Default settings for warning and alarm thresholds, duration and whether the alert is enabled (true/false) are shown.

Alert Name	WARN. LEVEL	ALARM LEVEL	DURATION	ENABLED
EmsConsumerStalled	85	95	30	FALSE
Indicates consumers are stalled or are no longer consuming messages (have not received a message within a defined threshold). The server must be running for a minimum time (5 minutes by default) before this alert is triggered. Thresholds are in seconds.				
Note: This alert does not allow overrides.				
Index Type(s): PerConsumer:ID/ PerServerConsumer:URL;ID Metric: elapsedSinceLasAckInSec				

	05	05	20	
EmsConsumerStuck	85	95	30	FALSE
Indicates a consumer is stuck because there are existing messages that can be consumed (currentMsSentCount > 0), but none of the messages have been consumed within the defined warning and alert thresholds (elapsedSinceLasAckInSec > threshold). Alert and warning thresholds are in seconds.				
Index Type(s): PerConsumer:ID/ PerServerConsumer:URL;ID				
Metric: currentMsgSentCount, elapsedSinceLasAckInSec				
EmsQueueConsumerIdleTimeHigh	60	80	30	FALSE
The idle time of the queue consumer has reached its maximum. This alert is triggered when there is no change in the number of incoming messages for a queue within a specified period of time (in seconds).				
Index Type(s): PerQueue;PerServerQueue				
Metric: ConsumerIdleTime				
EmsQueueInboundDeltaHigh	60	80	30	FALSE
The number of new incoming messages for the EMS Queue has reached its maximum.				
Index Type(s): PerQueue;PerServerQueue				
Metric: DeltainboundTotalMessages				
EmsQueueMsgLatencyHigh	60	80	30	FALSE
The time, in seconds, needed to process all pending messages based on the current outbound message rate exceeded its threshold. This alert does not take into account queues with outbound message rate equals to zero.				
Index Type(s): PerServerQueue:URL;name				
Metric: messageLatency				
EmsQueueProviderIdleTimeHigh	60	80	30	FALSE
The queue idle time exceeded the specified threshold. A queue is idle when the number of inbound messages remains unchanged.				
Index Type(s): PerServerQueue:URL;name				
Metric: ProviderIdleTime				
EmsQueuesConsumerCountHigh	60	80	30	FALSE
The number of consumers of a queue exceeded the specified high threshold.				
Index Type(s): PerServerQueue:URL;name/ PerQueue:name				
Metric: consumerCount				
EmsQueuesConsumerCountLow	15	5	30	FALSE
The number of consumers of a queue is below the specified threshold.				
Index Type(s): PerServerQueue:URL;name/ PerQueue:name				
Metric: consumerCount				
	1	1	1	L

EmsQueuesInMsgRateHigh	60	80	30	FALSE
The rate of inbound messages on the queue exceeded the specified threshold.				
Index Type(s): PerServerQueue:URL:name/ PerQueue:name				
Metric: inboundMessageRate				
EmsQueuesOutMsgRateHigh	60	80	30	FALSE
The number of outbound messages on the queue exceeded the specified threshold.				
Index Type(s): PerServerQueue:URL;name				
Metric: outboundMessageRate				
EmsQueuesPendingMsgsHigh	60	80	30	FALSE
The number of pending messages on the queue exceeded the specified threshold.				
Index Type(s) : PerServerQueue:name;PerServerQueue:URL;name				
Metric: pendingMessageCount				
EmsQueuesProducerCountHigh	60	80	30	TRUE
The number of producers to a queue exceeded the specified high threshold.				
Index Type(s) : PerQueue:name/ PerServerQueue:URL;name				
Metric: producerCount				
EmsQueuesProducerCountLow	15	5	30	TRUE
The number of producers to a queue is below the specified threshold.				
Index Type(s) : PerQueue:name/ PerServerQueue:URL;name				
Metric: producerCount				
EmsServerAsyncDBSizeHigh	50	100	30	FALSE
The size of the Async database, in bytes, for the EMS Server reached its maximum.				
Index Type(s): PerServer:URL				
Metric: asyncDBSize				
EmsServerInboundDeltaHigh	60	80	30	FALSE
The number of new incoming messages for the EMS Server has reached its maximum				
Index Type(s): PerServer				
Metric: DeltainboundMessageCount				
EmsServerSyncDBSizeHigh	50	100	30	FALSE
The size of the Sync database, in bytes, for the EMS Server reached its maximum.				
Index Type(s): PerServer:URL				
Metric: syncDBSize				
EmsServerConnectionCountHigh	60	80	30	FALSE
Alert is triggered when the number of connections to the server reaches the specified threshold.				
Index Type(s): PerServer:URL Metric: connectionCount				

EmsServerInMsgRateHigh The number of inbound messages on the server exceeded the specified threshold.28030FALSEIndex Type(s): PerServer:URL Metric: inboundMessageRate28030FALSEEmsServerMemUsedHigh The percent memory used on the server exceeded the specified threshold.608030FALSEIndex Type(s): PerServer:URL Metric: messageMemoryPct608030FALSE
exceeded the specified threshold.Index Type(s): PerServer:URLIndex Type(s): PerServer:URL608030FALSEEmsServerMemUsedHigh The percent memory used on the server exceeded the specified threshold.608030FALSEIndex Type(s): PerServer:URL Metric: messageMemoryPct608030FALSE
Metric: inboundMessageRate 60 80 30 FALSE EmsServerMemUsedHigh The percent memory used on the server exceeded the specified threshold. 60 80 30 FALSE Index Type(s): PerServer:URL Metric: messageMemoryPct 60 80 30 FALSE
EmsServerMemUsedHigh 60 80 30 FALSE The percent memory used on the server exceeded the specified threshold. 60 80 30 FALSE Index Type(s): PerServer:URL Metric: messageMemoryPct 60 80 80 80 80
The percent memory used on the server exceeded the specified threshold. Index Type(s): PerServer:URL Metric: messageMemoryPct
the specified threshold. Index Type(s): PerServer:URL Metric: messageMemoryPct
Metric: messageMemoryPct
EmsServerNotStartedNaNNaN30FALSE
The server state is empty. The server is not started.
Index Type(s): PerServer:URL
Metric: NotStarted
EmsServerOutMsgRateHigh608030FALSE
The number of outbound messages on the server exceeded the specified threshold.
Index Type(s): PerServer:URL
Metric: outboundMessageRate
EmsServerPendingMsgsHigh608030FALSE
The number of pending messages in the server queue exceeded the specified threshold.
Index Type(s): PerServer:URL
Metric: pendingMessageCount
EmsServerPendingMsgSizeHigh608030FALSE
The size, in KB, of the pending messages stored on this EMS Server reached its maximum.
Index Type(s): PerServer:URL
Metric: pendingMessageCount
EmsServerRouteStateNaNNaN30FALSE
One or more routes on the server are not active.
Index Type(s): PerServer:URL
Metric: Alert State
EmsServerStaleDataNaNNaN30FALSE
The server stopped receiving data.
Index Type(s): PerServer:URL
Metric: Expired
EmsTopicConsumerIdleTimeHigh608030FALSE
The idle time of the topic consumer has reached its
maximum. This alert is triggered when there is no change in the number of incoming messages for a
topic within a specified period of time (in seconds).
Index Type(s): PerTopic;PerServerTopic
Metric: ConsumerIdleTime

EmsTopicInboundDeltaHigh	60	80	30	FALSE
The number of new incoming messages for the EMS Topic has reached its maximum.				
Index Type(s): PerTopic;PerServerTopic				
Metric: DeltainboundTotalMessages				
EmsTopicMsgLatencyHigh	60	80	30	FALSE
The time, in seconds, needed to process all pending messages based on the current outbound message rate exceeded its threshold. This alert does not take into account topics with outbound messages rates equal to zero.				
Index Type(s): PerServerTopic Metric: messageLatency				
EmsTopicProviderIdleTimeHigh	60	80	30	FALSE
The topic idle time exceeded the specified threshold. A topic is idle when the number of inbound messages remains unchanged.				
Index Type(s): PerServerTopic:URL;name Metric: ProviderIdleTime				
EmsTopicsConsumerCountHigh	60	80	30	FALSE
The number of consumers for the topic exceeded the specified threshold.				
Index Type(s): PerServerTopic:URL;name				
Metric: consumerCount				
EmsTopicsConsumerCountLow	60	80	30	FALSE
The number of consumers for the topic is below the specified threshold.				
Index Type(s): PerServerTopic				
Metric: consumerCount				
EmsTopicsInMsgRateHigh	60	80	30	FALSE
The number of inbound messages for the topic exceeded the specified threshold.				
Index Type(s): PerServerTopic				
Metric: inboundMessageRate				
EmsTopicsOutMsgRateHigh	60	80	30	TRUE
The rate of outbound messages for the topic exceeded the specified threshold.				
Index Type(s): PerServerTopic				
Metric: outboundMessageRate				
EmsTopicsPendingMsgsHigh	50	75	30	FALSE
The number of pending messages on the queue for the topic exceeded the specified threshold.				
Index Type(s): PerTopic Metric: pendingMessageCount				
EmsTopicsProducerCountHigh	60	80	30	TRUE
The number of active producers for this topic exceeded the specified high threshold.				
Index Type(s): PerTopic/PerServerTopic Metric: producerCount				

EmsTopicsProducerCountLow	60	80	30	TRUE
The number of producers for the topic is below the specified threshold.				
Index Type(s): PerTopic/PerServerTopic				
Metric: producerCount				
EmsTopicsSubscriberCountHigh	50	75	30	FALSE
The number of subscribers for the topic exceeded the specified threshold.				
Index Type(s): PerServerTopic				
Metric: subscriberCount				
JvmCpuPercentHigh	30	40	30	FALSE
The percent JVM CPU usage exceeded the specified threshold.				
Index Type(s): PerJVM				
Metric: CpuPercent				
JvmGcDutyCycleHigh	50	75	30	FALSE
The JVM Garbage Collection contains an item that exceeded the specified duty cycle threshold (the				
percent of time spent in Garbage Collection).				
Index Type(s): PerGC				
Metric: TimeUsedPercent				
JvmMemoryUsedHigh	50	75	30	FALSE
The percent JVM memory used exceeded the				
specified threshold.				
Index Type(s): PerJVM Metric: MemoryUsedPercent				
·			20	541.05
JvmNotConnected	NaN	NaN	30	FALSE
The JVM is not connected. Index Type(s): PerJVM				
Metric: Connected				
	NoN	NoN	20	
JvmStaleData The JVM stopped receiving data.	NaN	NaN	30	FALSE
Index Type(s): PerJVM				
Metric: Expired				
p				

TIBCO FTL

The following alerts are available for TIBCO FTL. Default settings for warning and alarm thresholds, duration and whether the alert is enabled (true/false) are shown.

Alert	Warning Level	Alarm Level	Duration	Enabled
TftlClientCpuTime Executes a single warning and a single alarm if the CPU response time to the client exceeds the specified threshold.	160000	200000	30	FALSE
Index Type: PerClient Metric: Delta_CPU_TIME				
TftlClientCpuUsage Executes a single warning and a single alarm if the CPU usage by the client exceeds the specified threshold.	160000	200000	30	FALSE
Index Type: PerClient Metric:				
TftlClientExpired Executes a single alert if the response time to the client exceeds the specified threshold. Index Type: PerClient Metric:	NaN	NaN	30	FALSE
TftlClientMemory Executes a single warning and a single alarm if the memory usage by the client exceeds the specified threshold. Index Type: PerClient Metric: PROCESS_RSS_KB	160000	200000	30	FALSE
TftlClientMsgsRcvdRate Executes a single warning and a single alarm if the number of messages received by the client per second exceeds the specified threshold. Index Type: PerClient Metric: RateMESSAGES_RECEIVED	160000	200000	30	FALSE
TftlClientMsgsSentRate Executes a single warning and a single alarm if the number of messages sent by the client per second exceeds the specified threshold. Index Type: PerClient Metric: RateMESSAGES_SENT	160000	200000	30	FALSE
TftlClientNotRunning Executes a single if the client status is not "RUNNING". Index Type: PerClient Metric: Delayed Writes	NaN	NaN	30	FALSE
TftlClientVirtualMemory Executes a single warning and a single alarm if the virtual memory usage by the client exceeds the specified threshold. Index Type: PerClient Metric:	160000	200000	30	FALSE

160	200	30	FALSE
160	200	30	FALSE
60	80	30	FALSE
NaN	NaN	30	FALSE
160	200	30	FALSE
160	200	30	FALSE
NaN	NaN	30	FALSE
	160 60 NaN 160	160 200 60 80 NaN NaN 160 200 160 200	160 200 30 60 80 30 NaN NaN 30 160 200 30 160 200 30 160 200 30

TftlServerSatelliteCount Executes a single alert if the number of satellite servers is lower than expected.	NaN	5	30	FALSE
Note: Set threshold to one less than number of deployed satellites.				
Index Type: Response Time				
Metric: Table_locks_waited				
TftlServerVirtualMemory Executes a single warning and a single alarm if the FTL server virtual memory usage exceeds the specified threshold.	160	200	30	FALSE
Executes a single warning and a single alarm if the FTL server virtual memory usage exceeds the	160	200	30	FALSE

VMware vCenter

The following alerts are available for VMware vCenter. Default settings for warning and alarm thresholds, duration and whether the alert is enabled (true/false) are shown.

Alert Name	WARN. LEVEL	ALARM LEVEL	DURATION	ENABLED
VmwHostCpuUtilizationHigh	50	75	2	TRUE
The Host's CPU utilization is above the defined threshold.				
Index Type(s): PerVmHost				
VmHostDiskBytesReadHigh	1024	2048	2	TRUE
The disk read rate (kBytes/seccond) is above the defined thresholds.				
Index Type(s): PerVmHost				
VmHostDiskBytesWrittenHigh	1024	2048	2	TRUE
The disk write rate (kBytes/second) is above the defined thresholds.				
Index Type(s): PerVmHost				
VmwHostInBytesHigh	1024	2048	2	TRUE
The inbound byte rate (KB/second) is above the defined thresholds.				
Index Type(s): PerVmHost				
VmwHostInPktDropLossHigh	1	3	2	TRUE
The percentage of inbound packets dropped is above the defined threshold.				
Index Type(s): PerVmHost				

VmwHostInPktErrorLossHigh	1	3	2	TRUE
The percentage of inbound packets discarded for any error is above the defined threshold.				
Index Type(s): PerVmHost				
VmwHostMemoryUsageHigh	70	80	2	TRUE
The percentage memory utilzation (used/ configured) is above the defined threshold.				
Index Type(s): PerVmHost				
VmwHostOutBytesHigh	1024	2048	2	TRUE
The outbound byte rate (KB/second) is above the defined threshold.				
Index Type(s): PerVmHost				
VmwHostOutPktDropLossHigh	1	3	2	TRUE
The percentage of outbound packets dropped is above the defined thresholds.				
Index Type(s): PerVmHost				
VmwHostOutPktErrorLossHigh	1	3	2	TRUE
The percentage of inbound packets discarded for any error is above the defined threshold.				
Index Type(s): PerVmHost				
VmwHostStatusBad	NaN	NaN	2	TRUE
The overall status is not "green."				
Index Type(s): PerVmHost				
VmwHostSwapUsedHigh	10240	40960	2	TRUE
The amount of swap space used by a host is above the defined thresholds.				
Index Type(s): PerVmHost				
VmwVmCpuUtilizationHigh	50	75	2	TRUE
The virtual machine CPU utilization is above the defined thresholds.				
Index Type(s): PerVm				
VmwVmDiskBytesReadHigh	1024	2048	2	TRUE
The disk read rate (KB/second) is above the	1024	2010	2	INCE
defined thresholds.				
Index Type(s): PerVm				
VmwVmDiskBytesWrittenHigh	1024	2048	2	TRUE
The disk write rate (KB/second) is above the defined thresholds.				
Index Type(s): PerVm				
	05	05	30	TRUE
VmwVmDiskUsageHigh The amount of disk space used by the virtual	85	95	20	IKUE
machine is above the defined threshold.				
Index Type(s): PerVm				
VmwVmInBytesHigh	1024	2048	2	TRUE
The inbound byte rate (KB/second) is above the defined threshold.				
Index Type(s): PerVm				

VmwVmInPktDropLossHigh The percentage of inbound packet loss due to dropped packets is above the defined threshold. Index Type(s): PerVm	1	3	30	TRUE
VmwVmMemoryUsageHigh The percentage of memory utilization (active/ configured) is above the defined thresholds. Index Type(s): PerVm	70	80	2	TRUE
VmwVmOutBytesHigh The outbound byte rate is above the defined threshold. Index Type(s): PerVm	1024	2048	2	TRUE
VmwVmOutPktDropLossHigh The percentage of outbound packet loss due to dropped packets on the virtual machine is above the defined threshold. Index Type(s): PerVm	1	3	2	TRUE
VmwVmStatusBad The overall status for this virtual machine is not "green." Index Type(s): PerVm	NaN	NaN	2	TRUE
VmwVmSwapUsedHigh The amount of host memory swapped out for the virtual machine by the host's virtual machine kernal is above the defined threshold. This metric is not related to any swapping the may occur in the guest operating system. Index Type(s): PerVm	3072	4096	2	TRUE

APPENDIX E Limitations

This section includes:

- "iPad Safari Limitations"
- "TIBCO ActiveMatrix BusinessWorks"

iPad Safari Limitations

- In the iPad settings for Safari, JavaScript must be ON and Block Pop-ups must be OFF. As of this writing, the Thin Client has been tested only on iOS 4.3.5 in Safari.
- The iPad does not support Adobe Flash, so the Fx graph objects (obj_fxtrend, obj_fxpie, obj_fxbar) are unavailable. The Thin Client automatically replaces the Fx graph objects with the equivalent non-Fx object (obj_trendgraph02, obj_pie, obj_bargraph). Note that the replacement objects behave the same as the Fx objects in most cases but not in all. In particular, obj_trendgraph02 does not support the sliding cursor object nor the legendPosition property. Custom Fx objects are not supported on the iPad.
- The Thin Client implements scrollbars for table objects and graph objects. However, unlike the scrollbars used on desktop browsers, the scrollbars used on the iPad do not have arrow buttons at each end. This can make it difficult to scroll precisely (for example, row by row) on objects with a large scrolling range.
- At full size, users may find it difficult to touch the intended display object without accidentally touching nearby objects and performing an unwanted drill-down, sort, scroll, and so forth. This is particularly true of table objects that support drill-down and also scrolling, and also in panel layouts that contain the tree navigation control. In those cases, the user may want to zoom the iPad screen before interacting with the Thin Client.
- If the iPad sleeps or auto-locks while a Thin Client display is open in Safari, or if the Safari application is minimized by clicking on the iPad's home button, the display is not updated until the iPad is awakened and Safari is reopened. In some cases it may be necessary to refresh the page from Safari's navigation bar.

Because the iPad uses a touch interface there are differences in the Thin Client appearance and behavior in iOS Safari as compared to the conventional desktop browsers that use a cursor (mouse) interface, such as Firefox and Internet Explorer. These are described below.

- Popup browser windows: An RTView object's drill-down target can be configured to open a display in a new window. In a desktop browser, when the RTView object is clicked the drill-down display is opened in a popup browser window. But in iOS Safari 4.3.5, only one page is visible at a time, so when the RTView object is touched a new page containing the drill-down display opens and fills the screen. The Safari navigation bar can be used to toggle between the currently open pages or close them.
- Mouseover text: When mouseover text and drill-down are both enabled on an RTView object (for example, a bar graph), in iOS Safari the first touch on an element in the object (for example, a bar) displays the mouseover text for that element and the second touch on the same element performs the drill-down.
- Resize Mode and Layout: By default, the Display Server runs with resizeMode set to crop. In crop mode, if a display is larger than the panel that contains it only a portion of the display is visible. In a desktop browser, scrollbars become available to allow the user to scroll to view the entire display. In iOS Safari, scrollbars do not appear but the display can be scrolled by dragging two fingers inside the display. (Dragging one finger scrolls the entire page, not the display).

If the Display Server is run with **resizeMode** set to **scale** or **layout**, the display is resized to fit into the panel that contains it. If a desktop browser is resized after a display is opened, the display is resized accordingly. On the iPad, the Safari browser can only be resized by reorienting the iPad itself, between portrait mode and landscape mode.

The panel layout feature is supported in the Thin Client. However, unlike a desktop browser which resizes to match the layout size, the size of Safari is fixed. So if the Display Server is run with **resizeMode** set to **crop** or **scale** mode, there may be unused space at the edges of the display(s) or, in **crop** mode, the panels and displays may be cropped.

This means that **layout** mode should be used for best results on the iPad. For layout mode to be most effective, displays should use the **anchor** and **dock** object properties. Please see RTView documentation for more information.

 Scrolling: The Thin Client implements scrollbars for table objects and graph objects. The scrollbars are activated by dragging with one finger.

If an RTView display is viewed in **crop** mode and is too large to be displayed entirely in Safari, scrollbars do not appear (as they would in a desktop browser) but the display can be scrolled by dragging with two fingers inside the display.

Scrollbars do not ever appear in a text area control. If the text area contains more text than is visible, use the two finger drag in the text area to scroll the text.

Regardless of the size of a listbox control, it can only display a single item (typically, the selected item). When the listbox is touched, the list of items appear in a popup list. In other words, on iOS Safari the listbox control and the combobox control behave identically.

Context menu: The Thin Client context menu is opened by a right mouse button click in a desktop browser. It is opened in iOS Safari by touching any location on a display and holding that touch for 2 seconds. The menu appears in the top left corner of the display, regardless of where the display is touched. The items **Export Table to Excel**, **Drill Down**, and **Execute Command** are not included on the context menu in Safari. All other items are available. The **Export Table to HTML** item is enabled if a table object is touched (unless the table object's drillDownTarget is configured to open another display). After an **Export to PDF/HTML** is performed, the exported content opens on another page in Safari. From there, the content can either be opened by another application (for example, the iBooks application opens PDF) and emailed, or it can be copied ands pasted into an email.

TIBCO ActiveMatrix BusinessWorks

Servers

AIX

- Status will be **LIMITED**.
- CPU Usage, Free Memory and Virtual Memory Usage will not be available.

Business Works 5.7.1 Engine Status

The BW Engine microagent has a method **GetExecInfo** that includes a field called **Status**, which may have the following values:

- ACTIVE
- SUSPENDED
- STANDBY
- STOPPING
- STOPPED

In Business Works 5.7.1 (but not earlier or later versions) this method fails to return any data and, in some cases when the Monitor starts, it may not know an engine's exact status. For example, if an engine is deployed but not active it could be SUSPENDED or STOPPED, or else it could be ACTIVE or STOPPING. In these cases the Monitor sets the status to UNKNOWN. An UNKNOWN status will be resolved once the engine is stopped and restarted; henceforth the status will display as STOPPED or ACTIVE.

BWSE Components

 JVM memory metrics are available for BWSE components running in AMX 3.x environments only.

- The BW Version column in the All Engines Table display is blank for BWSE components.
- The Deployment column in the All Engines Table display is UNKNOWN for BWSE components. This is because the AMX environment controls in which node or nodes a BWSE component is running, therefore the concept of "deployment" in traditional BusinessWorks does not apply.
- BWSE components only appear in the All Engines Table display when they are running in a node.

APPENDIX F Third Party Notice Requirements

This section includes:

- "RTView EM" on page 921
- "RTView Core®" on page 927

RTView EM

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