

***TIBCO® RTView® for TIBCO
Enterprise Message Service™ User's
Guide***

Version 7.1



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Preface

Welcome to the TIBCO® RTView® for TIBCO Enterprise Message Service™ User's Guide

Document Conventions

This guide uses the following standard set of typographical conventions.

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

Third Party Notices

Please refer to the **LICENSES_thirdparty.txt** file from your product installation.

CHAPTER 1 Quick Start

This chapter is designed for those customers evaluating TIBCO® RTView® for TIBCO Enterprise Message Service™ for purchase and describes the basic steps required to install, configure, and start EMS Monitor using default settings while using Eclipse Jetty (which is delivered with the Monitor) as the application server. The steps listed in this chapter represent only the basic flow needed to get the Monitor up and running. See [Introduction](#), [Configuration](#), and [Deployment](#) for additional installation, setup, configuration, and deployment options/details. Most of the configurations in this chapter are defined using the RTView Configuration Application. See [RTView Configuration Application](#) for more information.

By default, "Login" is disabled for the Monitor, which means that logging in will not be required when initially accessing the Monitor. See [Enabling Login in the Monitor](#) for more information on enabling Login. **Note:** This is only relevant if you are using the classic (non-HTML) displays.

This chapter contains:

- ["Prerequisites for Windows and UNIX/Linux Installations" on page 3](#)
- ["UNIX/Linux Quick Start Steps" on page 3](#)
- ["Windows Quick Start Steps" on page 8](#)

Prerequisites for Windows and UNIX/Linux Installations

- TIBCO EMS 6+
- Java JDK 8, 9, 11, or 17
- Application Server (for example, Eclipse Jetty (delivered with the Monitor), or Tomcat 8.5+)
- If you are upgrading to a newer version and want to copy your existing configurations/properties into the new version, see [Upgrading the Monitor](#) for information.

For a more complete list of system requirements, refer to the **README_sysreq.txt** file from your product installation. For stem requirements, refer to the **README_sysreq.txt** file from your product installation.

UNIX/Linux Quick Start Steps

1. Download **TIB_rtview-ems_<version>.zip** to your local UNIX/Linux server.

Note: If using UNIX, do not include spaces in your installation directory path. The **start_server.sh** and **stop_server.sh** scripts will not function properly if spaces are included in the installation directory path.

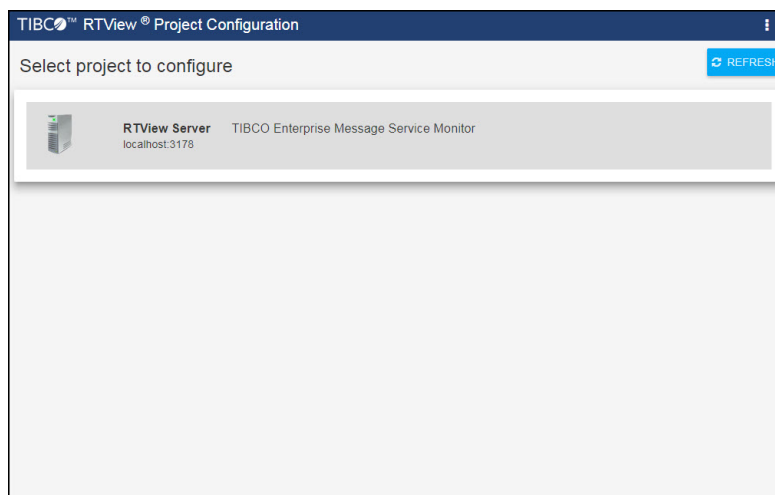
2. Extract the files:

```
unzip -a TIB_rtview-ems_<version>.zip
```

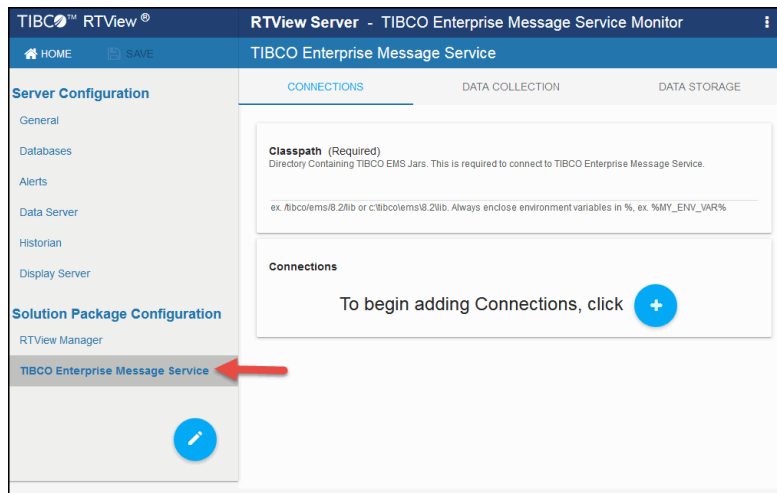
If correctly installed, you should see an **TIB_rtview-ems** directory with an **rtvadm** subdirectory, which should include **emsmon** as a subdirectory.

3. Set the **JAVA_HOME** environment variable to point to your Java installation. For example:
export JAVA_HOME=/opt/Java/jdk1.9.0
4. Navigate to the **TIB_rtview-ems** directory and type:
start_server
5. Open a browser and type the following URL to open the [RTView Configuration Application](#):
http://localhost:3170/rtview-emsmon-rtvadmin
Use **rtvadmin/rtvadmin** for the username/password.

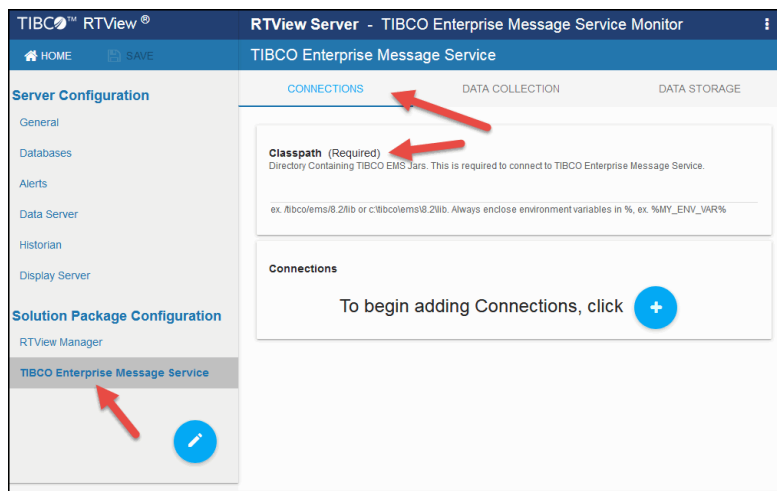
The RTView Configuration Application displays.




6. Select the **RTView Server (TIBCO Enterprise Message Service Monitor)** project, and then select **TIBCO Enterprise Message Service** under **Solution Package Configuration**.




- On the **CONNECTIONS** tab, provide the correct full path to the directory containing the TIBCO Enterprise Message Service jar files in the **Classpath** field.



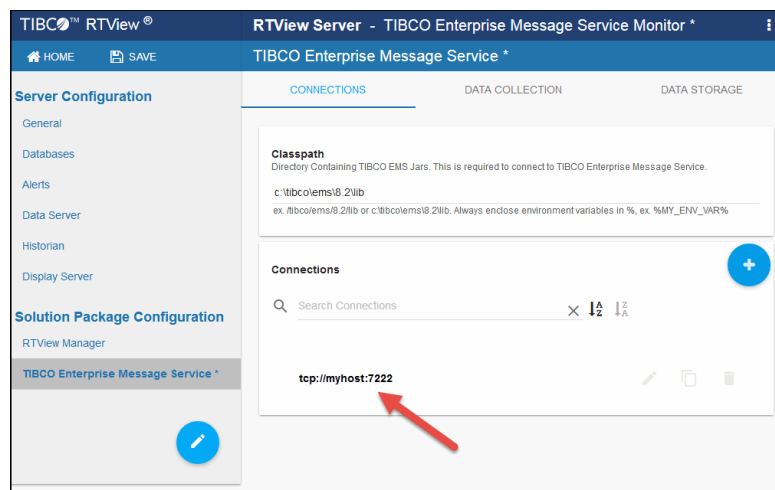
- Click the  button in the **Connections** region.

The **Add Connection** dialog displays.

9. Specify the connection information for the EMS Server you want to monitor 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 only required when a username is defined for the connection.
 - Password:** This password is used when creating the connection to the EMS Server. This field is required only when a password is defined for the connection. By default, the password entered is hidden. Click the  icon to view the password text.

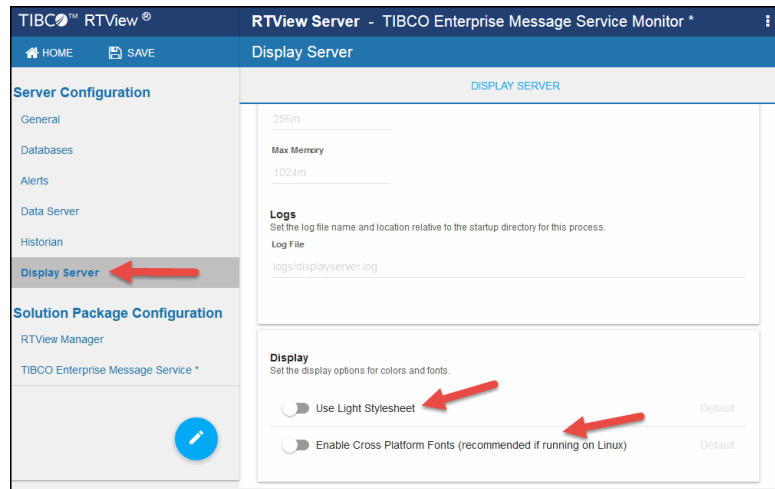
Repeat steps 8-9 for each EMS Server to be monitored.

The connection(s) you create(d) display(s) in the **Connections** region.

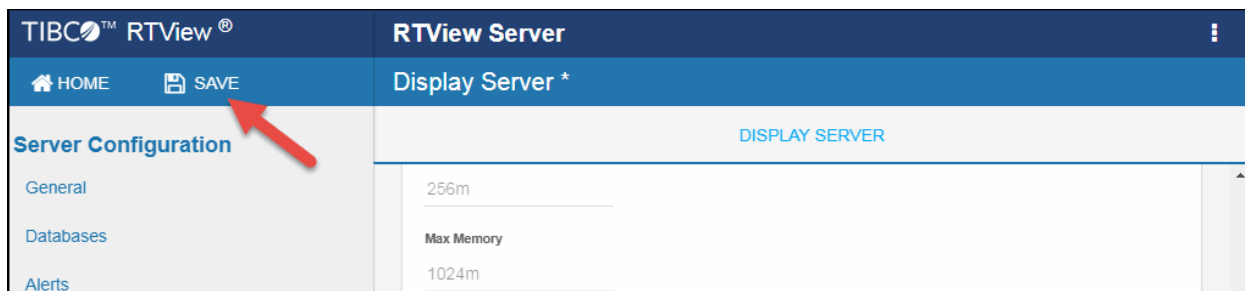


10. Optionally, if you are using the Classic (non-HTML) displays and want to use the white style sheets instead of the dark style sheet, and also want to enable Cross Platform

Fonts, navigate to the **Display Server** option under **Server Configuration** and enable the **Use Light Stylesheet** and **Enable Cross Platform Fonts** toggles.



11. Click the **SAVE** button in the RTView Configuration Application to save your changes.



12. Click the **RESTART SERVERS** button (which displays in the upper right-hand corner after clicking **SAVE**) to apply the changes made in the RTView Configuration Application.

The Project Page displays with a spinning icon. Once the data server has restarted, the spinning icon disappears and you can click your project to resume making changes (if desired).

13. You can check the log files in the **TIB_rtview-ems/projects/rtview-server/logs** directory for errors.
14. You can verify that your caches are collecting data by accessing the following URL:
http(s)://localhost:3170/common

The RTView Cache Viewer application displays, which allows you to view the details for the caches that are collecting data.

The screenshot shows the TIBCO RTView interface. The top bar indicates 'TIBCO RTView Common'. Below it, the 'Caches' section is active. The main area displays 'Cache Table' with a 'Data Server URL: http://localhost:3170/rtquery'. A table lists various caches with their current status, row counts, column counts, and memory usage. The 'EmsDurables' cache is highlighted. Below this, a detailed view of the 'EmsDurables' cache is shown, including columns for time_stamp, name, clientID, consumerID, pendingMess..., selector, and topicName.

Cache	Table	Rows	Columns	Memory
EmsAdmStats	current	1	3	338
EmsBridges	current	4	8	2034
EmsConnections	current	0	0	0
EmsConsumers	current	0	0	0
EmsDestinations	current	22	5	3602
EmsDurables	current	258	13	80162
EmsFTServerTable	current	3	11	2539
EmsJmsAdminMetrics	current	10	7	1952

time_stamp	name	clientID	consumerID	pendingMess...	pendingMess...	selector	topicName
2018-Aug-21 14:55:06	ADBServer2B	null	192370	0.000	0.000		adb.standard.jms
2018-Aug-21 14:55:06	ADBServer2C	null	192369	0.000	0.000		adb.standard.jms
2018-Aug-21 14:55:06	ADBServer2A	null	192371	0.000	0.000		adb.standard.jms
2018-Aug-21 14:55:06	ADBServer1	null	192368	0.000	0.000		adb.custom.jmsre
2018-Aug-21 14:55:06	ADBServer	null	192372	0.000	0.000		adb.standard.jms

15. To view the monitor with HTML displays, open a browser and navigate to **http://localhost:3170/rtview-emsmon** while using **rtvadmin/rtvadmin** as the login/password.

To view the monitor with Classic displays, open a browser and view the monitor using **http://localhost:3170/rtview-emsmon-classic** while using **rtvadmin/rtvadmin** as the login/password (if Login is enabled).

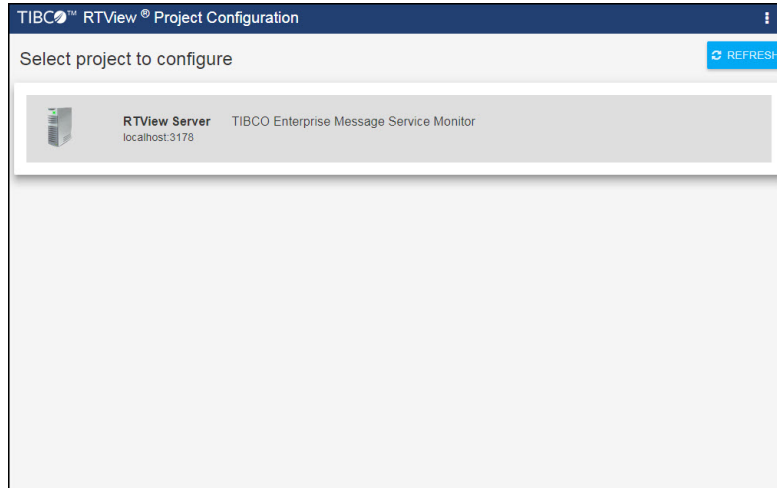
Windows Quick Start Steps

1. Download **TIB_rtview-ems_<version>.zip** to your local Windows server.
2. Extract the files in **TIB_rtview-ems_<version>.zip** using right mouse-click >"**Extract All...**"

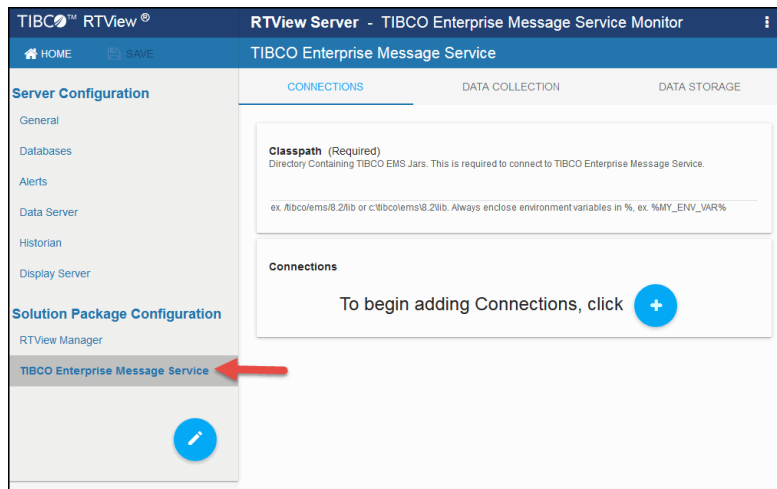
If correctly installed, you should see an **TIB_rtview-ems** directory with an **rtvapm** subdirectory, which should include **emsmon** as a subdirectory.

3. Set the **JAVA_HOME** environment variable to point to your Java installation. For example:
set JAVA_HOME=C:\Java\jdk1.9.0
4. Navigate to the **TIB_rtview-ems** directory and type:
start_server
5. Open a browser and type the following URL to open the [RTView Configuration Application](http://localhost:3170/rtview-emsmon-rtvadmin):
http://localhost:3170/rtview-emsmon-rtvadmin
Use **rtvadmin/rtvadmin** for the username/password.

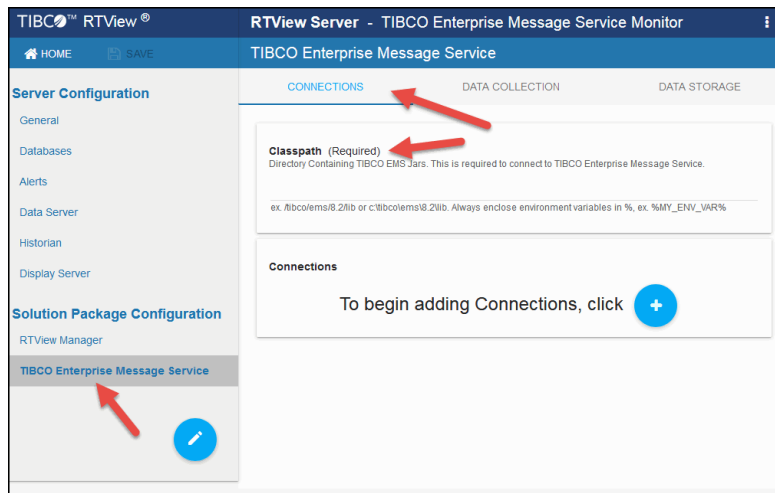
The RTView Configuration Application displays.





6. Select the **RTView Server (TIBCO Enterprise Message Service Monitor)** project, and then select **TIBCO Enterprise Message Service** under **Solution Package Configuration**.



7. On the **CONNECTIONS** tab, provide the correct full path to the directory containing the TIBCO Enterprise Message Service jar files in the **Classpath** field.

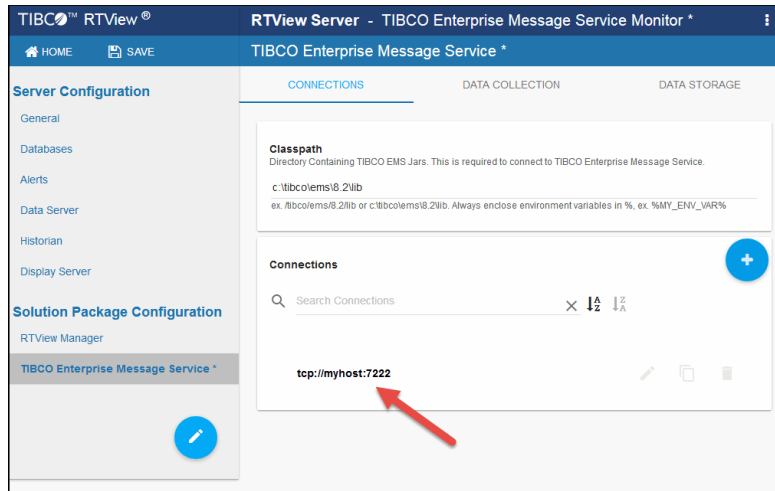


8. Click the  button in the **Connections** region.
The **Add Connection** dialog displays.

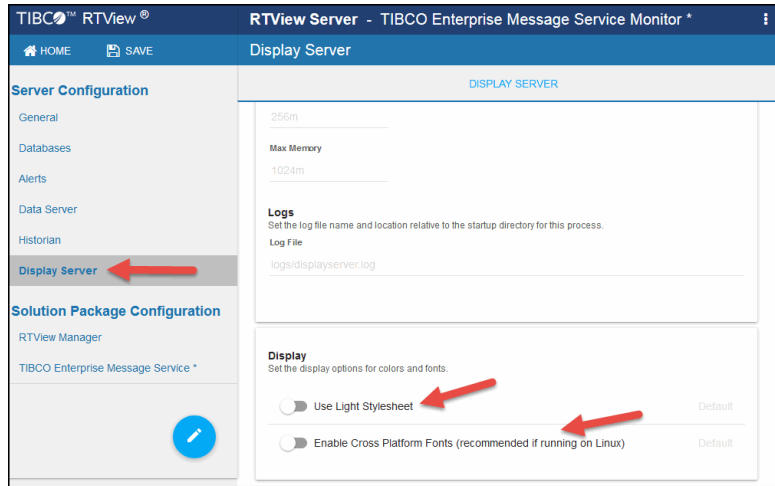
9. Specify the connection information for the EMS Server you want to monitor and click **Save** where:
- URL:** Enter the complete URL for the EMS Server. A comma-separated list of URLs is used to designate fault tolerant server pairs.
 - Username:** The username is used when creating the connection to the EMS Server. This field is only required when a username is defined for the connection.
 - Password:** This password is used when creating the connection to the EMS Server. This field is required only when a password is defined for the connection. By default, the password entered is hidden. Click the  icon to view the password text.

Repeat steps 9-10 for each EMS Server to be monitored.

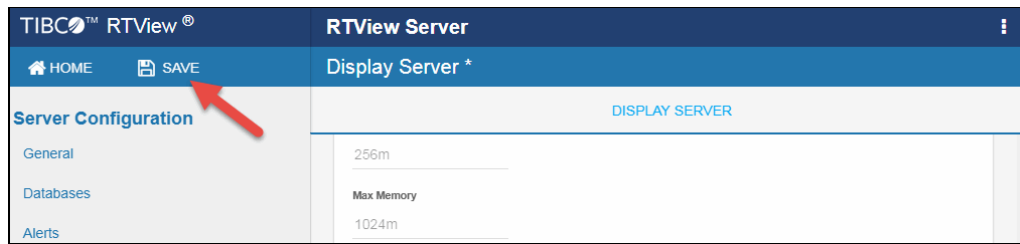
The connection(s) you create(d) display(s) in the **Connections** region.



- Optionally, if you are using the Classic (non-HTML) displays and want to use the white style sheets instead of the dark style sheet, and also want to enable Cross Platform Fonts, navigate to the **Display Server** option under **Server Configuration** and enable the **Use Light Stylesheet** and **Enable Cross Platform Fonts** toggles.

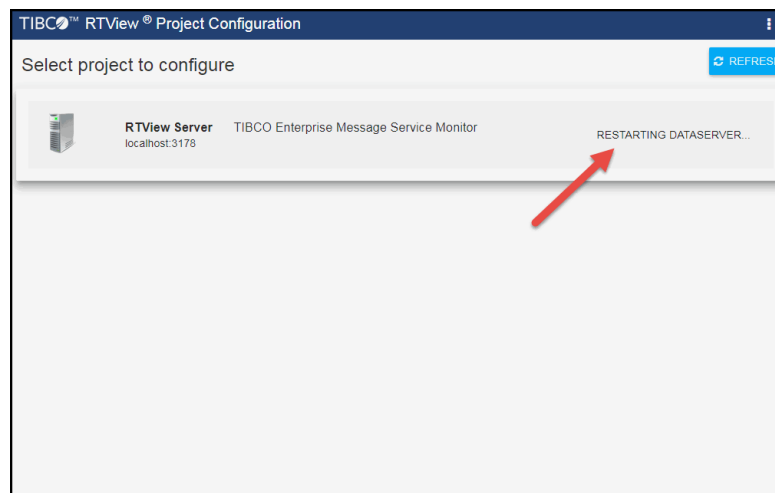


- Click the **SAVE** button in the RTView Configuration Application to save your changes.



12. Click the **RESTART SERVERS** button (which displays in the upper right-hand corner after clicking **SAVE**) to apply the changes made in the RTView Configuration Application.

The Project Page displays with the **RESTARTING DATASERVER...** message. Once the data server has restarted, the message disappears and you can click your project and resume making changes (if desired).



13. You can check the log files in the **TIB_rtview-ems/projects/rtview-server/logs** directory for errors.

14. You can verify that your caches are collecting data by accessing the following URL:
http(s)://localhost:3170/common

The RTView Cache Viewer application displays, which allows you to view the details for the caches that are collecting data.

TIBCO RTView® Common
Caches

Cache Table 21-Aug-2018 14:55 DATA

History Tables: [x]

Data Server URL: <http://localhost:3170/rtquery>

Cache	Table	Rows	Columns	Memory
EmsAdmStats	current	1	3	338
EmsBridges	current	4	8	2034
EmsConnections	current	0	0	0
EmsConsumers	current	0	0	0
EmsDestinations	current	22	5	3602
EmsDurables	current	258	13	80162
EmsFTServerTable	current	3	11	2539
EmsJmsAdminMetrics	current	10	7	1952

Cache: **EmsDurables** Table: **current**

time_stamp	name	clientID	consumerID	pendingMess...	pendingMess...	selector	topicName
2018-Aug-21 14:55:06	ADBServer2B	null	192370	0.000	0.000		adb_standard.jms
2018-Aug-21 14:55:06	ADBServer2C	null	192369	0.000	0.000		adb_standard.jms
2018-Aug-21 14:55:06	ADBServer2A	null	192371	0.000	0.000		adb_standard.jms
2018-Aug-21 14:55:06	ADBServer1	null	192368	0.000	0.000		adb_custom.jmsre
2018-Aug-21 14:55:06	ADBServer	null	192372	0.000	0.000		adb_standard.jms

15. To view the monitor with HTML displays, open a browser and navigate to <http://localhost:3170/rtview-emsmon> using **rtvadmin/rtvadmin** and the login/password.

TIBCO RTView® for TIBCO Enterprise Message Service™

All EMS Servers

Heatmap Grid

EMS All Servers Table 19-Jul-2018 16:58 DATA OK

Server Count: 1 Active: 0 Total Msgs In / s: 0.0 Out / s: 0.0 Pending: 0

Show: Inactive Servers Standby Servers

URL	Server Name	Host	Expired	Alert Level	State	Version In
tcp://myhost:7222	Unknown (tcp://myhost:7222)	myhost	<input checked="" type="checkbox"/>			

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To view the monitor with Classic displays, open a browser and view the monitor using <http://localhost:3170/rtview-emsmon-classic> while using **rtvadmin/rtvadmin** as the login/password (if Login is enabled).

CHAPTER 2 Introduction

This section contains the following:

- ["Overview" on page 14](#)
- ["System Requirements" on page 14](#)
- ["Installation " on page 14](#)
- ["Setup" on page 15](#)
- ["Architecture" on page 16](#)
- ["Upgrading the Monitor" on page 17](#)

Overview

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.

The Monitor can be deployed as a stand-alone desktop client or as a Web application run in a browser.

System Requirements

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

Installation

EMS Monitor can be used as a standalone monitoring system for technical support teams. To install EMS Monitor, download the **TIB_rtview-ems_<VERSION>.zip** archive, and unzip the **TIB_rtview-ems_<VERSION>.zip** file into a directory of your choosing. See [Quick Start Steps](#) for more information.

EMS Monitor can also be installed as a Solution Package within the RTView Enterprise Monitor product. If you are licensed for RTView Enterprise Monitor and are installing the Monitor as a Solution Package, see the *RTView Enterprise User Guide*, which is available on the [SL Product Documentation](#) website, for more information.

File Extraction Considerations

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

To convert text files on UNIX/Linux systems to the native format, use the **-a** option with unzip to properly extract text files.

Setup

This section describes how to setup your system for the Monitor and contains the following:

- [Enabling Login in the Monitor](#)

Enabling Login in the Monitor

Note: The following only enables login in the Display Server (Classic) version of the User Interface. The following steps do not enable login for the HTML User Interface, which has login enabled by default.

By default, "Login" is disabled for EMS Monitor, which means that logging in will not be required when initially accessing EMS Monitor. To enable RTView Role Based Security, follow the instructions below. This will enable the following user:

rtvadmin (password: rtvadmin)
 admin (password: admin)
 rtvuser (password: rtvuser)
 user (password: user)

To define your own users and roles or to integrate with LDAP or other user and security management systems, see Role-based Security in the RTView Core User's Guide on the [RTView Documentation Site](#).

To enable Login, perform the following steps:

1. Navigate to **TIB_rtview-ems/projects/rtview-server**.
2. Extract the **rtvdisplay.properties** file from the **rtview-emsmon-classic.war** file by typing:

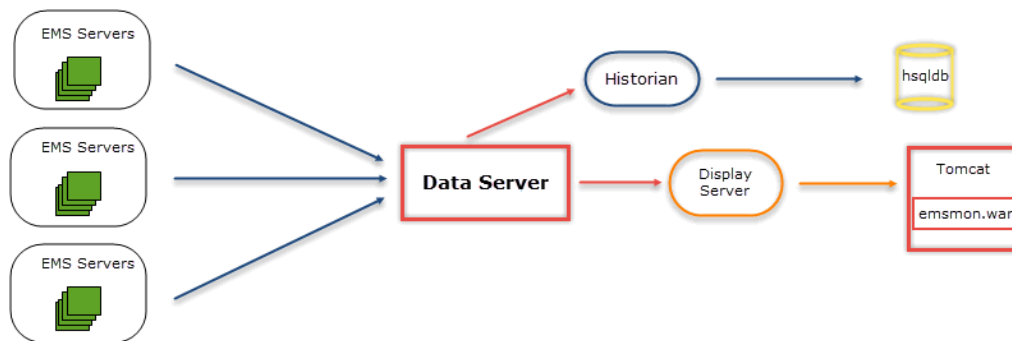
```
jar -xf rtview-emsmon-classic.war WEB-INF/classes/gmsjsp/rtvdisplay.properties
```

The **WEB-INF/classes/gmsjsp** directory path is created, which contains the **rtvdisplay.properties** file.

3. Edit the **WEB-INF/classes/gmsjsp/rtvdisplay.properties** file, set **LoginEnabled=true**, and save your changes.
4. Update the **rtview-emsmon-classic.war** file with your changes by typing:
jar -uf rtview-emsmon-classic.war WEB-INF/classes/gmsjsp/rtvdisplay.properties
5. If you are using Tomcat as your application server, copy the **TIB_rtview-ems/projects/rtview-server/rtview-emsmon-classic.war** file to the Tomcat **webapps** directory. If you are using Eclipse Jetty as your application server (which is delivered with EMS Monitor), there are no further steps.

Architecture

The typical EMSMON deployment involves a Data Server collecting data from EMS Servers, storing the data in internal memory caches, and then providing the data to the Historian and to the Display Server (or Display Viewer) for use in the Monitor. The basic EMSMON deployment diagram looks like the image below.



Listed below are some basic definitions for the various components in EMS Monitor:

- **Data Server:** This Java process is responsible for accessing metrics from EMS Servers via the JMS Admin API, storing data into internal memory caches, providing data to the Display Server and the Historian, and running the alert rules.
- **Data Historian:** This Java process stores and compacts data from the Data Server into a relational database for archival purposes. The default database used is hsqldb.
- **Display Server:** This Java process, which communicates directly with the Data Server to get the latest data, is responsible for generating HTML and AJAX web pages in the browser in order to show the real-time EMS metrics. An application server (Tomcat, for example) is used in conjunction with the Display Server to deploy the EMSMON servlet, which handles the client requests and receives updates from the Display Server. The servlet and Display Server are also responsible for user and role-based entitlements.
- **HTML User Interface:** As an alternative to using the Classic displays, data being collected from the Data Server is displayed in an HTML version of the displays.

Upgrading the Monitor

This section describes the steps necessary to upgrade existing Monitor applications.

Follow the steps for each version between the version you are upgrading from and the version to which you are upgrading.

- [Version 7.1](#)
- [Version 7.0](#)
- [Version 6.8](#)
- [Version 6.7](#)
- [Version 6.6](#)
- [Version 6.5](#)
- [Version 6.4](#)
- [Version 6.3](#)

Version 7.1

Log4j2

The syntax used in a Log4j properties file was changed completely by Apache in version 2. The **sl.log4j.properties** file distributed with RTView has been changed to use the version 2 syntax. If, in previous RTView versions, you customized that file or specified your own custom log4j properties file (e.g. using the "log4jprops" option), you'll need to remake those customization using the version 2 syntax.

Customization changes should be made to the copy of **sl.log4j.properties** in the **projects** directory, instead of the copy under **rtvapm\common\conf** in order to make it easier to upgrade to future releases.

Note that the default logging behavior has been changed: In this release by default messages are appended to the existing **logs/X.log** file (where X is "dataserver", or "historian", etc depending on the name of the server) until it reaches a size of 50MB. Then it is renamed to X.log.N (where N = 1 - 9) and a new empty X.log file is created. So at any time the logs directory may contain X.log (newest, up to 50MB in size), and X.log.N where N = 1 - 9, each approx 50 MB, where 1 is the oldest and 9 is the newest. Once N = 9 is reached, on the next rollover X.log.1 is deleted and each remaining X.log.N is renamed to X.log.N-1.

SNMP Notifications

If you are upgrading from a previous release that sent SNMP notifications, you need to update the MIB in your SNMP receiver. The MIB definition in **rtvapm\common\lib\SL-RTVIEW-EM-MIB.txt** has changed to include a new field for this.

Alert Notification

In previous releases, any notification other than executing the **my_alert_actions** scripts had to be configured on the **CUSTOM PROPERTIES** tab of the RTView Configuration Application. If you are running a project configured with a previous release that has alert notifications defined in the **CUSTOM PROPERTIES** tab, they will continue to work as they did before with

no changes. However, if you want to use the new **Alert Notification** configuration page, you will need to first delete the **CUSTOM PROPERTIES** for alert notifications, then recreate them in the **Alert Notification** page. Otherwise, the **CUSTOM PROPERTIES** will override the settings in the **Alert Notification** page.

Admin Displays (HTML UI)

For improved security the following displays have been moved from **assets/packages/common** to **assets/packages/admin**:

- Alert Administration (rtv_alerts_admin_table.html)
- Alert Overrides Admin (rtv_alerts_admin_overrides.html)
- Component Alert Configuration (rtv_alerts_admin_detail.html)

Any existing browser bookmarks to those displays should be updated or recreated.

Project Directory Structure

1. Copy ***.properties** and ***.properties.json** from your old project directory to the **projects\rtview-server** directory.
2. If you modified the **rtvservers.dat** in your old project, make the same changes to **projects\rtview-server\rtvservers.dat**.
3. If you are not using jetty, deploy the **.war** files from **projects\rtview-server** to your application server.
4. If you are using Jetty, open **project.properties** and **project.properties.json** in a text editor and replace **../../webapps/** with **./** in all war file paths in both files.
5. Use the top level **start/stop/status** scripts to start, stop and check the status of your monitor processes.

Version 7.0

No upgrade steps required.

Version 6.8

Property File Handling and the RTView Configuration Application

Property file handling has been modified in order to support the [RTView 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.

In previous releases, each sample project defined its own ports, sender target, and server identification properties. These properties have been removed from the sample properties and should be defined in the project properties instead. Sample projects have been updated to include these properties. Upward compatibility support is included for projects created prior to 6.8. In 6.8, 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 versions in the **rtview.properties** file. Therefore, projects created with previous versions will continue to run with no modifications. However, projects containing an **rtview.properties** file cannot be configured using the new RTView Configuration Application.

There are three options for merging properties from a previous version into the new version:

- The first option is to use the RTView Configuration Application to reapply the settings. If you have a lot of connections, this is not very practical but, if you only have a few, it could be worthwhile since you will be able to use the RTView Configuration Application for everything moving forward. To do this, run the new version, open the RTView Configuration Application, and apply all configurations that were part of your previous project. See [Configuration](#) for more information on how to configure your project using the RTView Configuration Application.
 - The second option is to use your old properties files instead of the RTView Configuration Application. This has the downside that you cannot use the RTView Configuration Application moving forward. To do this, do the following in the sample project directory
 1. Copy the properties files from the old project directory into the new project directory, including the old **rtview.properties**.
 2. Remove the **project.properties** and **project.properties.json** from the new project directory.
 3. 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, which has the benefit of allowing you to use the RTView Configuration Application without having to re-enter all of your connections.
1. Copy the properties files from the old project directory into the new project directory. Do NOT copy the old **rtview.properties** into the new project directory.
 2. Edit the properties file you just copied over to comment out or remove all non-connection properties.
 3. Run the new project and use the RTView Configuration Application to apply all settings from your previous project except connections. See [Configuration](#) for more information on how to configure your solution package servers using the RTView Configuration Application.
 4. Add your properties files from step 2 to the appropriate lines in **servers\rtvservers.dat**.
 5. Moving forward, new connections can be added via the RTView Configuration Application or by hand editing the properties file from step 2, whichever is more convenient. However, only connections added via the RTView Configuration Application will be editable in the RTView Configuration Application.

Note: The following files are read and written by the Configuration Application and should never be manually edited: **project.properties** and **project.properties.json**.

Version 6.7

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:

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

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

would be changed to

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

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

**sender.sl.rtvview.cache.config=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 6.6

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 6.5

No upgrade steps required.

Version 6.4

No upgrade steps required.

Version 6.3

The types of several rate metrics were converted to real numbers to account for the loss of resolution when compaction (by averaging the metrics) occurred.

Follow the appropriate alter table SQL syntax to apply the change to your supported DB platforms (Oracle not needed).

DB2

```
ALTER TABLE "EMS_CONSUMERS"
ALTER COLUMN "consumerByteRate" SET DATA TYPE DOUBLE;
ALTER TABLE "EMS_CONSUMERS"
```



```
ALTER COLUMN "consumerMessageRate" SET DATA TYPE DOUBLE;

ALTER TABLE "EMS_DURABLES"
ALTER COLUMN "pendingMessageCount" SET DATA TYPE DOUBLE;
ALTER TABLE "EMS_DURABLES"
ALTER COLUMN "pendingMessageSize" SET DATA TYPE DOUBLE;

ALTER TABLE "EMS_PRODUCERS"
ALTER COLUMN "producerByteRate" SET DATA TYPE DOUBLE;
ALTER TABLE "EMS_PRODUCERS"
ALTER COLUMN "producerMessageRate" SET DATA TYPE DOUBLE;

ALTER TABLE "EMS_QUEUETOTALS"
ALTER COLUMN "inboundByteRate" SET DATA TYPE DOUBLE;
ALTER TABLE "EMS_QUEUETOTALS"
ALTER COLUMN "inboundMessageRate" SET DATA TYPE DOUBLE;
ALTER TABLE "EMS_QUEUETOTALS"
ALTER COLUMN "outboundByteRate" SET DATA TYPE DOUBLE;
ALTER TABLE "EMS_QUEUETOTALS"
ALTER COLUMN "outboundMessageRate" SET DATA TYPE DOUBLE;
ALTER TABLE "EMS_QUEUETOTALS"
ALTER COLUMN "pendingMessageCount" SET DATA TYPE DOUBLE;
ALTER TABLE "EMS_QUEUETOTALS"
ALTER COLUMN "pendingMessageSize" SET DATA TYPE DOUBLE;

ALTER TABLE "EMS_QUEUES"
ALTER COLUMN "inboundByteRate" SET DATA TYPE DOUBLE;
ALTER TABLE "EMS_QUEUES"
ALTER COLUMN "inboundMessageRate" SET DATA TYPE DOUBLE;
ALTER TABLE "EMS_QUEUES"
ALTER COLUMN "outboundByteRate" SET DATA TYPE DOUBLE;
ALTER TABLE "EMS_QUEUES"
ALTER COLUMN "outboundMessageRate" SET DATA TYPE DOUBLE;
ALTER TABLE "EMS_QUEUES"
ALTER COLUMN "pendingMessageCount" SET DATA TYPE DOUBLE;
ALTER TABLE "EMS_QUEUES"
ALTER COLUMN "pendingMessageSize" SET DATA TYPE DOUBLE;

ALTER TABLE "EMS_ROUTES"
```

```
ALTER COLUMN "outboundByteRate" SET DATA TYPE DOUBLE;
ALTER TABLE "EMS_ROUTES"
ALTER COLUMN "outboundMessageRate" SET DATA TYPE DOUBLE;
ALTER TABLE "EMS_ROUTES"
ALTER COLUMN "inboundByteRate" SET DATA TYPE DOUBLE;
ALTER TABLE "EMS_ROUTES"
ALTER COLUMN "inboundMessageRate" SET DATA TYPE DOUBLE;

ALTER TABLE "EMS_SERVERINFO"
ALTER COLUMN "inboundBytesRate" SET DATA TYPE DOUBLE;
ALTER TABLE "EMS_SERVERINFO"
ALTER COLUMN "inboundMessageRate" SET DATA TYPE DOUBLE;
ALTER TABLE "EMS_SERVERINFO"
ALTER COLUMN "outboundBytesRate" SET DATA TYPE DOUBLE;
ALTER TABLE "EMS_SERVERINFO"
ALTER COLUMN "outboundMessageRate" SET DATA TYPE DOUBLE;
ALTER TABLE "EMS_SERVERINFO"
ALTER COLUMN "pendingMessageCount" SET DATA TYPE DOUBLE;
ALTER TABLE "EMS_SERVERINFO"
ALTER COLUMN "pendingMessageSize" SET DATA TYPE DOUBLE;

ALTER TABLE "EMS_TOPICTOTALS"
ALTER COLUMN "inboundByteRate" SET DATA TYPE DOUBLE;
ALTER TABLE "EMS_TOPICTOTALS"
ALTER COLUMN "inboundMessageRate" SET DATA TYPE DOUBLE;
ALTER TABLE "EMS_TOPICTOTALS"
ALTER COLUMN "outboundByteRate" SET DATA TYPE DOUBLE;
ALTER TABLE "EMS_TOPICTOTALS"
ALTER COLUMN "outboundMessageRate" SET DATA TYPE DOUBLE;
ALTER TABLE "EMS_TOPICTOTALS"
ALTER COLUMN "pendingMessageCount" SET DATA TYPE DOUBLE;
ALTER TABLE "EMS_TOPICTOTALS"
ALTER COLUMN "pendingMessageSize" SET DATA TYPE DOUBLE;

ALTER TABLE "EMS_TOPICS"
ALTER COLUMN "inboundByteRate" SET DATA TYPE DOUBLE;
ALTER TABLE "EMS_TOPICS"
ALTER COLUMN "inboundMessageRate" SET DATA TYPE DOUBLE;
ALTER TABLE "EMS_TOPICS"
```

```
ALTER COLUMN "outboundByteRate" SET DATA TYPE DOUBLE;
ALTER TABLE "EMS_TOPICS"
ALTER COLUMN "outboundMessageRate" SET DATA TYPE DOUBLE;
ALTER TABLE "EMS_TOPICS"
ALTER COLUMN "pendingMessageCount" SET DATA TYPE DOUBLE;
ALTER TABLE "EMS_TOPICS"
ALTER COLUMN "pendingMessageSize" SET DATA TYPE DOUBLE;
```

SQL Server

```
ALTER TABLE [EMS_CONSUMERS]
ALTER COLUMN [consumerByteRate] FLOAT
ALTER TABLE [EMS_CONSUMERS]
ALTER COLUMN [consumerMessageRate] FLOAT
```

```
ALTER TABLE [EMS_DURABLES]
ALTER COLUMN [pendingMessageCount] FLOAT
ALTER TABLE [EMS_DURABLES]
ALTER COLUMN [pendingMessageSize] FLOAT
```

```
ALTER TABLE [EMS_PRODUCERS]
ALTER COLUMN [producerByteRate] FLOAT
ALTER TABLE [EMS_PRODUCERS]
ALTER COLUMN [producerMessageRate] FLOAT
```

```
ALTER TABLE [EMS_QUEUETOTALS]
ALTER COLUMN [inboundByteRate] FLOAT
ALTER TABLE [EMS_QUEUETOTALS]
ALTER COLUMN [inboundMessageRate] FLOAT
ALTER TABLE [EMS_QUEUETOTALS]
ALTER COLUMN [outboundByteRate] FLOAT
ALTER TABLE [EMS_QUEUETOTALS]
ALTER COLUMN [outboundMessageRate] FLOAT
ALTER TABLE [EMS_QUEUETOTALS]
ALTER COLUMN [pendingMessageCount] FLOAT
ALTER TABLE [EMS_QUEUETOTALS]
ALTER COLUMN [pendingMessageSize] FLOAT
```

```
ALTER TABLE [EMS_QUEUES]
ALTER COLUMN [inboundByteRate] FLOAT
ALTER TABLE [EMS_QUEUES]
```

```
ALTER COLUMN [inboundMessageRate] FLOAT
ALTER TABLE [EMS_QUEUES]
ALTER COLUMN [outboundByteRate] FLOAT
ALTER TABLE [EMS_QUEUES]
ALTER COLUMN [outboundMessageRate] FLOAT
ALTER TABLE [EMS_QUEUES]
ALTER COLUMN [pendingMessageCount] FLOAT
ALTER TABLE [EMS_QUEUES]
ALTER COLUMN [pendingMessageSize] FLOAT
```

```
ALTER TABLE [EMS_ROUTES]
ALTER COLUMN [outboundByteRate] FLOAT
ALTER TABLE [EMS_ROUTES]
ALTER COLUMN [outboundMessageRate] FLOAT
ALTER TABLE [EMS_ROUTES]
ALTER COLUMN [inboundByteRate] FLOAT
ALTER TABLE [EMS_ROUTES]
ALTER COLUMN [inboundMessageRate] FLOAT
```

```
ALTER TABLE [EMS_SERVERINFO]
ALTER COLUMN [inboundBytesRate] FLOAT
ALTER TABLE [EMS_SERVERINFO]
ALTER COLUMN [inboundMessageRate] FLOAT
ALTER TABLE [EMS_SERVERINFO]
ALTER COLUMN [outboundBytesRate] FLOAT
ALTER TABLE [EMS_SERVERINFO]
ALTER COLUMN [outboundMessageRate] FLOAT
ALTER TABLE [EMS_SERVERINFO]
ALTER COLUMN [pendingMessageCount] FLOAT
ALTER TABLE [EMS_SERVERINFO]
ALTER COLUMN [pendingMessageSize] FLOAT
```

```
ALTER TABLE [EMS_TOPICTOTALS]
ALTER COLUMN [inboundByteRate] FLOAT
ALTER TABLE [EMS_TOPICTOTALS]
ALTER COLUMN [inboundMessageRate] FLOAT
ALTER TABLE [EMS_TOPICTOTALS]
ALTER COLUMN [outboundByteRate] FLOAT
ALTER TABLE [EMS_TOPICTOTALS]
```

```
ALTER COLUMN [outboundMessageRate] FLOAT
ALTER TABLE [EMS_TOPICTOTALS]
ALTER COLUMN [pendingMessageCount] FLOAT
ALTER TABLE [EMS_TOPICTOTALS]
ALTER COLUMN [pendingMessageSize] FLOAT
```

```
ALTER TABLE [EMS_TOPICS]
ALTER COLUMN [inboundByteRate] FLOAT
ALTER TABLE [EMS_TOPICS]
ALTER COLUMN [inboundMessageRate] FLOAT
ALTER TABLE [EMS_TOPICS]
ALTER COLUMN [outboundByteRate] FLOAT
ALTER TABLE [EMS_TOPICS]
ALTER COLUMN [outboundMessageRate] FLOAT
ALTER TABLE [EMS_TOPICS]
ALTER COLUMN [pendingMessageCount] FLOAT
ALTER TABLE [EMS_TOPICS]
ALTER COLUMN [pendingMessageSize] FLOAT
```

MySQL

```
ALTER TABLE "EMS_CONSUMERS"
MODIFY "consumerByteRate" DOUBLE ,
MODIFY "consumerMessageRate" DOUBLE ;
```

```
ALTER TABLE "EMS_DURABLES"
MODIFY "pendingMessageCount" DOUBLE ,
MODIFY "pendingMessageSize" DOUBLE ;
```

```
ALTER TABLE "EMS_PRODUCERS"
MODIFY "producerByteRate" DOUBLE ,
MODIFY "producerMessageRate" DOUBLE ;
```

```
ALTER TABLE "EMS_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 ,  
MODIFY "pendingMessageSize" DOUBLE ;
```


CHAPTER 3 Configuration

This section provides step-by-step instructions for configuring EMS Monitor. You configure EMS Monitor by using the RTView Configuration Application to define properties and by executing scripts. Property files are located in your project directory. Example default settings are provided in the **rtvpm/emsmon/projects/sample** directory. For details about properties, see [“Monitor Properties”](#). For details about scripts, see [Monitor Scripts](#).

This section includes:

- [“Overview” on page 28](#)
- [“Configuring Data Collection” on page 29](#)
- [“Configure the Database” on page 36](#)
- [“Configuring Collection of Historical Data” on page 40](#)
- [Configure Alert Notification](#)
- [“Configure High Availability ” on page 49](#)
- [“Property Editor REST API” on page 54](#)

Overview

This section describes how to configure the Monitor as a standalone application. Most of the configurations in this section are defined in the RTView Configuration Application. See [RTView Configuration Application](#) for more information.

Basic Steps

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

- Step 1 (required): [Configuring Data Collection](#). Define the TIBCO EMS Servers, Queues, and Topics to be monitored, as well as optionally enabling collection of Producers, Consumers, and Connections in your [project directory](#). This step must be performed before running any deployment of the Monitor.
- Step 2 (optional): [Configure the Database](#). The Monitor is delivered with a default memory resident HSQLDB database, which is suitable for evaluation purposes. However, in production deployments, we recommend that you deploy one of our supported databases. For details, see the RTView Core® User’s Guide. Configure a production database.
- Step 3(optional): [Configuring Collection of Historical Data](#). Configure a production database.
- Step 4(optional): [Configure Alert Notification](#). Configure alerts to execute an automated action (for example, to send an email alert).
- Step 5(optional): [Configure High Availability](#) . Configure redundant system components with failover capability.

Assumptions

This document assumes that:

- you installed the Monitor per instructions in [Installation](#) .
- you use the configuration files provided and retain their file names. If you change a **.properties** file name, you must specify the name on the command line.

Configuring 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.

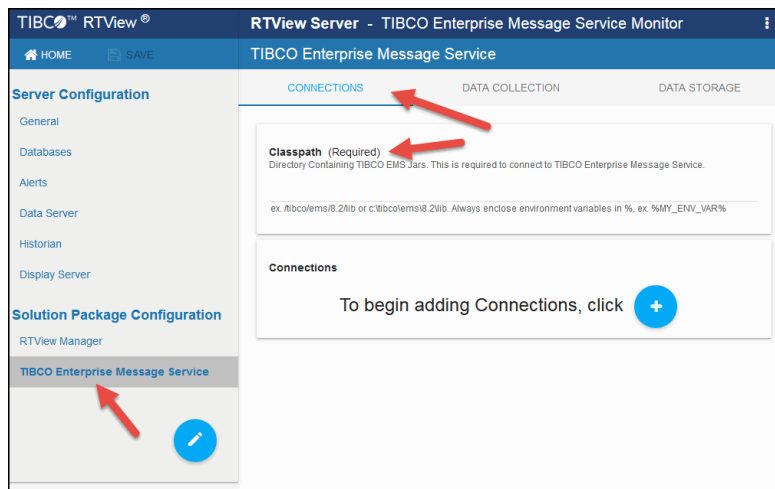
Note: For changes made in the RTView Configuration Application to take place, you must restart your data server after making and saving your changes.

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.




3. Click the  icon.
The **Add Connection** dialog displays.

- 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.

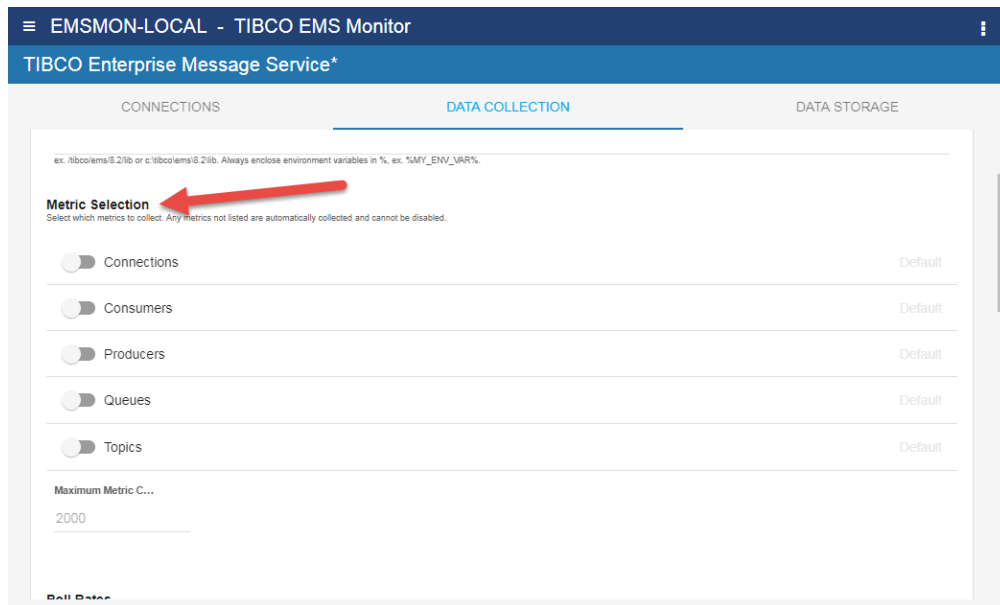
Username: The username is used when creating the connection to the EMS Server. This field is optional.

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  icon to view the password text.

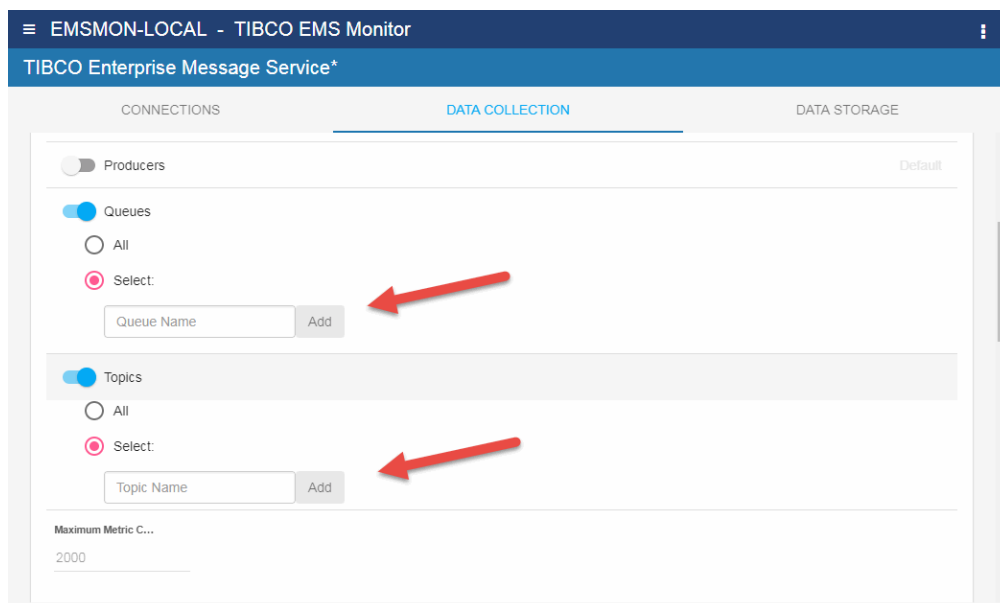
- Repeat steps 3-4 for each EMS Server to be monitored.

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).

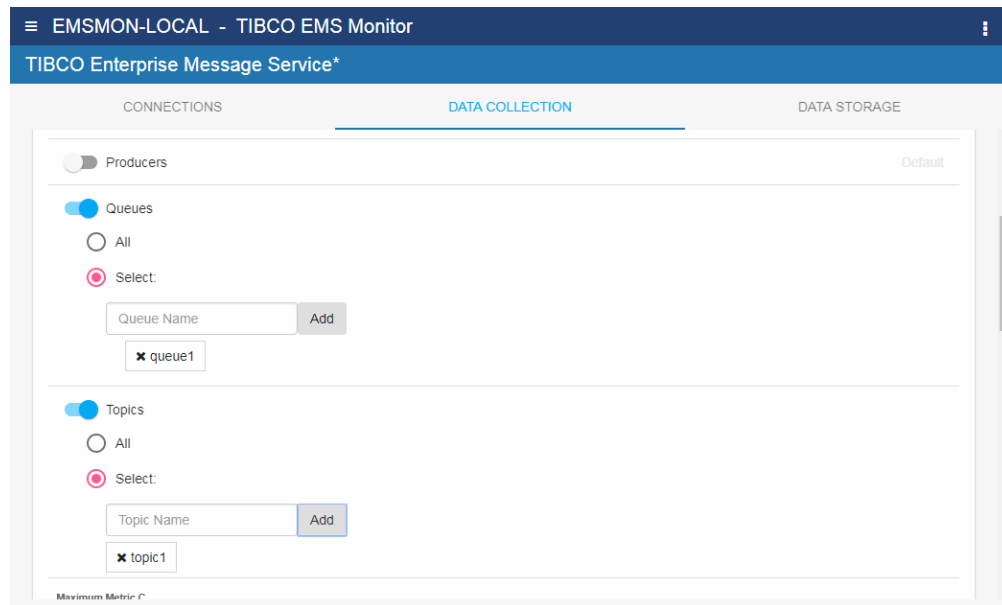
- By default, collecting connections, producers, consumers, queues, and topics data is disabled. To enable collecting connections, producers, consumers, queues, and topics data, navigate to the RTView Configuration Application > (**Project Name**) > **Solution Package Configuration** > **TIBCO Enterprise Message Service** > **DATA COLLECTION** tab > **Metric Selection** section and enable the metrics for which you want to collect data.



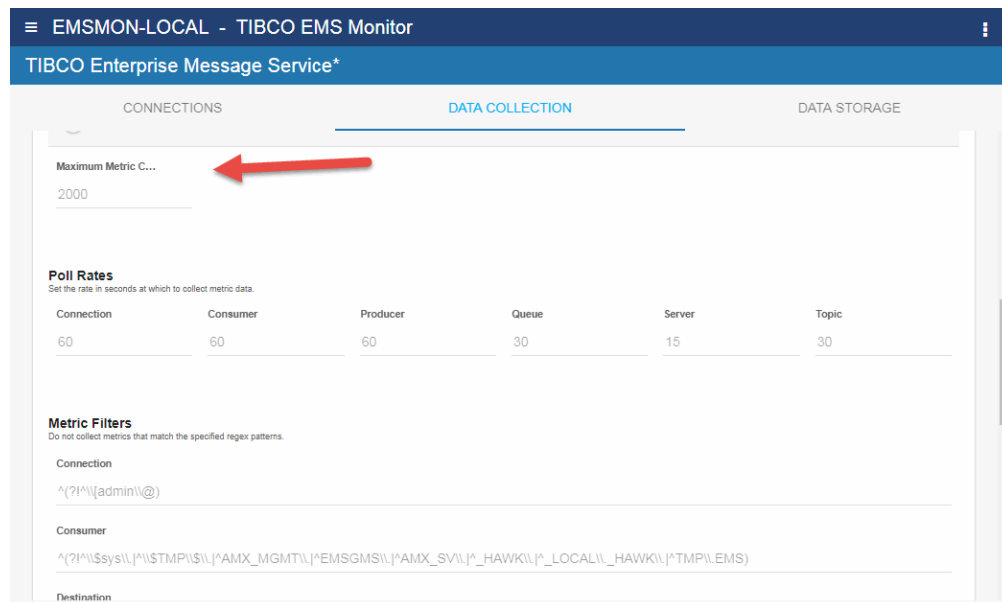
- When enabling topics and queues, if you want to limit specific topics and queues monitored (rather than monitoring all topics and queues for all defined and auto-discovered servers), click the **Select** option, specify the queues and topics that you want to monitor in the associated text entry box, and click **Add**. Repeat the process for each queue/topic you want to monitor.



Newly added queues and topics are listed beneath the text entry field. Click the **x** next to the queue/topic to remove the queue/topic.



8. 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.



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:

EMSMON-LOCAL - TIBCO EMS Monitor

TIBCO Enterprise Message Service*

CONNECTIONS DATA COLLECTION DATA STORAGE

Poll Rates
Set the rate in seconds at which to collect metric data.

Connection	Consumer	Producer	Queue	Server	Topic
60	60	60	30	15	30

Metric Filters
Do not collect metrics that match the specified regex patterns.

Connection
^(?!.*admin@)

Consumer
^(?!.*\$sys\$|.*\$TMP\$|.*AMX_MGMT\$|.*EMSGMS\$|.*AMX_SV\$|.*_HAWK\$|.*_LOCAL\$|.*_HAWK\$|.*TMP\$.EMS)

Destination
^(?!.*\$sys\$|.*\$TMP\$|.*AMX_MGMT\$|.*EMSGMS\$|.*AMX_SV\$|.*_HAWK\$|.*_LOCAL\$|.*_HAWK\$|.*TMP\$.EMS)

Producer
^(?!.*\$sys\$|.*\$TMP\$|.*AMX_MGMT\$|.*EMSGMS\$|.*AMX_SV\$|.*_HAWK\$|.*_LOCAL\$|.*_HAWK\$|.*TMP\$.EMS)

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:

EMSMON-LOCAL - TIBCO EMS Monitor

TIBCO Enterprise Message Service*

CONNECTIONS DATA COLLECTION DATA STORAGE

Poll Rates
Set the rate in seconds at which to collect metric data.

Connection	Consumer	Producer	Queue	Server	Topic
60	60	60	30	15	30

Metric Filters
Do not collect metrics that match the specified regex patterns.

Connection
^(?!.*admin@)

Consumer
^(?!.*\$sys\$|.*\$TMP\$|.*AMX_MGMT\$|.*EMSGMS\$|.*AMX_SV\$|.*_HAWK\$|.*_LOCAL\$|.*_HAWK\$|.*TMP\$.EMS)

Destination
^(?!.*\$sys\$|.*\$TMP\$|.*AMX_MGMT\$|.*EMSGMS\$|.*AMX_SV\$|.*_HAWK\$|.*_LOCAL\$|.*_HAWK\$|.*TMP\$.EMS)

Producer
^(?!.*\$sys\$|.*\$TMP\$|.*AMX_MGMT\$|.*EMSGMS\$|.*AMX_SV\$|.*_HAWK\$|.*_LOCAL\$|.*_HAWK\$|.*TMP\$.EMS)

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:

The screenshot shows the 'TIBCO Enterprise Message Service' configuration page in the 'EMSMON-LOCAL - TIBCO EMS Monitor' application. The 'DATA COLLECTION' tab is active, and the 'Poll Rates' section is expanded. A table lists poll rates for various metrics:

Connection	Consumer	Producer	Queue	Server	Topic
60	60	60	30	15	30

A red arrow points to the 'Server' value of 15. Below the table, the 'Metric Filters' section is visible, showing regex patterns for Connection, Consumer, Destination, and Producer.

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.

- 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.

The screenshot shows the 'Metric Filters' section in the 'TIBCO Enterprise Message Service' configuration page. It displays regex patterns for various metrics:

- Connection:** `^(?!admin@)`
- Consumer:** `^(?!\\$sys\\|\\$TMP\\|\\$AMX_MGMT\\|\\$EMSGMS\\|\\$AMX_SV\\|\\$HAWK\\|\\$LOCAL\\|\\$HAWK\\|\\$TMP\\|\\$EMS)`
- Destination:** `^(?!\\$sys\\|\\$TMP\\|\\$AMX_MGMT\\|\\$EMSGMS\\|\\$AMX_SV\\|\\$HAWK\\|\\$LOCAL\\|\\$HAWK\\|\\$TMP\\|\\$EMS)`
- Producer:** `^(?!\\$sys\\|\\$TMP\\|\\$AMX_MGMT\\|\\$EMSGMS\\|\\$AMX_SV\\|\\$HAWK\\|\\$LOCAL\\|\\$HAWK\\|\\$TMP\\|\\$EMS)`
- Queue:** `^(?!\\$sys\\|\\$TMP\\|\\$AMX_MGMT\\|\\$EMSGMS\\|\\$AMX_SV\\|\\$HAWK\\|\\$LOCAL\\|\\$HAWK\\|\\$TMP\\|\\$EMS)`
- Topic:** `^(?!\\$sys\\|\\$TMP\\|\\$AMX_MGMT\\|\\$EMSGMS\\|\\$AMX_SV\\|\\$HAWK\\|\\$LOCAL\\|\\$HAWK\\|\\$TMP\\|\\$EMS)`

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

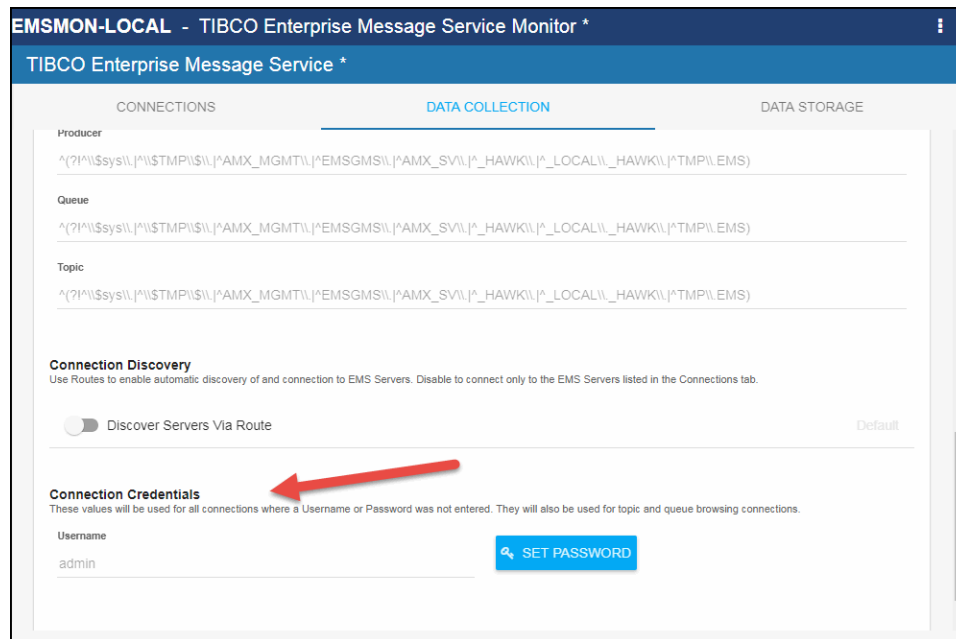
|^(?!.*(admin\|@))

[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.

The screenshot shows the configuration interface for TIBCO Enterprise Message Service. The 'DATA COLLECTION' tab is active. Under 'Connection Discovery', the 'Discover Servers Via Route' option is disabled, indicated by a red arrow. The 'Connection Credentials' section shows the 'Username' field populated with 'admin' and a 'SET PASSWORD' button.

- 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  icon to view the password text.



Configure the Database

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

This section describes how to setup an alternate (and supported) database.

Database Requirements

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

- **Alert Settings**

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

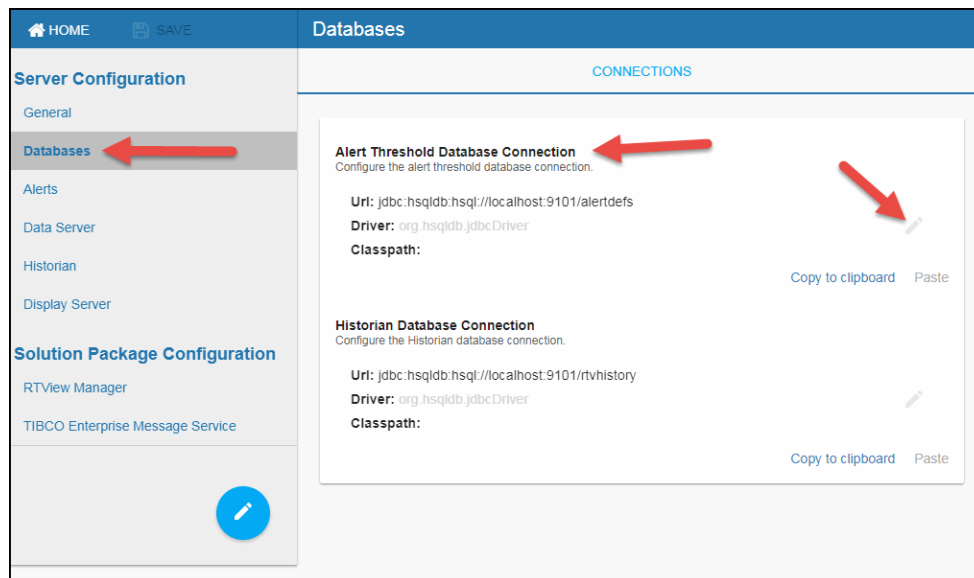
- **Historical Data**

The RTVHISTORY database contains the historical monitoring data to track system behavior for future analysis, and to show historical data in displays.

To Configure the Monitor Database:

You configure the database by defining database configurations in the RTView Configuration Application. You will also copy portions of the **database.properties** template file (located in the **common\dbconfig** directory) into the RTView Configuration Application.

1. Install a database engine of your choice. Supported database engines are Oracle, Microsoft SQL Server, MySQL, and DB2.
NOTE: The default page size of DB2 is 4k. It is required that you create a DB2 database with a page size of 8k. Otherwise, table indexes will not work.
2. Open the **database.properties** template file, which is located in the **common\dbconfig** directory, and find the line that corresponds to your supported database from the "Define the ALERTDEFS DB" section.
3. Navigate to the RTView Configuration Application > **(Project Name)** > **Server Configuration** > **Databases** > **Connections** tab, click the Edit icon in the **Alert Threshold Database Connection** region.

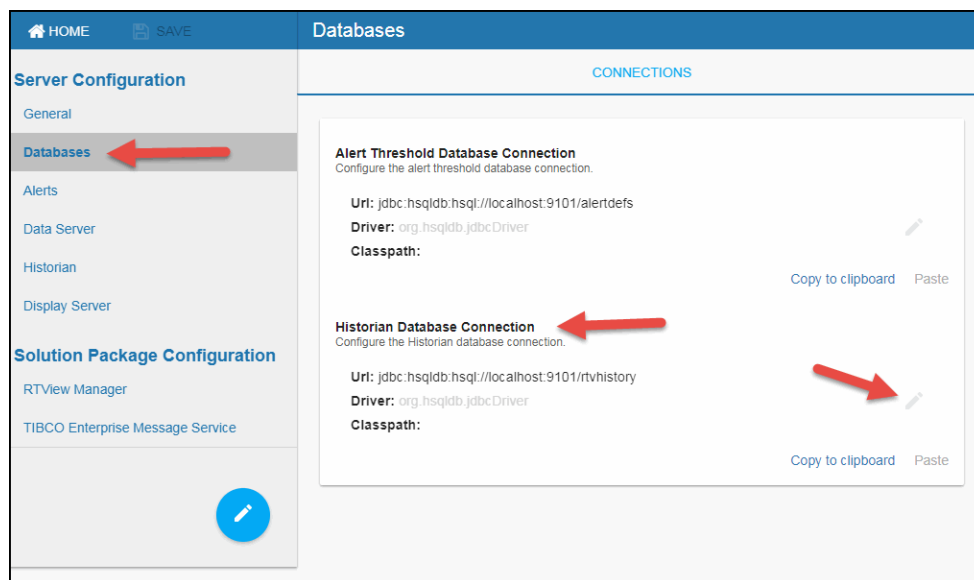


The **Edit Connection** dialog displays.

The 'Edit Connection' dialog box is shown with the following fields and options:

- URL:** jdbc:hsqldb:hsqldb://localhost:9101/alertdefs
- Driver:** org.hsqldb.jdbcDriver
- Classpath:** (empty field)
- Username:** sa
- Password:** (password field with a toggle icon)
- Run Queries Concurrently
- Buttons:** SAVE, CANCEL

4. Enter the information from Step 3 into the **Edit Connection** dialog and click **Save**.
 - URL** - Enter the full database URL to use when connecting to this database using the specified JDBC driver.
 - Driver** - Enter the fully qualified name of the JDBC driver class to use when connecting to this database.
 - Classpath** - Enter the classpath for the JDBC driver file.
 - Username** - Enter the username to enter into this database when making a connection.
 - Password** - Enter the password to enter into this database when making a connection. If there is no password, use "".
 - Run Queries Concurrently** - Select this check box to run database queries concurrently.
5. Go back to the **database.properties** template file, which is located in the **common\dbconfig** directory, and find the line that corresponds to your supported database from the "Define the RTVHISTORY DB" section.
6. Navigate to the RTView Configuration Application > **(Project Name)** > **Server Configuration** > **Databases**, and click the Edit icon in the **Historian Database Connection** region.



The **Edit Connection** dialog displays.

7. Enter the information from Step 6 into the **Edit Connection** dialog and click **Save**.

URL - Enter the full database URL to use when connecting to this database using the specified JDBC driver.

Driver - Enter the fully qualified name of the JDBC driver class to use when connecting to this database.

Classpath - Enter the classpath for the JDBC driver file.

Username - Enter the username to enter into this database when making a connection.

Password - Enter the password to enter into this database when making a connection. If there is no password, use "-".

Run Queries Concurrently - Select this check box to run database queries concurrently.

8. Manually create database tables. If your configured database user has table creation permissions, then you only need to create the Alerts tables. If your configured database user does not have table creation permission, then you must create both the Alert tables and the History tables.

To create tables for your database, use the **.sql** template files provided for each supported database platform, which is located in the **dbconfig** directory of the **common**, **emsmon** and **rtvmgr** directories:

- **Alerts**
`rtvapm/common/dbconfig/create_common_alertdefs_tables_<db>.sql`
- **History**
`rtvapm/emsmon/dbconfig/create_emsmon_history_tables_<db>.sql`
`rtvapm/rtvmgr/dbconfig/create_rtvmgr_history_tables_<db>.sql`
 where **<db>** = {**db2**, **mysql**, **oracle**, **sqlserver**}

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

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

- **Interactive SQL Tool**

Some database applications provide an interface where you can directly type SQL commands. Copy/paste the contents of the appropriate **.sql** file into this tool.

- **Import Interface**

Some database applications allow you to specify a **.sql** file containing SQL commands. You can use the **.sql** file for this purpose.

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

```
create database myDBName;
```

before loading the **.sql** file:

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

If you need to manually create the Historical Data tables, repeat the same process. In some cases it might also be necessary to split each of the table creation statements in the **.sql** file into individual files.

Third Party Application

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

You have finished configuring the databases. Proceed to Configure Alert Notification.

Configuring Collection 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.

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:

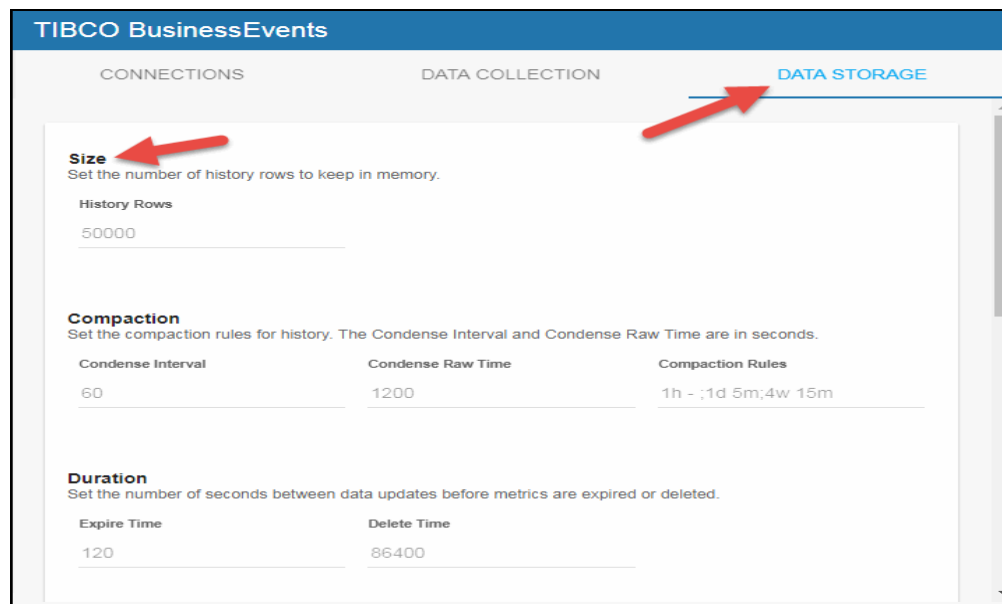
- [Defining the Storage of EMSMON In Memory History](#)
- [Defining Compaction Rules for EMSMON](#)
- [Defining Expiration and Deletion Duration for EMSMON Metrics](#)
- [Enabling/Disabling Storage of EMSMON Historical Data](#)
- [Defining a Prefix for All History Table Names for EMSMON Metrics](#)

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, EmsServerInfo, EmsProducers, EmsConsumers, EmsRoutes, and EmsDurables

caches. The **History Rows Large** property defines the maximum number of rows to store for the EmsQueues, EmsQueuesExt, EmsQueueTotalsByServer, EmsTopics, EmsTopicsExt, 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.



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.

The screenshot shows the TIBCO BusinessEvents configuration interface. The top navigation bar includes 'CONNECTIONS', 'DATA COLLECTION', and 'DATA STORAGE'. The 'DATA STORAGE' tab is active. The 'Compaction' section is highlighted with a red arrow. The 'Compaction Rules' field contains the text '1h - ;1d 5m;4w 15m'.

Condense Interval	Condense Raw Time	Compaction Rules
60	1200	1h - ;1d 5m;4w 15m

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, EmsQueuesExt, EmsQueueOutActivityTime, EmsBridges, EmsProducers, EmsConsumers, EmsDurables, EmsDestinations, EmsUsers, EmsConnections, EmsTopics, EmsTopicTotalsByServer,

EmsTopicInActivityTime, 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.

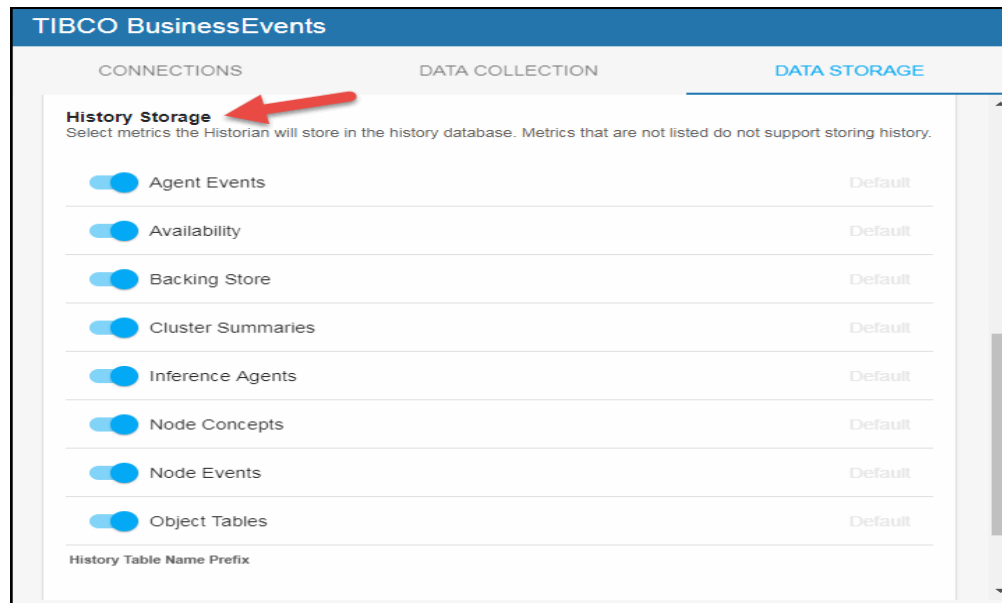
The screenshot shows the TIBCO BusinessEvents configuration interface. The top navigation bar includes 'CONNECTIONS', 'DATA COLLECTION', and 'DATA STORAGE'. The 'DATA STORAGE' tab is active. The main content area is divided into three sections:

- Size:** Set the number of history rows to keep in memory. History Rows: 50000.
- Compaction:** Set the compaction rules for history. The Condense Interval and Condense Raw Time are in seconds. Condense Interval: 60, Condense Raw Time: 1200, Compaction Rules: 1h - ;1d 5m;4w 15m.
- Duration:** Set the number of seconds between data updates before metrics are expired or deleted. Expire Time: 120, Delete Time: 86400. A red arrow points to the 'Duration' section header.

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.



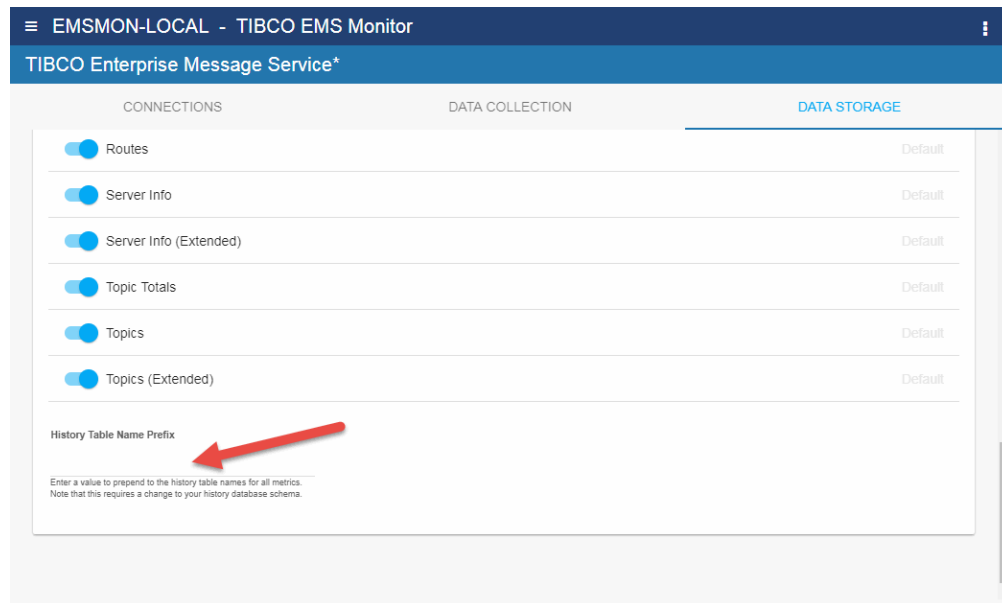
Defining a Prefix for All History Table Names for EMSMON Metrics

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.



Configure Alert Notification

This section describes how to configure alerts to execute an automated action (such as sending an email alert). To setup alert notification you select the event you want to notify on and then select the action to execute.

You set alerts to execute notifications based on the following events:

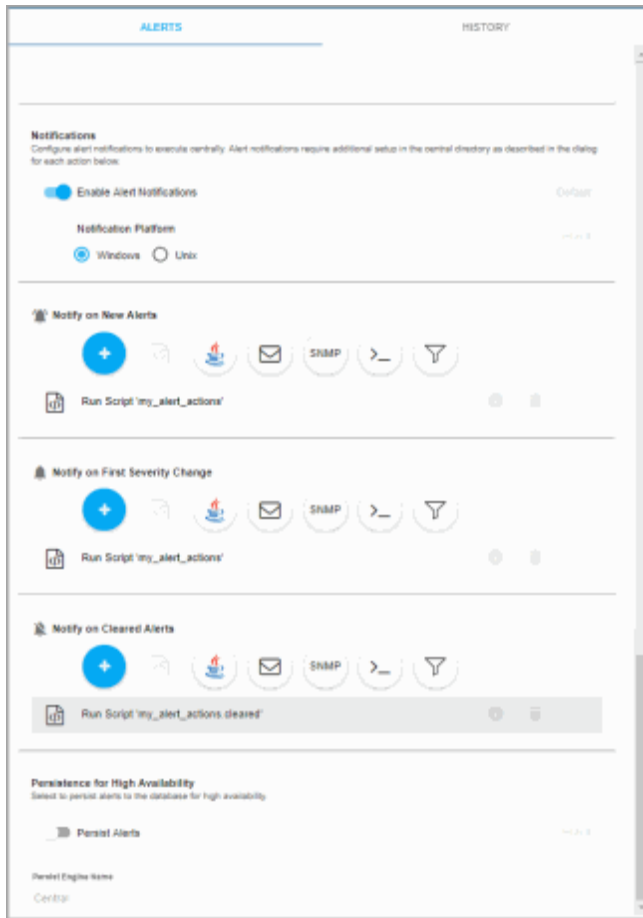
- when a new alert is created
- the first time the **Severity** level on an alert changes
- when an alert is cleared
- periodically renotify unacknowledged alerts

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-
X=alertIndex1~alertIndex2, ALERTID=1075, ALERTSEVERITY=2, ALERTTEXT=High Alert Limit
exceeded current value: 100.0 limit: 80.0 #####
```

To configure Alert Notification:

1. Open the RTView Configuration Application, select **Alerts** (in the navigation tree) and then the **Alerts** tab.



2. Toggle on **Enable Alert Notifications** and select the **Notification Platform** type (**Windows or Unix**).

3. Select an alert event that you want to notify on by clicking  next to the option.

Alert Event Options






- **Notify on New Alerts:** A notification is executed every time a new alert is created.
- **Notify on First Severity Change:** A notification is executed the first time the **Severity** changes for each alert.
- **Notify on Cleared Alerts:** A notification is executed every time an alert is cleared.
- **Periodically Renotify on Unacknowledged Alerts:** Enter the **Renotification Interval** (number of seconds). A notification is executed for each unacknowledged alert per the interval you specify here. If the Renotification Interval is greater than **0** and no actions are defined, the **New Alerts** action will be used for renotifications.

4. Select the alert action(s) you want to execute.


Alert Action Options



Run a Script

-  Execute Java Code
-  Add Email Notification
-  Send SNMP Trap
-  Run Command String
-  Conditional Filter

You can choose multiple actions.

5. Click **SAVE** to close the dialog and  (in title bar) to save your changes.
6. Some alert notification actions require additional setup as described in the dialog for each action. See the descriptions of each action below for details on the dialogs and additional setup for each action.
7. Click **RESTART SERVERS** to apply changes.

Run a Script

This alert notification action executes the following script in the **projects/rtview-server** directory for RTViewCentral and in the **projects/rtview-manager** directory for RTView Manager:

- **my_alert_actions.bat/sh** – New and First Severity Change
- **my_alert_actions.cleared.bat/sh** – Cleared
- **my_alert_actions.renotify.bat/sh** – Periodically Renotify

This action can only be added once per notification type. In addition to selecting this action in the Configuration Application, you must also modify the appropriate script to execute the actions for your notification. This script has access to the following fields from the alert: **Alert Name**, **Alert Index**, **ID**, **Alert Text** and **Severity**.

Return to [Alert Event Options](#).

Execute Java Code

This alert notification action allows you to implement your alert notification actions using Java code. It executes the **my_alert_notification.\$domainName.\$alertNotifyType.\$alertNotifyCol** command in your Custom Command Handler and passes the row from the alert table that corresponds to the alert.

This action can only be added once per notification type. In addition to selecting this action the Configuration Application you must also modify the custom command handler to execute the actions for your notification. A sample custom command handler is included under **projects/custom**. It prints the alert notification to the console. You will modify this command handler to implement your own notification actions.

Make the following entries:

- **Custom Command Handler Class Name:** Enter the fully qualified name of the Custom Command Handler class. This defaults to the sample Custom Command Handler in the **projects/custom** directory.
- **Custom Command Handler Jar:** Enter the path and name of the jar containing the Custom Command Handler class. The path may be absolute or relative to the location

of data server. This defaults to the sample Custom Command Handler in the **projects/custom** directory.

Note that if you can only have one custom command handler per Data Server, so changing these settings for one notification event will change them for the rest of the notification events.

Customizing the Custom Command Handler

The source for the Custom Command handler is provided in the **RtvApmCommandHandler.java** file, located in the **RTViewEnterpriseMonitor\projects\custom\src\com\sl\rtvapm\custom** directory. By default, the handler prints the alert data to standard output. To change this behavior perform the following steps:

1. Open the **RtvApmCommandHandler.java** file.
2. Modify the **OutputAlertString** method as needed. You can replace this method with your own if you modify the **invokeCommand** method to call it, and your method accepts the same arguments as **OutputAlertString**.
3. Save the **RtvApmCommandHandler.java** file.
4. Compile **RtvApmCommandHandler.java** and rebuild **rtvapm_custom.jar** using the supplied script (**make_all.bat** or **make_all.sh**) in **projects\custom\src** directory.

Return to [Alert Event Options](#).

Add Email Notification

This alert notification action sends an email. This action can be added multiple times per notification type. No additional setup is required beyond filling in the **Add Email Notification** dialog in the Configuration Application.

Make the following entries:

- **SMTP Host:** The SMTP host address. This is required. Consult your administrator.
- **SMTP Port:** The SMTP port number. This is required. Consult your administrator.
- **From:** The email address from which to send the email. This is required.
- **To:** The email address to which to send the email. This is required and may contain multiple entries.
- **Subject:** The subject for the email. This is required. You can include the value from any column in the alert table in your subject. Click **Insert \$alert<Value>** and select one or more applicable alert value(s).
- **Body:** The body of the email. This is optional. Click **Insert \$alert<Value>** and select one or more applicable alert value(s).
- **User:** The user name for the account from which you are sending the email. This is optional.
- **Password:** The password for the account from which you are sending the email. This is optional.

Return to [Alert Event Options](#).

Send SNMP Trap

This alert notification action sends an SNMP Trap as described in **rtvapm/common/lib/SL-RTVIEW-EM-MIB.txt**. This action can be added multiple times per notification type. No additional setup is

required beyond filling in the **Add SNMP Trap Notification** dialog in the Configuration Application.

Make the following entries:

- **Trap Type:** Select the SNMP version of the trap. This is required.
- **Destination Address:** The system name or IP address of the receiving system. This is required.
- **Destination Port:** The UDP port on the receiving system. This is required.
- **Community Name:** (This field is visible when **Trap Type v2/v3** is selected.) The SNMP v2 Community Name string. This is required.

Return to [Alert Event Options](#).

Run Command String

This alert notification action executes a specified command. This action can be added multiple times per notification type. Make the following entry:

Command String: Enter the command string for any command supported by RTView. To enter a command string, you must know the correct syntax for the command. Contact Technical Support for assistance on syntax. You can include the value from any column in the alert table using the syntax in the Show More link at the bottom of the dialog.

Return to [Alert Event Options](#).

Conditional Filter

This alert notification action alert allows you to execute different actions for different alerts based on information in the alert. For example, you can configure EMS alerts to send emails to your EMS team and Solace alerts to send emails to your Solace team. This action can be added multiple times per notification type.

To create a condition, make the following entries:

- **Alert Field:** Select an alert field: **Alert Name, Alert Index, Category, CI Name, Owner, Package, Primary Service** or **Severity**. This is required.
- **Operator:** Select one - **EQUALS, DOES NOT EQUAL, STARTS WITH, ENDS WITH** or **CONTAINS**. This is required.
- **Value:** Enter the value to which to compare the Alert Field. Cannot contain wildcard characters. This is required.
- **Action(s):** Select one or more actions to execute when this condition is met - [Run a Script](#) , [Execute Java Code](#) , [Send SNMP Trap](#) , [Add Email Notification](#) or [Run Command String](#).

Return to [Alert Event Options](#).

Configure High Availability

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

When using HA, components are designated **PRIMARY** and **BACKUP**. If the **PRIMARY** component fails, failover occurs to the **BACKUP** component. If the **PRIMARY** component is subsequently restarted, the **BACKUP** component allows the newly restarted component to take the primary role and return to its backup role.

This section contains the following:

- [Overview of High Availability Architecture](#)
- [Requirements for Configuring High Availability](#)
- [Steps for Configuring High Availability](#)
- [Verifying the High Availability Configuration](#)

Overview of High Availability Architecture

Data Server High Availability

The primary and backup data servers connect to each other via socket. If the primary data server stops, then the backup server takes over. If the primary then comes back online, then the primary takes over again and the backup returns to standby mode. The data client connections will move between the two servers accordingly.

NOTE: Be aware that data clients can connect to the standby server using a non-fault tolerant URL and still get data because of a proxy feature where the standby server forwards data requests to the primary server. This can be confusing when you use the HTML Cache Viewer (**<http://localhost:3170/common>**) on the standby server to view cache contents because it looks like the standby server caches are updating, but you are really viewing the data in the primary server and not in the standby server.

Display Server High Availability (Classic User Interface)

In display server deployments, the primary display server and backup display server do not connect to each other. The `rtvdisplay` servlet is configured to connect first to the primary and, if that fails, it tries to connect to the backup. At any point, if the one it is connected to becomes unavailable, then it will try to connect to the other. You can configure whether to have the `rtvdisplay` server connect back to the primary server when it comes back online or stay connected to the backup server until it goes offline.

HTML User Interface High Availability

The HTML UI client connects to the data server via an HA configured `rtvquery` servlet.

Historian High Availability

The primary and backup historian connect to each other via socket. If the primary historian stops, then the backup takes over. If the primary historian comes back online, then the primary takes over again and the backup returns to standby mode. Only the active historian writes to the database.

The historian is a data client of the data server and connects to it via a fault tolerant URL (socket only), which means that the data servers and historians can fail over separately or together.

Requirements for Configuring High Availability

The following are minimum requirements for High Availability:

- Two host machines, one for the primary host and one for the backup host.
- Both hosts must be configured such that the RTView processes on each host can connect to each other via socket.
- Both hosts must be able to access:
 - the same data connections
 - the same historian database
 - the alert threshold database
- The RTView processes on both hosts must be able to run against identical properties files. In the case where drivers or other third party jars are located in different directories on the two hosts, create a directory in the same location in each host, copy the jar files into and reference that directory in your properties.
- Tomcat or other Application Server
 - The HTML UI and rtv servlets must be deployed on an application server other than the internal Jetty server. Note that this requires extra configuration of the servlet **.war** files in the application server.

Steps for Configuring High Availability

To Configure High Availability:

1. On both the primary and backup hosts, define the following environment variables:
 - **PRIMARYHOST** - the IP Address or hostname of the host running the primary servers (for example, **set PRIMARYHOST=MyHost**).
 - **BACKUPHOST** - the IP Address or hostname of the host running the backup servers (for example, **set BACKUPHOST=OtherHost**).
2. Install the Monitor on both the primary host and the backup host.
3. Configure your servlets to be HA and deploy them to your application server:
 - **cd projects\rtview-server**
 - In a text editor, open **update_wars(.bat or .sh)** and fill in the values for **HOST**, **HA_HOST**, **HA_DISPLAYHOST**, and **HA_FAILBACK** as described in the script.
 - Run the **update_wars(.sh or .bat)** script.
 - Copy the generated war files to the **webapps** directory of your application server.
4. To run High Availability, you must run the following from the command line:

Windows

- From the command line on the primary host, **cd** to **TIB_rtview-ems** and type **start_server -haprimary**.
- From the command line on the backup host, **cd** to **TIB_rtview-ems** and type **start_server -habackup**.

Unix

- From the command line on the primary host, **cd** to **TIB_rtview-ems** and type **start_server.sh -haprimary**.
- From the command line on the backup host, **cd** to **TIB_rtview-ems** and type **start_server.sh -habackup**.

5. Configure the Monitor on the primary host using the RTView Configuration Application (see [Quick Start](#) and [RTView Configuration Application](#) for more information on configuring the Monitor). Make sure to configure data collection, configure server options and databases, and enable alert persistence.

Note that the RTView Configuration Application must be able to connect both the primary and backup servers in order to enable editing. The same properties are saved to both servers. The **RESTART SERVERS** button (in the RTView Configuration Application) restarts both the primary and backup servers at the same time. If you want to stagger the restarts, use the scripts under **TIB_rtview-ems** to stop and then start your servers after making changes in the RTView Configuration Application.

Note: Jetty does not have to be disabled, but data clients will not be able to make high availability connections to the data server using the Jetty URL. However, the Jetty URL can still be used to configure the application.

Verifying the High Availability Configuration

Verify failover and failback configurations by looking for the following in the log files.

Note: If the PRIMARYHOST and/or BACKUPHOST environment variable(s) is/are not set, you will get the following error in the log files and HA will be disabled:

```
ERROR: Disabling HA because the PRIMARYHOST and/or BACKUPHOST environment variable is not set.
```

Primary Data Server Log File

```
startup

[rtview] Starting as primary HA data server accessible via
//primaryhostname:3178, //backuphostname:3178

[rtview] DataServerHA: connected to backuphostname:3178

[rtview] DataServerHA: run as primary server, backuphostname:3178 has lower
priority than this server

[rtview] leaving standby mode
```

Backup Data Server Log File

```
startup

[rtview] Starting as backup HA data server accessible via
//primaryhostname:3178, //backuphostname:3178

rtview] entering standby mode
```



```

after failover (primary data server exits)

[rtview] DataServerHA: error receiving message: java.net.SocketException:
Connection reset (primaryhostname:3178)

[rtview] DataServerHA: becoming primary server, lost connection to primary server
primaryhostname:3178

[rtview] leaving standby mode

after failback (primary data server comes back up)

[rtview] DataServerHA: resigning as primary server, got standby directive from
other server primaryhostname:3178

[rtview] connected to primaryhostname:3178

[rtview] entering standby mode

```

Primary Historian Log File

```

[rtview] Starting as primary HA historian paired with backup historian at
<backuphostname>:3122

[rtview] ServerGroup: status of member <backuphostname>:3122: primary, priority= 1,
started=Wed Nov 14 12:56:01 PST 2018

[rtview] ServerGroup: primary server = local

[rtview] ServerGroup: becoming primary server

```

Backup Historian Log File

```

[rtview] Starting as backup HA histoiran paired with primary historian at
<primaryhostname>:3122

[rtview] ServerGroup: status of member <primaryhostname>:3122: primary, priority= ,
started=Wed Nov 14 12:56:01 PST 2018

[rtview] ServerGroup: primary server = <primaryhostname>:3122

after failover (primary historian exits):

[rtview] error receiving message: java.io.EOFException (primaryhostname:3122)

[rtview] ServerGroup: disconnected from primaryhostname:3122

[rtview] ServerGroup: primary server = local

after failback (primary historian starts back up):

[rtview] ServerGroup: status of member primaryhostname:3122: primary, priority= 2,
started= Tue Nov 20 09:12:43 PST 2018

[rtview] ServerGroup: connected to primaryhostname:3122

[rtview] ServerGroup: primary server = primaryhostname:3122

```

Primary Display Server Log File

```
2018-11-19 14:08:09,366 INFO main - [rtview] Starting as primary HA display server
paired with backup display server on <backuphostname>
```

Backup Display Server Log File

```
2018-11-19 14:08:09,366 INFO main - [rtview] Starting as backup HA display server
paired with primary display server on <primaryhostname>
```

Property Editor REST API

This section describes the Monitor REST API you can use to add, edit and delete properties on a running data server. This means that you can update connection properties without restarting the data server.

To complete these instructions you need the abbreviated name for the Monitor--also called the **PackageName**. The **PackageName** for TIBCO Enterprise Message Service Monitor is **emsmon**. Where indicated, you replace **<PackageName>** with **emsmon**.

For example, change:

```
node main.js -action=getPropertyDescriptions -sp=<PackageName>
```

to:

```
node main.js -action=getPropertyDescriptions -sp=emsmon
```

A sample node.js-based application is available in the **rtvapm/sampleapps/propeditor** directory which you can use to edit properties via the same rtvadmin servlet that is used by the RTView Configuration Application. This sample application also serves as an example of how to post to the rtvadmin servlet from your own application. For instructions about how to setup and run the sample application see the **README.txt** file in the same directory.

Two use cases are supported:

- [Import Initial Properties & Connections into Configuration Application](#): Rather than manually entering each connection, you can use the REST API to import initial connections into the Configuration Application. You can subsequently edit those connections using the Configuration Application.
- [Automate Connection Updates](#): Rather than using the Configuration Application to manage your connection properties, you can use the REST API to add, edit and delete connections. This is useful when you have an automated system for provisioning and want to automatically add monitoring as part of the provisioning process. These connections will not be included in the Configuration Application and will only be edited via the REST API.

Also see [Design Notes](#) for details about [Supported API Actions](#) , [Filenames](#) , [Sample json](#) , [Adding, Editing, Deleting JsonPrimitive Properties](#) , [Adding and Editing JsonObject Properties](#) , [Deleting JsonObject Properties](#) , [Updating vs. Restarting Data Servers](#) and [High Availability](#) .

This section also contains:

- [Import Initial Properties & Connections into Configuration Application](#)
- [Automate Connection Updates](#)
- [Encrypt Property Text](#)

- [Design Notes](#)

Import Initial Properties & Connections into Configuration Application

Replace **<PackageName>** with the **PackageName** for the solution package you are configuring.

To Import Properties:

1. Install and start the Monitor.
2. Open a command prompt and navigate to the **rtvapm/sampleapps/propeditor** directory. Follow the instructions in the **README.txt** file to configure the node application to connect to the Monitor.
3. By default, all properties (including passwords) are sent to the rtvadmin servlet and on to the Data Server in plain text. You can optionally encrypt that text. See [Encrypt Property Text](#) for details.
4. Use the sample application to retrieve a list of solution packages in your data server as follows:
node main.js -action=getSPs
5. Use the sample application to get a list of available properties for your solution package as follows:
node main.js -action=getPropertyDescriptions -sp=<PackageName>
where **<PackageName>** is the abbreviated name for a solution package on the retrieved list.
6. Create a json file containing the connections and other properties you would like to add. Note that the file contents must be valid json. See [Sample json](#) for details about json properties.
7. Confirm that the Configuration Application is NOT in use.
8. Use the sample application to add the properties as follows:
node main.js -action=editProperties -filename=project -propstoadd=jsonfile.json
Note that the file name must be **project** in this use case. Otherwise, the properties will not be applied. See [Adding, Editing, Deleting JsonPrimitive Properties](#) for additional information.
9. Use the sample application to update or restart the data server. An update will apply connection properties. A restart is required to apply non-connection properties:
Node main.js -action=updatePropertiesOnServer
Or
Node main.js -action=restartServers
10. Now that the initial properties are imported you can use the RTView Configuration Application to edit your configuration.

Automate Connection Updates

Replace **<PackageName>** with the **PackageName** for the solution package you are configuring.

To Auto-update Connections:

1. Install and start the Monitor.
2. In a text editor, open **projects\rtview-server\rtvservers.dat** and add -
properties:autoconnections at the end of the dataserver line.
3. Open a command prompt and navigate to the **rtvapm/sampleapps/propeditor** directory. Follow the instructions in the **README.txt** file to configure the node application to connect to the Monitor.
4. By default, all properties (including passwords) are sent to the rtvadmin servlet and on to Data Server in plain text. You can optionally encrypt that text. See [Encrypt Property Text](#) for details.
5. Use the sample application to get a list of solution packages in your Data Server as follows:
node main.js -action=getSPs
6. Use the sample application to get the list of available properties for a solution package as follows:
node main.js -action=getPropertyDescriptions -sp=<PackageName>
where <PackageName> is the abbreviated name for a solution package on the retrieved list.
7. Create a json file containing the connections and other properties you would like to add. Note that the file contents must be valid json. See [Design Notes](#) below for details about json properties.
8. Use the sample application to add the properties as follows:
node main.js -action=editProperties -filename=autoconnections -propstoadd=jsonadd.json
Note that the file name must match the **-properties** command line argument that you entered in **rtvservers.dat**. See [Filenames](#) for more information.
9. Use the sample application to update or restart the data server. An update will apply connection properties. A restart is required to apply non-connection properties:
Node main.js -action=updatePropertiesOnServer
Or
Node main.js -action=restartServers
10. Now that the initial connections have been added, you can delete or modify those connections as follows:
node main.js -action=editProperties -filename=autoconnections -propstoadd=jsonadd.json -propstoremove=jsondelete.json -merge=true
See [Design Notes](#) for more information.

Note: In this scenario it is possible that the automated property updates occur at the same time as someone is editing other properties in the Configuration Application. Since all properties files are re-read when you execute the **updatePropertiesOnServer** post, the properties saved by the Configuration Application are re-read as well. The Configuration Application might say that you need to restart servers when it isn't necessary.

To encrypt property text, proceed to [Encrypt Property Text](#).

Encrypt Property Text

By default, properties (including passwords) are sent in plain text from the client application to the servlet. To use AES encryption on the text, do the following:

1. In the sample node.js-based application (in the **rtvapm\sampleapps\propeditor** directory), set the **cryptKey** variable to the key you want to use for the AES encryption. The application might clip or pad this key as needed in order to generate a 16 element byte array that can be used by AES encryption.

2. In the data server's **rtvservers.dat** file, pass the value you used for **cryptKey** into the command line using the **-propkey** command line argument on the data server line.

You can either enter the key in plain text or you can scramble it using the **encode_string** command line utility.

For example, you could pass in **-propkey:propertyKeyValue**. Or you could scramble the key as follows on the command line: **encode_string propertyKeyValue**

which returns this value:

```
01343013550134901335013330134801335013500134601331013490134901353013450
134801334.
```

You can then use that value on the command line instead: -

```
propkey:01343013550134901335013330134801335013500134601331013490
134901353013450134801334
```

Design Notes

This section contains:

- [Supported API Actions](#)
- [Filenames](#)
- [Sample json](#)
- [Adding, Editing, Deleting JsonPrimitive Properties](#)
- [Adding and Editing JsonObject Properties](#)
- [Deleting JsonObject Properties](#)
- [Updating vs. Restarting Data Servers](#)
- [High Availability](#)

Supported API Actions

The REST API supports several actions. To get the list of actions, go to the sample application as described above and execute the following on the command line:

```
node main.js -action=getActions
```

To get the description of a single action:

```
node main.js -action=getActions -name=actionName
```

You can also execute any action that start with get in a browser as follows (where **host**, **port** and **rtvadmin** are the values you specified in the sample application):

http://host:port/rtvadmin/api?action=getActions&name=actionName

Filenames

When using the REST API to import initial properties into the Configuration Application, the filename must be **project**. This is because the Configuration Application reads and writes the project properties files and all RTView projects automatically read them. When using the REST API to automatically update properties that are not included in the Configuration application, the filename must match the **-properties** argument in the **rtvservers.dat** file and must NOT be **project**.

Sample json

You can optionally use the Configuration Application to generate sample json to get you started. Properties saved from the Configuration Application are in **projects\rtview-server\project.properties.json**.

Adding, Editing, Deleting JsonObject Properties

All primitive json values must be enclosed in quotes, even boolean and number values. The top level solution package element must be included.

The following example uses **solmon** properties to illustrate. See the generating sample json properties for details about generating properties for your solution package.

Example:

```
{
  "solmon": {
    "expiretime": "10000"
  }
}
```

Adding and Editing JsonObject Properties

Solution package connections are arrays of JsonObjects. The property descriptions indicate which fields in the json object are required and which are indexes. When adding a new connection (or other JsonObject), you must include all of the required and index fields or the property will not be saved. The top level solution package element must be included.

The following example uses **solmon** properties to illustrate. See the generating sample json properties for details about generating properties for your solution package.

Example:

```

{
  "solmon": {
    "conn": [{
      "iscloudvmr": "true",
      "__name": "conn2",
      "url": "http://host2:8080/SEMP",
      "version": "7.4VMR",
      "vpnnamelist": "vpn1;vpn2"
    },
    {
      "iscloudvmr": "true",
      "__name": "conn3",
      "url": "http://host3:8080/SEMP"
    }
  ]
}

```

When adding connections to an existing file, you can either merge the new connections into the existing connection list or you can replace the whole list with the connections. This is controlled by the merge parameter. When merge is true, the indexes are used to control whether a new connection is added or an existing connection is modified.

Deleting JsonObject Properties

Solution package connections are arrays of JsonObjects. The property descriptions indicate which fields in the json object are indexes. When deleting a connection (or other JsonObject), only the index fields are required. The top level solution package element must be included.

The following example uses **solmon** properties to illustrate. See the generating sample json properties for details about generating properties for your solution package.

Example:

```

{
  "solmon": {
    "conn": [{
      "__name": "conn2"
    },
    {
      "__name": "conn3",
    }
  ]
}

```

Updating vs. Restarting Data Servers

All connection properties support updates. Once you have added, edited or deleted connections using the REST API, you can apply those changes with the updatePropertiesOnServer action. Restart is not required. Note that when connections are removed from your configuration, they are not immediately removed from the monitor. They stay in the caches (and display) but do not receive further updates. They will expire and be removed based on the settings in the DATA STORAGE tab of the Configuration Application. All non-connections properties are applied on restart, so they must be applied with the

restartServers action. Restarting your servers will also cause any deleted connections to be immediately removed from the caches and displays.

High Availability

To edit properties for HA-configured servers, first follow the instructions in the **High Availability** section of this document to configure the rtvadmin servlet for High Availability.

CHAPTER 4 Deployment

This section describes how to deploy the Monitor components. This section includes:

- [“Overview” on page 61](#)
- [“Web Application Deployment” on page 61](#)
- [“RTView Server Components as Windows Services” on page 63](#)
- [“Troubleshooting” on page 66](#)
- [“Sender/Receiver: Distributing the Load of Data Collection” on page 67](#)

Overview

The Monitor can be deployed as a stand-alone desktop client or as a web application that runs in a browser. Evaluation environments can use the provided HSQLDB database. Production environments require a supported JDBC- or ODBC-enabled relational database to store historical information. Supported databases are MySQL, Oracle, SqlServer and DB2.

The RTView Historian and RTView Data Server are typically deployed on the same host. However, these processes can optionally be configured on separate hosts. Doing so can increase performance in deployments that need to support many end users or systems with large TIBCO servers.

To deploy the Monitor as a Web Application:

- [Web Application Deployment](#): Clients need only a browser and Adobe Flash installed. The RTView Display Server, RTView Data Server, RTView Historian and Application Server are typically installed on the same host.

To configure the RTView process to run as a Windows Service:

- [RTView Server Components as Windows Services](#): The RTView Data Server, Historian, and Display Server can be run as a Windows Service.

Web Application Deployment

This section describes how to deploy the Monitor as a web application. You start the Monitor using the **start_server** script (and stop the Monitor using the **stop_server** script). For web application deployments the following processes are started: the RTView Data Server, Historian, and Display Server, as well as the database and an application server.

This section contains:

- [Windows](#)
- [UNIX/Linux](#)

Windows

Note: You can skip Step 1 and Step 2 if you are using Eclipse Jetty, which is delivered with the Monitor, as your application server.

1. Copy the **.war** files, which are located in the **TIB_rtview-ems\projects\rtview-server** directory, and deploy them to your Application Server.
2. Start your Application Server if using Tomcat or an application server other than Eclipse Jetty.
3. You can skip this step if you are using Eclipse Jetty. The RTView Configuration Application uses digest authentication for security, and only allows access to users with the "rtvadmin" role. In order to allow access to the RTView Configuration Application in your application server, you need to add a user with the "rtvadmin" role. For example, if using Tomcat, follow the instructions below. For other application servers, refer to their documentation for adding users.

- Edit <installation directory>\conf\tomcat-user.xml
- Add the following lines inside the tomcat-users tag:

```
<role rolename="rtvquery"/>
<user username="rtvquery" password="rtvadmin" roles="rtvquery"/>
```

4. Change directory (**cd**) to the **TIB_rtview-ems** directory and start the Monitor applications by typing:

start_server

NOTE: The **start_server** command starts all the Monitor applications at once. Use the **stop_server** script to stop Monitor applications.

5. Open a Web browser and access the following URL to open the Monitor:

If using Eclipse Jetty as your application server and want to view the HTML displays:

http://localhost:3170/rtview-emsmon

If using Eclipse Jetty as your application server and want to view the Classic displays:

http://localhost:3170/rtview-emsmon-classic

or

If using your own application server and want to view the HTML displays:

http://host:port/rtview-emsmon

If using your own application server and want to view the Classic displays:

http://host:port/rtview-emsmon-classic

Where **host** is the IP or host name where your Application Server is running, **port** is the port used by your Application Server. The login display opens in the Web browser.

Login. The default user name and password are:

User Name: **rtvadmin**

Password: **rtvadmin**

The main Monitor display opens.

UNIX/Linux

Note: You can skip Step 1 and Step 2 if you are using Eclipse Jetty, which is delivered with the Monitor, as your application server.

1. Copy the **.war** files, located in the **TIB_rtview-ems\projects\rtview-server** directory, and deploy them to your Application Server.

Note: You can skip this step if you are using Eclipse Jetty, which is delivered with the Monitor, as your application server.

2. Start your Application Server if using Tomcat or an application server other than Eclipse Jetty, which is delivered with the Monitor.
3. You can skip this step if you are using Eclipse Jetty. The RTView Configuration Application uses digest authentication for security, and only allows access to users with the "rtvadmin" role. In order to allow access to the RTView Configuration Application in your application server, you need to add a user with the "rtvadmin" role. For example, if using Tomcat, follow the instructions below. For other application servers, refer to their documentation for adding users.
 - Edit <installation directory>\conf\tomcat-user.xml
 - Add the following lines inside the tomcat-users tag:

```
<role rolename="rtvquery"/>
<user username="rtvquery" password="rtvadmin" roles="rtvquery"/>
```

4. Change directory (**cd**) to the **TIB_rtview-ems** directory and start the Monitor applications by typing:

start_server

NOTE: The **start_server.sh** command starts all the Monitor applications at once. Use the **stop_server** script to stop Monitor applications.

5. Open a Web browser and access the following URL to open the Monitor:

If using Eclipse Jetty as your application server and want to view the HTML displays:

http://localhost:3170/rtview-emsmon

If using Eclipse Jetty as your application server and want to view the Classic displays:

http://localhost:3170/rtview-emsmon-classic

or

If using your own application server and want to view the HTML displays:

http://host:port/rtview-emsmon

If using your own application server and want to view the Classic displays:

http://host:port/rtview-emsmon-classic

Where **host** is the IP or host name where your Application Server is running, **port** is the port used by your Application Server. The login display opens in the Web browser.

Login. The default user name and password are:

User Name: **rtvadmin**

Password: **rtvadmin**

The main Monitor display opens.

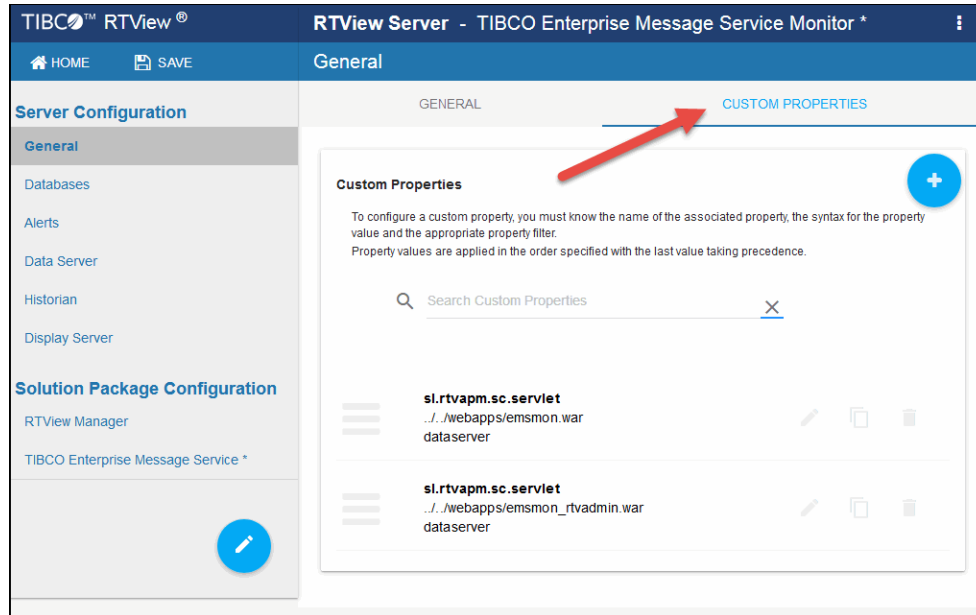
See "[Quick Start](#)" for a more detailed example.

RTView Server Components as Windows Services

This section describes how to configure an RTView process (Data Server, Historian, Display Server) to run as a Windows service.

To Configure the Data Server, Historian or Display Server to run as a Windows Service

1. Navigate to the RTView Configuration Application > **(Project Name)** > **Server Configuration** > **General** > **Custom Properties** tab.



2. Click the  icon.
The **Add Property** dialog displays.

The 'Add Property' dialog box contains the following fields:

- Name ***: sl.rtview.cmd_line
- Value**: -install_service
- Filter**: installservice.
- Comment**: (empty)

At the bottom, there is a note: ** Indicates required field*. Below the note are two buttons: **SAVE** and **CANCEL**.

3. Define the values for each of the following properties and click **Save**:
Name: sl.rtview.cmd_line
Value: -install_service

Filter: installservice

Comment: (description of the filter)

Name: sl.rtvview.cmd_line

Value: -dir:%RTVAPM_STARTUP%

Filter: installservice

Comment: (description of the filter)

Name: sl.rtvview.cmd_line

Value: -uninstall_service

Filter: uninstallservice

Comment: (description of the filter)

Note: The environment variable %RTVAPM_STARTUP% is set by run script to the directory where the script was started.

- For each Windows service you want to create, add the following property and replace ServiceName in the value and filter fields with a name you choose for the service:

Name: sl.rtvview.cmd_line

Value: -service:ServiceName

Filter: ServiceName

For example, choose EMSMonData as the name for starting a Data Server as a Windows service and EMSMonDisp to indicate a name for starting a Display Server as a Windows service.

Name: sl.rtvview.cmd_line

Value: -service:EMSMonData

Filter: EMSMonData

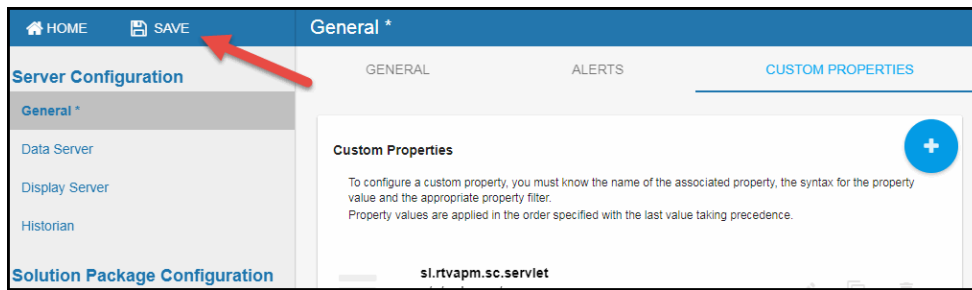
Name: sl.rtvview.cmd_line

Value: -service:EMSMonDisp

Filter: EMSMonDisp

Note: Each service must have a unique name and the beginning of the property entered must match the name of the service.

- Once all your properties have been added, click **SAVE**.



6. Restart the data server so that your changes take effect.

To install and run

7. Execute the following scripts to start the service:

NOTE: These scripts must be run in an initialized command window.

```
rundata -propfilter:installservice -propfilter:EMSMonData  
rundisp -propfilter:installservice -propfilter:EMSMonDisp
```

To uninstall

8. Execute the following scripts to uninstall the services:

NOTE: These scripts must be run in an initialized command window.

```
rundisp -propfilter:uninstallservice -propfilter:EMSMonDisp  
rundata -propfilter:uninstallservice -propfilter:EMSMonData
```

Troubleshooting

This section includes:

- [Log Files](#)
- [JAVA_HOME](#)
- [Permissions](#)
- [Network/DNS](#)
- [Verify Data Received from Data Server](#)
- [Restarting the Data Server](#)

Log Files

When a Monitor component encounters an error, an error message is output to the console and/or to the corresponding log file. If you encounter issues, look for errors in the following log files, located in the **TIB_rtvapm-ems/projects/rtview-server/logs** directory:

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

Logging is enabled by default. If you encounter issues with log files, verify the **logs** directory exists in the **TIB_rtvapm-ems/projects/rtview-server/logs** directory.

JAVA_HOME

If the terminal window closes after executing the **start_server** command, verify that **JAVA_HOME** is set correctly.

Linux users: JAVA_HOME is required for Tomcat.

Permissions

If there are permissions-related errors in the response from the **start_server** command, check ownership of the directory structure.

Network/DNS

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

Verify Data Received from Data Server

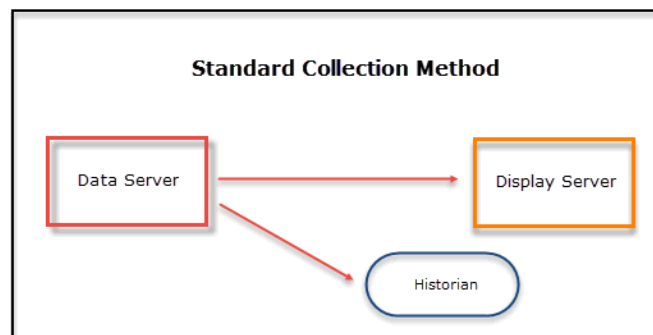
Open the **Cache Viewer Display** to verify data is arriving correctly from the Data Server. To access the **Cache Viewer Display**, choose **Administration** in the navigation tree, then choose **RTView Cache Tables** display or the **RTView Cache Overview** display. You should see all caches being populated with monitoring data (number of rows > 0). Otherwise, there are problems with the connection to the Data Server.

Restarting the Data Server

If the Display Server or the Historian fails to connect to the Data Server or receives no data, verify the ports are assigned correctly in your properties files and then restart the Data Server.

Sender/Receiver: Distributing the Load of Data Collection

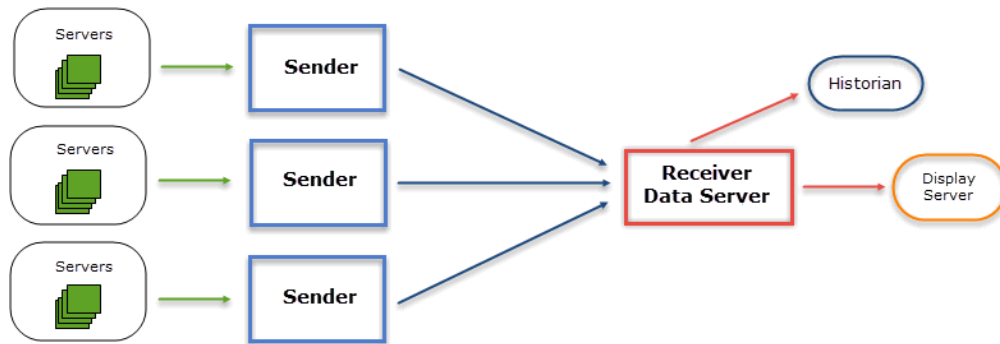
The standard method of collecting data involves one Data Server that sends the data to the Display Server and the Historian. For example:



This method is optimized to deliver data efficiently when large tables and high data volumes are involved. There is, however, an alternative method of collecting data: the Sender/Receiver Data Collection Method. This collection method allows you to configure EMS Monitor so that you have a Data Server (Receiver) that collects data from one or more remote Senders. This type of configuration could be useful in the following scenarios:

1. When dividing the collection load across different machines is more efficient

In the Sender/Receiver Data Collection Method, the Senders are configured as lightweight Data Servers without history being configured and whose primary purpose is to collect and aggregate data from their respective local EMS Servers that they then send to the full-featured Data Server (Receiver). The benefit of this type of configuration comes from balancing the load of the data collection. The Senders collect data exclusively from the EMS Servers in their network and send the data to the Receiver, which collects the data and sends it to the EMS Monitor Display Server, the Historian, and the Viewer. The following illustration provides one configuration example:

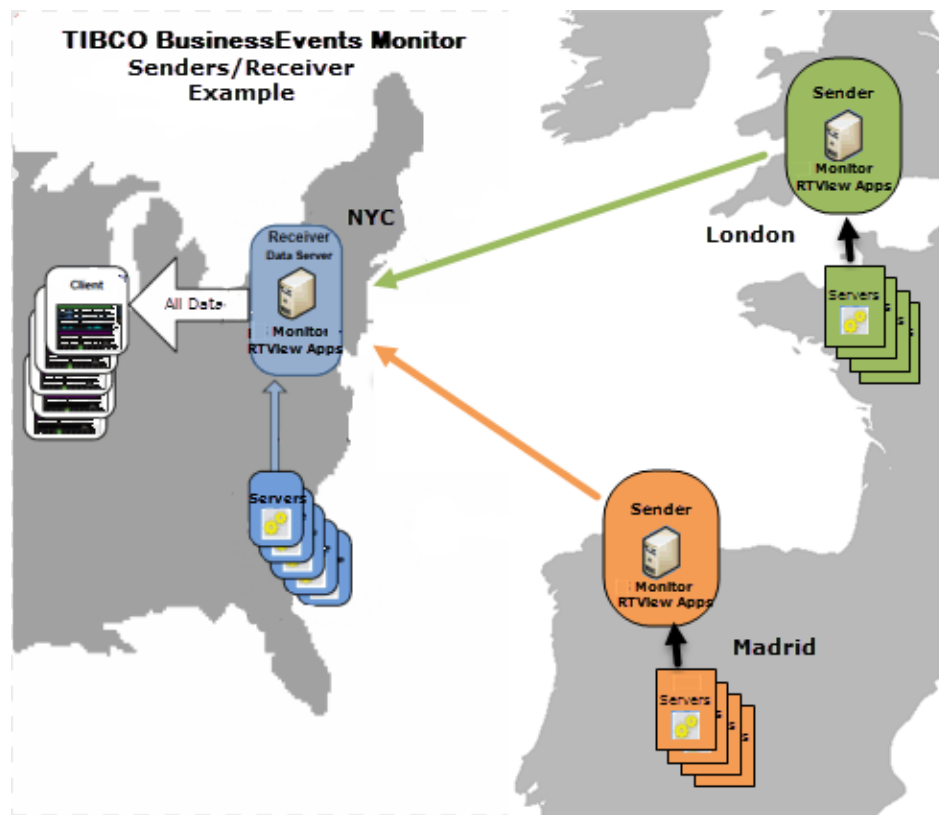


2. When firewall limitations prevent the Receiver Data Server from receiving data directly, Senders behind the firewall can be configured to send data to the Receiver

In the Standard Collection Method, the client must specify the network address of the Data Server to which it wants to connect, which might not be allowed due to security restrictions. In these situations, the Sender/Receiver Collection Method could be considered since the Receiver does not need to know the network addresses of the Senders because it simply opens the port and passively receives data from any defined Sender.

Example

The following example contains Senders in London and Madrid that collect data from their associated EMS Servers and send the data to a Receiver Data Server in New York City. The Receiver takes the collected data from London and Madrid along with data collected from its own associated EMS Servers and sends it to the EMS Monitor displays.



Receiver Data Server -- NYC	Sender -- London	Sender -- Madrid
<ul style="list-style-type: none"> Automatically detects and gathers data from its local EMS Servers. Receives data from London and Madrid Senders. Aggregates data. Provides data to the EMS Monitor displays. 	<ul style="list-style-type: none"> Automatically detects and gathers data from its local EMS servers. Sends data to the NYC Data Server. 	<ul style="list-style-type: none"> Automatically detects and gathers data from its local EMS Servers. Sends data to the NYC Data Server.

Setting Up the Sender/Receiver Configuration

The following steps outline the workflow for setting up a Sender/Receiver configuration:

Receiver Configuration

This section assumes you have already installed the Monitor on the system where you will be running the receiver, and also that you have created a project directory. See [Installation](#) for information on installing the Monitor and [Quick Start](#) for an example of how to configure the Monitor.

Set up your receiver data server

1. Start the project using **start_server**. See [Quick Start](#) for more information.
2. By default, the receiver is setup to receive data on port 3172. If your senders cannot access the system on which the receiver is running, they can send data to the `rtvagent`

servlet instead, which will forward the data to the receiver. To deploy the rtvagent servlet:

If you are using Eclipse Jetty (the default application server):

There are no required steps.

If you are using Tomcat/a different application server:

Copy the **.war** files located in the **TIB_rtvview-ems\projects\rtvview-server** directory to the Tomcat **webapps** directory.

3. Remove any connections that will be serviced by a sender in the [RTView Configuration Application](#) > **(PROJECT NAME)** > **Solution Package Configuration** > **TIBCO Enterprise Message Service** > **CONNECTIONS**. If all connections will be serviced by senders, any connections created in the **CONNECTIONS** tab need to be removed. See [Configuring Data Collection](#) for more information.
4. Restart the project using **stop_server** and **start_server**. See [Quick Start](#) for more information.

Sender Configuration

This section assumes you have already installed the Monitor on the system where you will be running the sender, and also that you have created a project directory. See [Installation](#) for information on installing the Monitor and [Quick Start](#) for an example of how to configure the Monitor. You can run as many senders on as many systems as needed.

1. In the **rtvservers.dat** file located in your project directory, add **-propfilter:sender** to the end of the dataserver line and comment out the display server, historian and database processes as follows (since they are not used by sender data servers):

```
default . dataserver rundata -propfilter:sender
#default . historian runhist -ds
#default . displayserver rundisp -ds
#default . database rundb
```

2. Start the sender project using **start_server**. See [Quick Start](#) for more information.

Note: If you are running multiple senders on the same system or running the sender on the same system as the receiver, you need to change the port prefix for the sender so that you do not get a port conflict. To do so, use the following on the command line as follows: - **portprefix:XX** where XX is the port prefix. To save this to your properties file so you do not need to specify it on the command line, add the **-saveportprefix** command line option. For example: **-portprefix:55 -saveportprefix**

3. Open the [RTView Configuration Application](#) > **(Project Name)** > **Server Configuration** > **Data Servers** > **COLLECTOR** tab.

4. In the **Targets** region, click the  icon to add a target as follows:

ID: A unique name for the target.

URL: Specify the URL for the receiver. The url can be **host:port** (for example, somehost:3172) or an **http url** for the rtvagent servlet on the receiver. For example, if you are using Tomcat, you would use **http://somehost:8068/emsmon-rtvagent**. If you are using Jetty, you would use **http://somehost:3170/rtvagent**.

Targets: Select the **All solution packages** option.

Enabled: Select this check box to enable the target.

5. Click **Save** to exit the **Add Target** dialog.
6. Fill in a unique value for this sender in the **Identifier** field on the **COLLECTOR** tab. This should be unique across all senders.
7. Click on the [RTView Configuration Application](#) > **(Project Name)** > **Solution Package Configuration** > **TIBCO Enterprise Message Service** > **CONNECTIONS** tab and verify that this sender is configured to collect only from its local connections (see [Configuring Data Collection](#) for more information).
8. If you changed the port prefix in step 2, click on the [RTView Configuration Application](#) > **(Project Name)** > **Server Configuration** > **General** > **GENERAL** tab and confirm the port prefix is set to the correct value. If not, modify it accordingly.
9. Click **Save** in the [RTView Configuration Application](#) and restart your project using **stop_server** and **start_server**. See [Quick Start](#) for more information.

CHAPTER 5 Using the Monitor--HTML Displays

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

- [“Overview” on page 72](#)
- [“EMS Monitor HTML Views/Displays” on page 83](#)
- [“Drilldowns” on page 156](#)
- [“Alerts” on page 160](#)
- [“Admin” on page 161](#)

Overview

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

- [“TIBCO EMS Overview Display” on page 72](#): Describes the EMS Monitor display that opens by default as well as the navigation tree.
- [“Heatmaps” on page 74](#): Describes how to read heatmaps.
- [“Tables” on page 77](#): Describes how to read tables.
- [“Trend Graphs” on page 80](#): Describes how to read trend graphs.
- [“Using the Monitor--HTML Displays” on page 72](#): Describes the top layer of the title bar shared by EMS Monitor displays.
- [“Export Report” on page 82](#): Allows you to quickly export reports for displays, or for tables and grid objects in a display, to a PDF file.

TIBCO EMS Overview Display

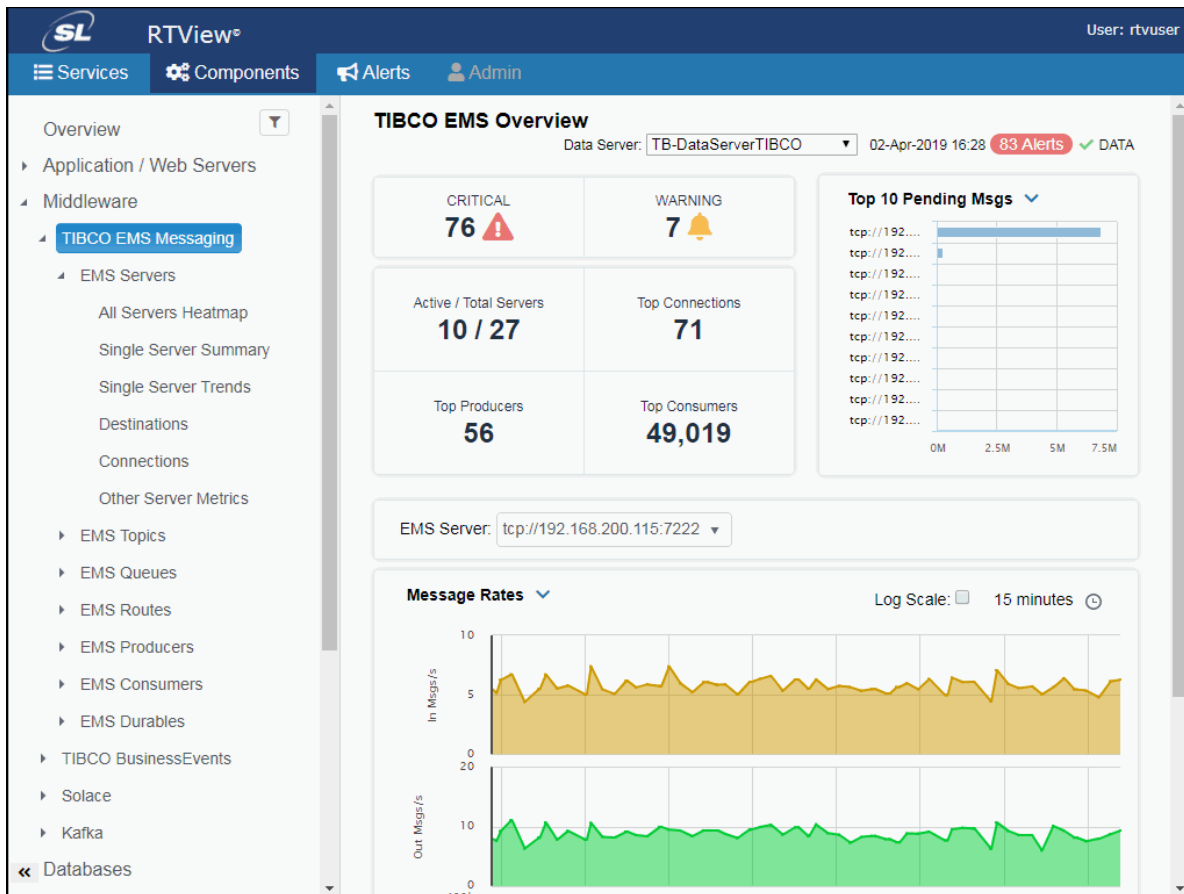
The **TIBCO EMS Overview** is the top-level display for the TIBCO Enterprise Message Service Solution Package, which provides a good starting point for immediately getting the status of all your connections on your Data Server. You can select the RTView DataServer for which you want to see data and easily view the current data for that DataServer including:

- The total number of active alerts for the selected DataServer, including the total number of critical and warning alerts.
- The number of active servers and the total number of servers.
- The highest number of connections on a particular server on your connected DataServer.
- The highest number of producers on a particular server on your connected DataServer.
- The highest number of consumers on a particular server on your connected DataServer.
- A visual list of the top 10 servers containing the most total pending messages/connections/incoming messages/Async DB size in bytes on your connected DataServer.

- The total pending messages, the outgoing messages per second, and the incoming messages per second for a selected EMS Server on your connected DataServer.

You can hover over each region in the upper half of the Overview to see more detail. You can also drill down to see even more detail by clicking on each respective region in the Overview. For example, clicking on the alerts in the **CRITICAL** and **WARNING** alerts region opens the **Alerts Table by Components** display.

The bottom half of the display provides a message rates trend graph for a selected EMS server. You can hover over the trend graph to see the values at a particular time. You can specify the time range for the trend graph and view data based on a log scale, which enables visualization on a logarithmic scale and should be used when the range in your data is very broad.



Navigation Tree

The EMS Monitor navigation tree (in the left panel) is organized as follows:


- **EMS Servers - HTML:** The displays in this section present performance metrics and the most critical alert status for all EMS Servers in various formats, including a heatmap, a table, a grid and a topological map.
- **EMS Topics - HTML:** The displays in this section present detailed performance metrics and connection information for a specific EMS Server.


- [EMS Queues - HTML](#): The displays in this section present several views of performance metrics for queues.
- [EMS Routes - HTML](#): The displays in this section present performance metrics and alert status for all routes or one route on an EMS Server.
- [EMS Producers - HTML](#): The displays in this section present performance metrics and alert status for all producers or one producer on an EMS Server.
- [EMS Consumers - HTML](#): The displays in this section present performance metrics and alert status for all consumers or one consumer on an EMS Server.
- [EMS Durables - HTML](#): The displays in this section present performance metrics and alert status for all durables or one durable on an EMS Server.
- [Alerts](#): The display in this section presents the status of all alerts across all EMS Servers, and allows you to track, manage and assign alerts.
- [Admin](#): The displays in this section enable you to set global alerts and override alerts. You can also view internal data gathered and stored by RTView (used for troubleshooting with SL Technical Support).

Heatmaps

Heatmaps organize your EMS resources (servers, topics, queues, consumers, and producers) 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 EMS resources in the rectangle; a larger size is a larger value. Heatmaps include drop-down menus to filter data by. The filtering options vary among heatmaps.



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

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

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

Alert Impact


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

Alert Severity


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

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

Alert Count

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

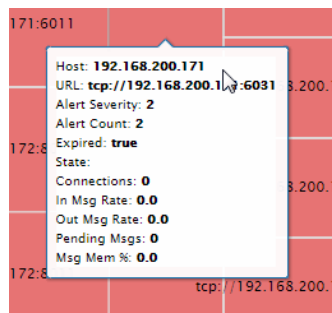
Criticality

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

Criticality is specified in the Service Data Model by your administrator. **Criticality** values range from **A** to **E**, where **A** is the highest Criticality (level **5** maps to a Criticality of **A** and level **1** maps to a **Criticality** of **E** with equally spaced intermediate values).

Mouse-over

The mouse-over functionality provides additional detailed data in a tooltip when you mouse-over a heatmap. The following figure illustrates mouse-over functionality in a heatmap object. In this example, when you mouse-over a host, details are shown such as alert count, number of connections, and pending messages.



Log Scale

Typically, heat maps provide the Log Scale option, which enables visualization on a logarithmic scale. This option should be used when the range in your data is very broad. For example, if you have data that ranges from the tens to the thousands, then data in the range of tens will be neglected visually if you do not check this option. This option makes data on both extreme ranges visible by using the logarithmic of the values rather than the actual values.

Auto Scale

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 Scale** 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).

Tables

EMS Monitor tables contain similar data that is shown in the heatmap in the same View. Tables provide you a text and numeric view of the data shown in that heatmap, and additional data not included the heatmap. For example, the **EMS Servers Table** display (shown below) shows the same data as the **All Servers Heatmap** display (shown above).

TIBCO EMS Servers Table 03-Apr-2019 09:26 No Alerts DATA

Servers: 27	Active: 13	Max Msgs In/s: 33.0
Max Msgs Out/s: 32.0	Total Pending Msgs: 7,131,115	Active Only: <input type="checkbox"/>

URL	Server Name	Host	Expired
tcp://192.168.200.115:7222	EMS-SERVER	192.168.200.115	
tcp://192.168.200.116:7222	EMS-SERVER	192.168.200.116	
tcp://192.168.200.117:7222	EMS-SERVER	192.168.200.117	
tcp://192.168.200.118:7222	EMS-SERVER	192.168.200.118	
tcp://192.168.200.121:7222	EMS-SERVER	192.168.200.121	
tcp://192.168.200.132:7222	Unknown (tcp://192.168.200.132:7222)	192.168.200.132	🚫
tcp://192.168.200.138:7222	Unknown (tcp://192.168.200.138:7222)	192.168.200.138	🚫
tcp://192.168.200.34:7222	EMS-SERVER-TB34	192.168.200.34	
tcp://SLHOST10:7010	Unknown (tcp://SLHOST10:7010)	SLHOST10	🚫
tcp://SLHOST10:7011	Unknown (tcp://SLHOST10:7011)	SLHOST10	🚫
tcp://SLHOST10:7021	Unknown (tcp://SLHOST10:7021)	SLHOST10	🚫
tcp://SLHOST10:7020	Unknown (tcp://SLHOST10:7020)	SLHOST10	🚫
tcp://192.168.200.171:6010	EMS-SLDEMOS2-6010	192.168.200.171	
tcp://192.168.200.171:6011	EMS-SLDEMOS2-6010	192.168.200.171	
tcp://192.168.200.171:6020	EMS-SLDEMOS2-6020	192.168.200.171	
tcp://192.168.200.171:6021	EMS-SLDEMOS2-6020	192.168.200.171	
tcp://192.168.200.171:6030	EMS-SLDEMOS2-6030	192.168.200.171	
tcp://192.168.200.171:6031	EMS-SLDEMOS2-6030	192.168.200.171	
tcp://192.168.200.172:8010	EMS-SLDEMOS3-8010	192.168.200.172	

Table rows also sometimes use color to indicate the current most critical alert state for all resources associated with a given row. For example, the color coding is typically as follows:

- -- One or more alerts exceeded their critical threshold for one or more associated resources.
- -- One or more alerts exceeded their warning threshold for one or more associated resources.

Tables support several interactive features: filtering on multiple columns, sorting, 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:

- [Column Filtering](#)
- [Multiple Column Sorting](#)
- [Column Visibility](#)
- [Column Reordering](#)
- [Row Paging](#)

Column Filtering

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

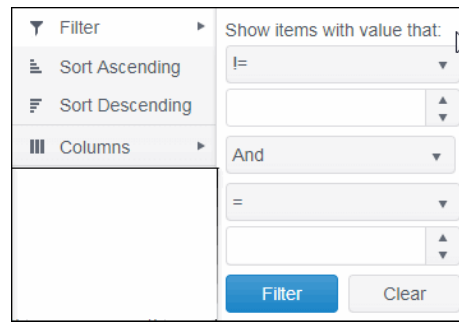
The background of a column's menu icon changes to white to indicate that a filter is defined on that column. This is intended to remind you which columns are filtered.

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

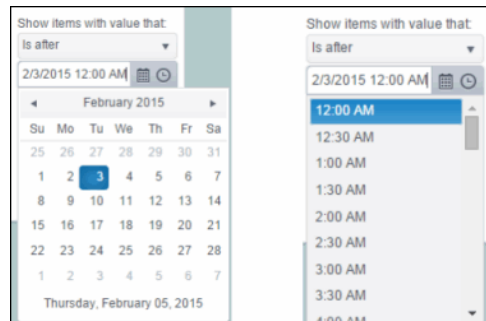
Options in the **Column Filter** dialog vary according to the data type of the selected column:

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

The numeric and boolean filter dialogs are shown below.



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



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

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

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

Multiple Column Sorting

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

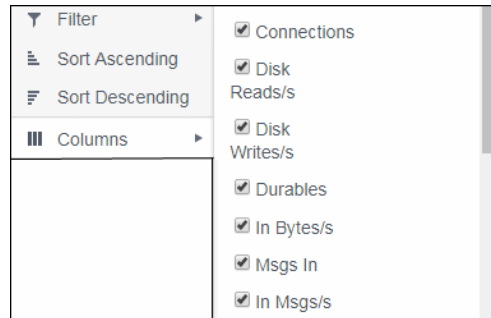
The grid's row selection is cleared if the sort is changed or if columns are resized or reordered.

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

Column Visibility

You can hide or show columns in the table by clicking on any column's menu icon, and choosing **Columns** from the menu. This opens a submenu with a check box for each column

that toggles the visibility of the column. All columns in the data table appear in the Columns menu, even those that are initially hidden.



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

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

Column Reordering

You can reorder the grid columns by dragging and dropping a column's header into another position.

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

Row Paging

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

217	emreference	sl.rtvew.sql.sqldb	\$rtvConfigDataServer.CONFIG_SERVER
229	emreference	sl.rtvew.properties.queryTimeOut	10
216	emreference	sl.rtvew.sql.sqldb	ALERTDEFS --- _none ---

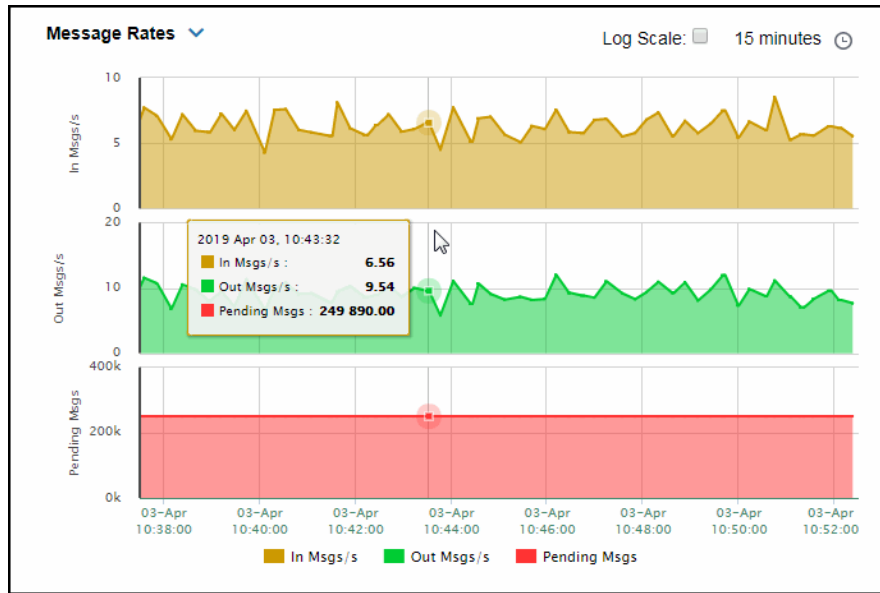
Page 1 of 2 1 - 200 of 235 items

Expired Rows

When a data row has a checked symbol in the **Expired** column, 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.

Trend Graphs

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



Mouse-over

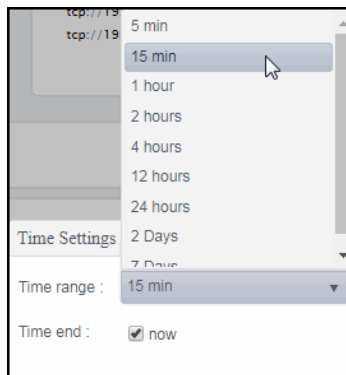
The mouse-over functionality provides additional detailed data in a tooltip when you mouse-over trend graphs. The above figure illustrates mouse-over functionality. In the example above, when you mouse-over a single dot, or data point, in the Out Msgs / sec trend graph, a pop-up window shows data for that data point.

Log Scale

Trend Graphs also offer the Log Scale option, which 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.

Time Settings

Select a time range from the drop down menu varying from **5 Minutes** to **Last 7 Days**. By default, the time range end point is the current time.

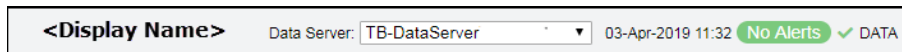


To change the time range, deselect the **now** toggle, which displays some additional date fields. You can click the left and right arrow buttons to decrease the end time by one time

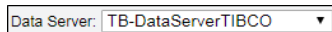
period (the time selected in the **Time range** drop down) per click, or you can choose the date and time from the associated calendar and clock icons. You can also enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM:ss**. For example, Aug 21, 2018 12:24 PM. Click the **now** toggle to reset the time range end point to the current time.

Title Bar Functionality

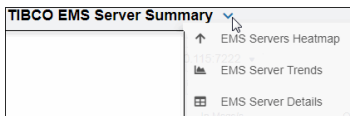
Displays share the same top layer in the title bar, as shown and described below.



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



Displays the name of the data server for which you are viewing data.



Navigates to a display that is most commonly accessed from the current display. The target display differs among displays.



Displays the current number of alerts. Clicking on this "button" opens the Alerts Table display in a new window.



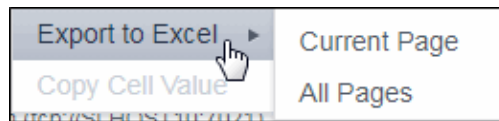
The current date and time. If the time is incorrect, this might indicate that RTView stopped running. When the date and time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.



The data connection state. Red indicates the data source is disconnected (for example, if the Data Server is not receiving data, or if the Display Server does not receive data from the Data Server, this will be red). Green indicates the data source is connected. When the date and time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Export Report

You can quickly export reports for tables in a display by right-clicking on the display and selecting **Export to Excel > Current Page or All Pages**.



EMS Monitor HTML Views/Displays

This section includes descriptions of the EMS Monitor Views and their associated displays.

- [EMS Servers - HTML](#)
- [EMS Topics - HTML:](#)
- [EMS Queues - HTML](#)
- [EMS Routes - HTML](#)
- [EMS Producers - HTML](#)
- [EMS Consumers - HTML](#)
- [EMS Durables - HTML](#)

EMS Servers - HTML

These displays present performance metrics and alert status for all EMS servers. Clicking **EMS Servers** from the left/navigation menu opens the [TIBCO EMS Servers Table - HTML](#) display, which shows all available utilization metrics for all EMS servers. The options available under **EMS Servers** are:

- **All Servers Heatmap:** Opens the [TIBCO EMS Servers Heatmap - HTML](#), which shows server and alert status for all EMS servers.
- **Single Server Summary:** Opens the [TIBCO EMS Server Summary - HTML](#) display, which 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:** Opens the [TIBCO EMS Server Trends - HTML display](#), which shows 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.
- **Destinations:** Opens the [TIBCO EMS Server Destinations - HTML](#) display, which shows destination data for a selected server.
- **Connections:** Opens the [TIBCO EMS Server Connections - HTML](#) display, which shows connection information for a selected server.
- **Other Server Metrics:** Opens the [TIBCO EMS Bridges, Users, Ports - HTML](#) display, which shows bridges data, along with associated users and ports, for a selected server.

TIBCO EMS Servers Table - HTML

Investigate detailed utilization metrics for all EMS servers. The **TIBCO EMS 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 ascending or descending order. Double-click on a table row to drill-down to the [TIBCO EMS Server Summary - HTML](#) display and view metrics for that particular server. Toggle between the commonly accessed **Table** and **Heatmap** displays by clicking the drop down list on the display title.

URL	serverName	Host	Expired	Alert Level	state	versionIn
tcp://192.168.200.115:7222	EMS-SERVER	192.168.200.115	<input type="checkbox"/>		Active	6.0.0.8
tcp://192.168.200.116:7222	EMS-SERVER	192.168.200.116	<input type="checkbox"/>		Active	6.0.0.8
tcp://192.168.200.117:7222	EMS-SERVER	192.168.200.117	<input type="checkbox"/>		Active	6.1.0.6
tcp://192.168.200.118:7222	EMS-SERVER	192.168.200.118	<input type="checkbox"/>		Active	6.3.0.5
tcp://192.168.200.119:7222	EMS-SERVER	192.168.200.119	<input type="checkbox"/>		Active	6.3.0.5
tcp://192.168.200.120:7222	Unknown (tcp://192.168.200.120:7222)	192.168.200.120	<input checked="" type="checkbox"/>			
tcp://192.168.200.121:7222	EMS-SERVER	192.168.200.121	<input type="checkbox"/>		Active	6.0.0.8
tcp://192.168.200.131:7222	TESTBED-1 (tcp://192.168.200.131:7222)	192.168.200.131	<input checked="" type="checkbox"/>			
tcp://192.168.200.132:7222	TESTBED-2 (tcp://192.168.200.132:7222)	192.168.200.132	<input checked="" type="checkbox"/>			
tcp://192.168.200.142:7222	Unknown (tcp://192.168.200.142:7222)	192.168.200.142	<input checked="" type="checkbox"/>			
tcp://192.168.200.153:7222	EMS-SERVER-153	192.168.200.153	<input type="checkbox"/>		Active	8.2.2.3
tcp://192.168.200.171:6010	EMS-SLDEMOS2-6010	192.168.200.171	<input type="checkbox"/>		Active	6.0.0.8
tcp://192.168.200.171:6020	EMS-SLDEMOS2-6020	192.168.200.171	<input type="checkbox"/>		Active	6.0.0.8
tcp://192.168.200.171:6030	EMS-SLDEMOS2-6030	192.168.200.171	<input type="checkbox"/>		Active	6.0.0.8
tcp://192.168.200.172:8011	EMS-SLDEMOS3-8010	192.168.200.172	<input type="checkbox"/>		Active	6.0.0.8
tcp://192.168.200.172:8020	EMS-SLDEMOS3-8020	192.168.200.172	<input type="checkbox"/>		Active	6.0.0.8
tcp://192.168.200.172:8030	EMS-SLDEMOS3-8030	192.168.200.172	<input type="checkbox"/>		Active	6.0.0.8
tcp://192.168.200.172:8031	Unknown (tcp://192.168.200.172:8031)	192.168.200.172	<input checked="" type="checkbox"/>			
tcp://192.168.200.173:9010	EMS-SLDEMOS4-9010	192.168.200.173	<input type="checkbox"/>		Active	6.0.0.8
tcp://192.168.200.34:7222	TESTBED-34 (tcp://192.168.200.34:7222)	192.168.200.34	<input checked="" type="checkbox"/>			
tcp://192.168.200.68:7222	Unknown (tcp://192.168.200.68:7222)	192.168.200.68	<input checked="" type="checkbox"/>			
tcp://192.168.200.68:7224	Unknown (tcp://192.168.200.68:7224)	192.168.200.68	<input checked="" type="checkbox"/>			
tcp://SLHOST10:7010	Unknown (tcp://SLHOST10:7010)	SLHOST10	<input checked="" type="checkbox"/>			
tcp://SLHOST10:7011	Unknown (tcp://SLHOST10:7011)	SLHOST10	<input checked="" type="checkbox"/>			
tcp://SLHOST21:7222	EMS-SERVER-SLHOST21 (tcp://SLHOST21:7222)	SLHOST21	<input checked="" type="checkbox"/>			
tcp://TESTBED-3:7022	Unknown (tcp://TESTBED-3:7022)	TESTBED-3	<input checked="" type="checkbox"/>			

Fields and Data

This display includes:

- Servers** 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.
- Max In Msgs/s** The highest rate of inbound messages, per second, from all producers and consumers on all EMS servers.
- Max Out Msgs/s** The highest rate of outbound messages, per second, from all producers and consumers on all EMS servers.
- Total Pending Msgs** The total number of inbound and outbound messages waiting to be processed on all EMS servers.
- Active Only** Select this check box to display only the active servers in the table below.
- Table** This table shows information for all EMS servers. Click on a table row to drill-down to the [TIBCO EMS Server Summary - HTML](#) display and view metrics for that particular server.
- URL** Select to include servers that are currently in Standby mode. **Standby Servers** are represented in blue.

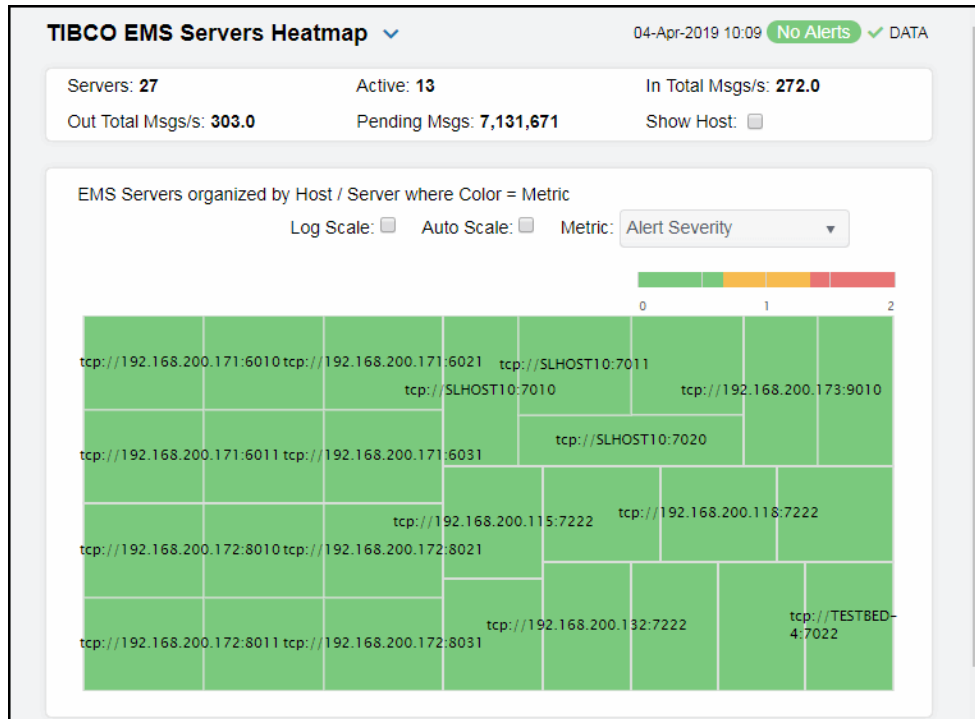
Server Name	The name of the server.
Host	The name or IP address for the host server.
	The current alert level.
	 -- One or more alerts have exceeded their specified ALARMLEVEL threshold, have an Alert Severity value of 2 , and are shown in red.
Alert Level	 -- One or more alerts have exceeded their specified 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 current alerts.
	The server status:
	Active -- The server is currently processing requests.
State	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.
Pending Msgs	The number of currently pending messages on the server.
Connections	The number of clients currently connected to the server.
Disk Reads/s	The speed at which the server reads disk data.
Disk Writes/s	The speed at which the server writes data to disk.
Durables	The number of durables on the server.
Msgs In	The number of inbound messages received by the server since the server was started.
In Msgs/s	The rate of inbound messages in number of messages per second.
Max Msg Memory Bytes	The maximum amount of memory, in bytes, allocated for use by messages on the server.
Msg Memory Bytes	The amount of memory, in bytes, currently used by messages on the server.
Msg Memory %	The amount of memory, in percent, used by messages on the server.
Msg Mem Pooled	The currently allocated pool size, in bytes, for messages.
Out Msgs	The number of outbound messages sent by the server since the server was started.
Out Msgs/s	The rate of outbound messages in number of messages per second.
Pending Msg Size	The amount of space, in bytes, pending messages use on the server.
Version	The TIBCO EMS software version currently running.
FT URL	The IP address and port number for the source (application, server, and so forth) associated with the alert.
Async DB Size Bytes	The amount of database space, in bytes, occupied by asynchronous data on the server.

Backup Name	The name of the backup server assigned as the backup to this server.
PID	The process ID of the EMS server.
Queues	The number of message queues.
Start Time	The date and time that the server was started.
Sync DB Size Bytes	The amount of database space, in bytes, occupied by synchronous data on the server.
Topics	The number of currently active topics on the server.
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.

TIBCO EMS Servers Heatmap - HTML

Clicking **All Servers Heatmap** in the left/navigation menu opens the **TIBCO EMS Servers Heatmap**, which allows you to view the 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 [TIBCO EMS Server Summary - HTML](#) display and view metrics for a particular server. Toggle between the commonly accessed **Table** and **Heatmap** displays by clicking the drop down list on the display title. Mouse-over rectangles to view more details about host performance and status.



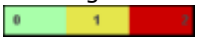
Fields and Data

This display includes:

- Servers** The total number of active, inactive, and standby EMS servers.
- Active** The total number of currently active EMS servers.
- In Total Msgs/s** The total number of inbound messages, per second, from all producers and consumers on all EMS servers.
- Out Total Msgs/s** The total number of outbound messages, per second, from all producers and consumers on all EMS servers.
- Pending Msgs** The total number of pending messages waiting to be processed on all EMS servers. Click to open the [TIBCO EMS Servers Table - HTML](#) display.
- Show Host** Select this check box to display the name of the host for the servers in the heatmap.

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.
- Log Scale** 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).
- Auto Scale** Select the metric driving the heatmap display. The default is **Alert Severity**.
- 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 [TIBCO EMS Server Summary - HTML](#) display for a detailed view of metrics for that particular server.


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**.

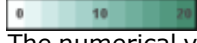
2 -- Metrics that have exceeded their specified **ALARMLEVEL** threshold and have an Alert Severity value of **2** are shown in red. For a given rectangle, this indicates that one or more metrics have exceeded their alarm threshold.

Alert Severity **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.


The total number of alarm and warning alerts in a given item (index) associated with the rectangle.

Alert Count The color gradient bar  shows the range of the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the middle value of the range.

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.


Connections

The **Auto** option does not impact this metric.

The total number of pending messages in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from **0** to the alert threshold of **EmsServerPendingMsgsHigh**, which is **3500**. The middle value in the gradient bar indicates the middle value of the range (the default is **1750**).

Pending Msgs

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.

The total number of inbound messages in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from **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**).

In Msgs/s

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.

The total number of outbound messages in a given item (index) associated with the rectangle. The color gradient bar



shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from **0** to the alert threshold of

Out Msgs/s

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.

The percent (%) memory used by messages in a given item (index) associated with the rectangle. The color gradient bar



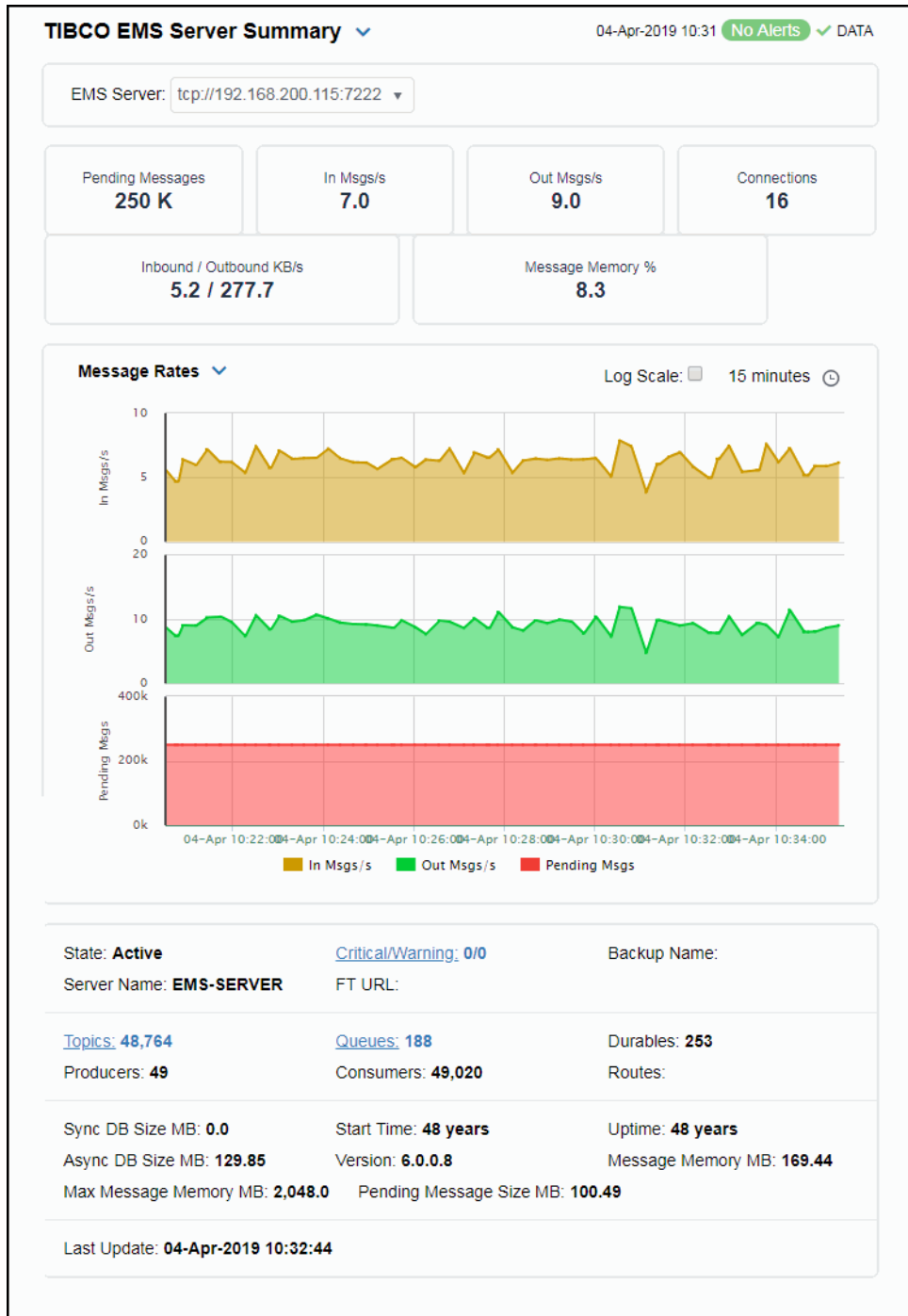
shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from **0** to the alert threshold of **EmsServerMemUsedHigh**, which is **40**. The middle value in the gradient bar indicates the middle value of the range (the default is **20**).

Msg Mem %

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.

TIBCO EMS Server Summary - HTML

Clicking **Single Server Summary** in the left/navigation menu opens the **TIBCO EMS Server Summary** display, which allows you to track utilization and performance metrics for specific servers. Clicking on the message/connection information boxes at the top of the display takes you to the [TIBCO EMS Server Destinations - HTML](#) display, where you can view additional destination data. In the trend graph region, you can select from **Message Rates**, which traces inbound/outbound messages per second, or **Message Flows**, which traces total inbound/outbound messages in bytes. Clicking the **Critical/Warning** link at the bottom of the display opens the Alerts Table by Component display. Clicking the **Topics** link at the bottom of the display opens the [TIBCO EMS Topics Table - HTML](#) display. Clicking the **Queues** link at the bottom of the display opens the TIBCO EMS Queues Table display.



Fields and Data

This display includes:

- EMS Server** Select the EMS Server for which you want to view data. The selection made here populates this display.
- Pending Messages** The total number of pending messages on the server.
- In Msgs/s** The rate of inbound messages on the server.

- Out Msgs/s** The rate of outbound messages on the server.
- Connections** The number of connections on the server.
- Inbound/
Outbound KB/s** The rate of inbound and outbound kilobytes on the server.
- Message
Memory %** The percentage of message memory utilization on the server.

Message Rates Trend Graph

- In Msgs / sec** -- Traces the number of inbound messages, per second, from all producers and consumers.
- Out Msgs / sec** -- Traces the number of outbound messages, per second, from all producers and consumers.
- Pending Msgs** -- Traces the total number of inbound and outbound messages currently waiting to be processed.

Trend Graphs

Message Flows Trend Graph

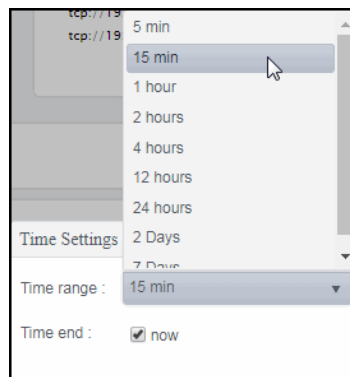
- In Msgs** -- Traces the total number of inbound messages from all producers and consumers.
- Out Msgs** -- Traces the number of outbound messages from all producers and consumers.
- Pending Msgs** -- Traces the total number of inbound and outbound messages currently waiting to be processed.

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.

Select a time range from the drop down menu varying from **5 Minutes** to **Last 7 Days**. By default, the time range end point is the current time.

Time Settings



To change the time range, deselect the **now** toggle, which displays some additional date fields. You can click the left and right arrow buttons to decrease the end time by one time period (the time

selected in the **Time range** drop down) per click, or you can choose the date and time from the associated calendar and clock icons. You can also enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM:ss**. For example, Aug 21, 2018 12:24 PM. Click the **now** toggle to reset the time range end point to the current time.

Server Information	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.
	Critical/Warning	Lists the number of critical and warning level alerts on the server.
	Backup Server Name	The name of the backup server for the server.
	FT URL	The name of the selected server.
	Topics	The IP address and port number, or the hostname and port number, of the fault tolerant standby server assigned to this server.
	Queues	The number of topics currently active on the server. Click to open the TIBCO EMS Topics Table - HTML display for details.
	Durables	The number of queues currently active on the server. Click to open the TIBCO EMS Queues Table - HTML display for details.
	Producers	The number of durables currently active on the server.
	Consumers	The number of producers currently active on the server.
	Routes	The number of consumers currently connected to the server.
	Sync DB Size MB	The number of routes defined on the server.
	Start Time	The amount of database space, in megabytes, used by synchronous message persistence data on the server.
	Uptime	The data and time that the server was started. The amount of time since the server was started. Format: dd HH:MM:SS <days> <hours>:<minutes>:<seconds> For example: 10d 08:41:38
	Async DB Size MB	The amount of database space, in megabytes, used by asynchronous message persistence data on the server
	Version	The TIBCO EMS software version currently running.
	Message Memory MB	The amount of memory, in megabytes, used by message persistence on the server.

Max Message Memory MB

The maximum amount of memory, in megabytes, used by message persistence on the server.

Pending Message Size MB

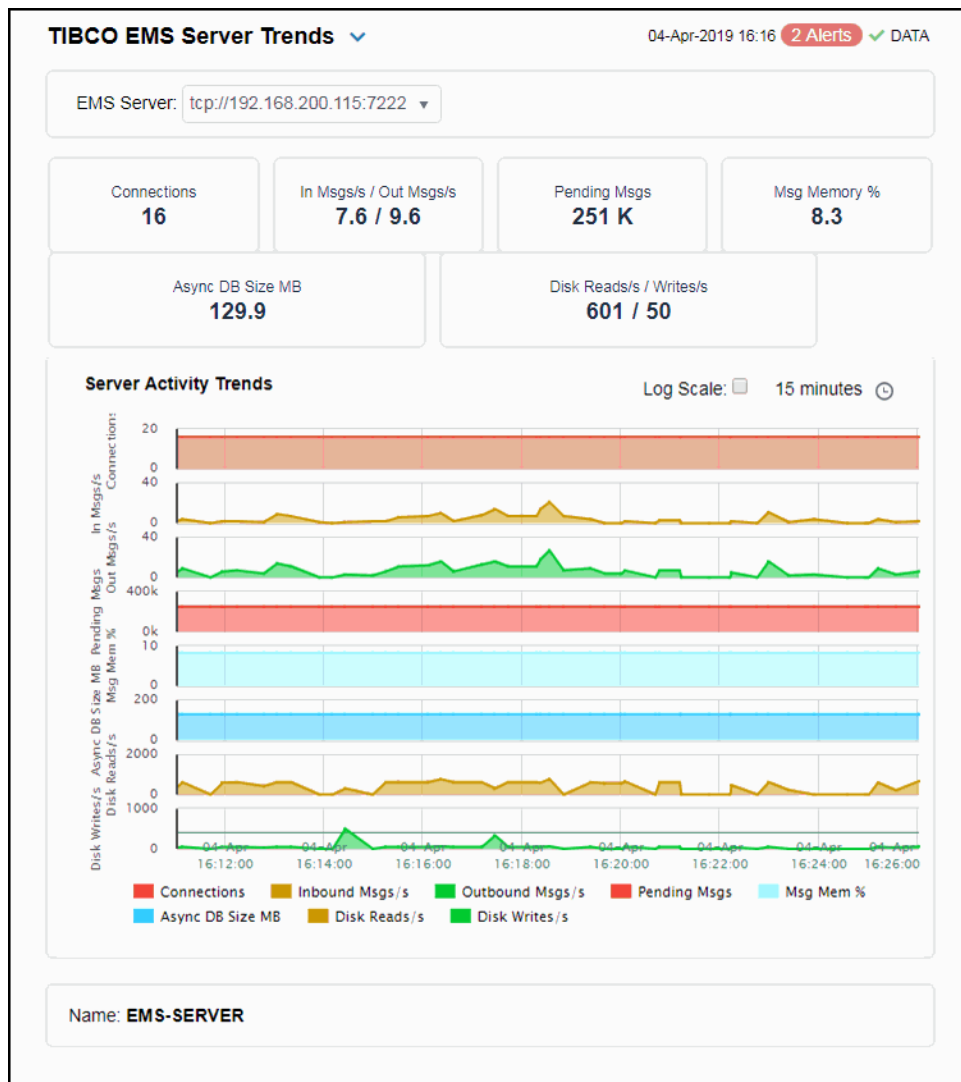
The total size of inbound and outbound messages, in megabytes, currently waiting to be processed.

Last Update

The time that a data update was last made.

TIBCO EMS Server Trends - HTML

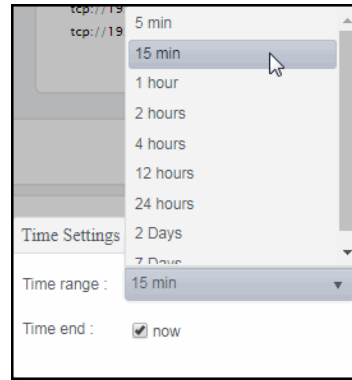
Clicking **Single Server Trends** in the left/navigation menu opens the **TIBCO EMS Server Trends** display, which allows you to view trend graphs in parallel to investigate performance issues for a specific server. Clicking on the message/connection information boxes at the top of the display takes you to the [TIBCO EMS Servers Table - HTML](#) display, where you can view additional data for all of the servers. Hovering over the trend graphs displays data for each of the metrics at a specific time.



Fields and Data

This display includes:

EMS Server	Select the EMS server for which you want to view data from this drop-down menu. The selection made here populates this display.
Connections	The total number of client connections.
In Msgs/s /Out Msgs/s	The number of inbound messages, per second, from all producers and consumers and the number of outbound messages, per second, from all producers and consumers.
Pending Msgs	The total number of messages currently waiting to be processed.
Msg Memory %	The amount of memory, in percent, used by messages.
Async DB Size MB	The amount of database space, in megabytes, used by asynchronous data on the server.
Disk Reads/s / Writes/s	The amount of disk data, in kilobytes, read by the server since the server was started and the amount of data, in kilobytes, written to disk by the server since the server was started.
Server Activity Trends	Shows metrics for the selected server. <ul style="list-style-type: none"> 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.
Time Settings	Select a time range from the drop down menu varying from 5 Minutes to Last 7 Days . By default, the time range end point is the current time.



To change the time range, deselect the **now** toggle, which displays some additional date fields. You can click the left and right arrow buttons to decrease the end time by one time period (the time selected in the **Time range** drop down) per click, or you can choose the date and time from the associated calendar and clock icons. You can also enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM:ss**. For example, Aug 21, 2018 12:24 PM. Click the **now** toggle to reset the time range end point to the current time.

Server Name	The name of the EMS Server selected from the EMS Server drop-down menu.
Critical/Warning	The total number of critical and warning alerts for the server.
Last Update	The date and time of the last data update.

TIBCO EMS Server Destinations - HTML

Clicking **Destinations** in the left/navigation menu opens the **TIBCO EMS Server Destinations** display, which allows you to view queue and topic information related to a particular EMS server.

TIBCO EMS Server Destinations 16-May-2019 10:51 No Alerts ✓ DATA

EMS Server:

Pending Messages 4	In Msgs/s 17.9	Out Msgs/s 12.2	Connections 42
Inbound / Outbound KB/s 0.0 / 0.0		Message Memory % 0.0	

Queue Name	In Msgs/s	In Total Msgs	Out Msgs/s	Out Total
amx.governance.internal.stats	0.0	1,692,765	0.0	1
amx.governance.stats	0.0	310,518	0.0	
cl_logservice_queue	0.0	0	0.0	
cl_payload_queue	0.0	0	0.0	
com.tibco.amf.admin.deploymentServerQl	0.0	0	0.0	
com.tibco.amf.admin.deploymentServerQl	0.0	0	0.0	

Topic Name	In Msgs/s	In Total Msgs	Out Msgs/s	Out Total
adb.custom.jmsrequest	0.0	0	0.0	
adb.standard.jmsrequest	0.0	0	0.0	
rtv.amx.governance.internal.stats	0.0	1,692,765	0.0	
rtv.amx.governance.stats	0.0	310,518	0.0	
sample	0.0	0	0.0	
topic.sample	0.0	0	0.0	

Server Name: **EMS-SERVER** Last Update: **16-May-2019 10:51:58**

Fields and Data

This display includes:

EMS Server	Select the EMS server for which you want to view data from this drop-down menu. The selection made here populates this display.
Pending Messages	The total number of messages currently waiting to be processed.
In Msgs/s	The number of inbound messages, per second, from all producers and consumers.
Out Msgs/s	The number of outbound messages, per second, from all producers and consumers.
Connections	The total number of client connections.
In/Out KB/s	The rate of incoming kilobytes (per second) and the rate of outgoing kilobytes (per second).
Message Memory %	The amount of memory, in percent, used by messages.
Queues Table	Queue Name The name of the queue.

In Msgs/s	The number of inbound messages for the queue, per second. This metric comes directly from the tibjms.admin.DestinationInfo class from TIBCO.
In Total Msgs	The total number of inbound messages for the queue.
Out Msgs/s	The number of outbound messages for the queue, per second. This metric comes directly from the tibjms.admin.DestinationInfo class from TIBCO.
Out Total Msgs	The total number of outbound messages for the queue.
Pending Msgs	The number of currently pending messages for the queue.
Pending Msg Size	The amount of space, in bytes, used by pending messages for the queue.
Consumers	The number of active and inactive consumers.
Fail Safe	When checked, the message is marked as failsafe delivery.
Flow Control Max Bytes	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 KB/s	The amount of inbound messages for the queue, in kilobytes per second.
In KB	The total amount of inbound messages for the queue, in kilobytes.
Max Bytes	The maximum amount of bytes allocated for use by the queue.
Max Msgs	The maximum number of messages allocated for use by the queue.
Overflow Policy	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.
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.
Out KB/s	The amount of outbound messages for the queue, in kilobytes per second.
Out KB	The total amount of outbound messages for the queue, in kilobytes.

Topics Table	Exclusive	When checked, the server sends all messages on this queue to one consumer.
	Max Redelivery	The maximum number of attempts for attempting redelivery of a message.
	Filter In Patterns	The string used to filter the data in the row.
	Receivers	The number of receivers that receive queue message.
	Topic Name	The name of the topic.
	In Msgs/s	The number of inbound messages for the topic, per second. Note: This metric comes directly from the tibjms.admin.DestinationInfo class from TIBCO.
	In Total Msgs	The total number of inbound messages for the topic.
	Out Msgs/s	The number of outbound messages for the topic, per second. Note: This metric comes directly from the tibjms.admin.DestinationInfo class from TIBCO.
	Out Total Msgs	The total number of outbound messages for the topic.
	Pending Msgs	The number of currently pending messages for the topic.
	Pending Msg Size	The amount of space, in bytes, used by pending messages for the topic.
	Active Durables	The number of currently active durables or the topic.
	Consumers	The number of consumers for the topic.
	Durables	The number of durables for the topic.
	Fail Safe	When checked, the message is marked as failsafe delivery.
	Flow Control Max Bytes	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 KB/s	The amount of inbound messages for the topic, in kilobytes per second.
	In KB	The total amount of inbound messages for the topic, in kilobytes, since the server started.
	Max Bytes	The maximum size, in bytes, that the topic can store for delivery to each durable or non-durable online subscriber on that topic.
	Max Msgs	The maximum number of messages before the server indicates an error and overflow policies are activated.
	Out KB/s	The amount of outbound messages for the topic, in kilobytes per second.
	Out KB	The total amount of outbound messages for the topic, in bytes.
	Overflow Policy	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.
Subscribers	The number of subscribers for the topic.
Description	Descriptive text to help the administrator identify this resource.
Current in Total Msgs	Displays the change (delta) in inboundTotalMessages from the previous cache refresh to the current cache refresh.
Current in Total Bytes	Displays the change (delta) in inboundTotalBytes from the previous cache refresh to the current cache refresh.
Current Out Total Msgs	Displays the change (delta) in outboundTotalMessages from the previous cache refresh to the current cache refresh.
Current Out Total Bytes	Displays the change (delta) in outboundTotalBytes from the previous cache refresh to the current cache refresh.
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.
Server Name	The name of the EMS Server selected from the EMS Server drop-down menu.
Critical/Warning	The total number of critical and warning alerts for the server.
Last Update	The date and time of the last data update.

TIBCO EMS Server Connections - HTML

Clicking **Connections** in the left/navigation menu opens the **TIBCO EMS Server Connections** display, which allows you to view metrics for all connections on a single server. The table lists all of the connections and their associated metrics for the selected server. The bottom portion of the display lists additional details for the selected server. Clicking the **Critical/Warning** link at the bottom of the display opens the Alerts Table by Component display. Clicking the **Topics** link at the bottom of the display opens the [TIBCO EMS Topics Table - HTML](#) display. Clicking the **Queues** link at the bottom of the display opens the [TIBCO EMS Queues Table - HTML](#) display.

TIBCO EMS Server Connections 17-May-2019 16:05 1 Alert DATA

EMS Server: tcp://192.168.200.115:7222

Conn ID	Client ID	connectionURL	User Name	Host
1249	BW-null-topic-ADB_Operations_Ext	[anonymous@S	anonymous	SLHOST15
1422	BW-null-topic-ADB_Operations-AD	[anonymous@S	anonymous	SLHOST15

State: Active Critical/Warning: 1/0 Backup Name:

Server Name: EMS-SERVER FT URL:

Topics: 48,764 Queues: 185 Durables: 253

Producers: 46 Consumers: 49,017 Routes:

Last Update: 17-May-2019 16:14:45

Fields and Data

This display includes:

EMS Server

The EMS Server selected from this drop-down menu populates all associated Connections data in this display.

This table describes the current connections on the selected server.

Connections Table

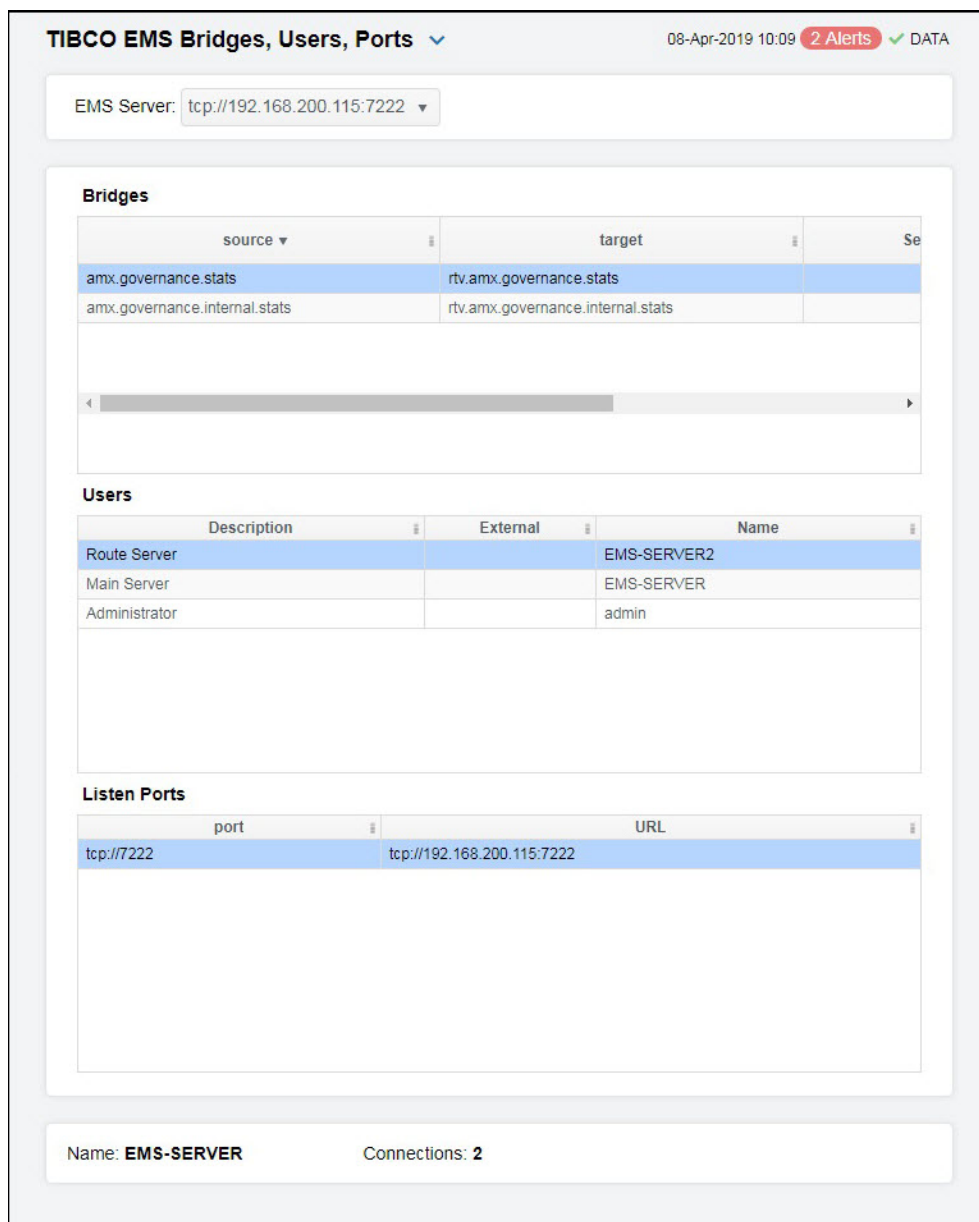
Conn ID	The unique numeric ID assigned to this connection that can be used for deletion.
Client ID	The unique string identifier assigned to the client.
connectionURL	The connection URL.
User Name	The user name.
Host	The name of the host to which the server is connected.
Type	The type of connection: Queue, Topic or System.
Consumers	The total number of consumers currently connected.
Producers	The total number of producers currently connected.
Sessions	The total number of sessions currently connected.
Start Time	The date and time the server was started
Up Time	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.
		The server status:
State	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.
Critical/Warning		The total number of critical and warning alerts for the server.
Backup Name		The name of the backup server for this server.
Server Name		The name of the EMS Server selected from the EMS Server drop-down menu.
FT URL		The IP address and port number, or the hostname and port number, of the fault tolerant standby server assigned to this server.
Topics		The number of topics currently active on the server. Click to open the TIBCO EMS Topics Table - HTML display for details.
Queues		The number of queues currently active on the server. Click to open the TIBCO EMS Queues Table - HTML display for details.
Durables		The number of durables currently active on the server.
Producers		The number of producers currently active on the server.
Consumers		The number of consumers currently active on the server.
Routes		The number of routes defined on the server.
Last Update		The date and time of the last data update.

TIBCO EMS Bridges, Users, Ports - HTML

Clicking **Other Server Metrics** from the left/navigation menu opens the **TIBCO EMS Bridges, Users, Ports** display, which allows you to view bridges configured on an EMS Server, as well as their associated users and ports.



Fields and Data

This display includes:

- EMS Server** The EMS Server selected from this drop-down menu populates all associated Bridges, Users, and Ports data in this display.
- Bridges** This table describes 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.
 - Source Type** The type of the source.
 - Target Type** The type of the target.
 - 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.	
	Description	Textual description of the user.
	External	When checked, the user is defined in an external system.
	Name	The name of the connected user.
	This table describes the connections the selected server is to listen for.	
Listen Ports	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.
Name	The name of the EMS Server selected from the EMS Server drop-down menu.	
Connections	The number of connections on the server.	

EMS Topics - HTML

These displays present several views of performance metrics for topics. Clicking **EMS Topics** from the left/navigation menu opens the [TIBCO EMS Topics Table - HTML](#) display, which 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. You can also view all servers that have a specific topic defined in the [TIBCO EMS Topic Summary - HTML](#) display, and you can see a list of all the servers on which those topics are defined on the [TIBCO EMS Topic Detail by Server - HTML](#) display. The options available under **EMS Topics** are:

- **All Topics Summary:** Clicking **All Topics Summary** opens the [TIBCO EMS Topics for Server Summary - HTML](#) display, which 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 Heatmap:** Clicking **All Topics Heatmap** opens the [TIBCO EMS Topics Heatmap - HTML](#), which is 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.
- **Single Topic Summary:** Clicking **Single Topic Summary** opens the [TIBCO EMS Topic Summary - HTML](#) which 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.
- **Topic Detail by Server:** Clicking **Topic Detail by Server** opens the [TIBCO EMS Topic Detail by Server - HTML](#), which shows performance and utilization metrics for all servers that have a specified topic defined, including consumer and subscriber count, and message performance metrics.

TIBCO EMS Topics Table - HTML

Clicking **EMS Topics** from the left/navigation menu opens the **TIBCO EMS Topics Table** display, which allows you to track performance and utilization metrics for all topics on a single server. You can enter a string in the **Filter by Topic Name** field to show only topics in the table 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. Double-clicking on a row in the table opens the data for the selected topic in the [TIBCO EMS Topic Summary - HTML](#) display so that you can view additional metrics for the selected topic.

TIBCO EMS Topics Table 08-Apr-2019 15:28 2 Alerts DATA

EMS Server: - All -

Filter by Topic Name: * Shown: 306
Total: 49,454




Topic Name	URL	Expired	Alert Level	Alert Count
PROD3.emsmgr.topic.market.cash.flow.tra	tcp://192.168.200.172:8031		✓	0
PROD3.emsmgr.topic.market.cash.flow.tra	tcp://192.168.200.172:8031		✓	0
PROD3.emsmgr.topic.market.cash.flow.tra	tcp://192.168.200.172:8031		✓	0
PROD3.emsmgr.topic.market.cash.flow.tra	tcp://192.168.200.172:8031		✓	0
PROD3.emsmgr.topic.market.cash.flow.tra	tcp://192.168.200.172:8031		✓	0
PROD3.emsmgr.topic.market.cash.flow.tra	tcp://192.168.200.172:8031		✓	0
PROD3.emsmgr.topic.market.cash.flow.tra	tcp://192.168.200.172:8031		✓	0
PROD3.emsmgr.topic.market.cash.flow.tra	tcp://192.168.200.172:8031		✓	0
PROD3.emsmgr.topic.market.cash.flow.tra	tcp://192.168.200.172:8031		✓	0
PROD3.emsmgr.topic.market.cash.flow.tra	tcp://192.168.200.172:8031		✓	0

Page 1 of 8 1 - 40 of 306 items

Fields and Data

This display includes:

- EMS Server** The EMS Server selected from this drop-down menu populates all associated Topic data in this display.
- Filter by Topic Name** 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.
- The total number of currently active topics on the selected server, which is filtered by the **Data Collection > Metric Filters > Topics** field in the RTView Configuration Application.
- Shown** The default value for the **Topics** property is:
`^(?!\\$sys\\.|^\\$TMP\\$\\|^AMX_MGMT\\.|^EMSGMS\\.|^AMX_SV\\.|^_HAWK\\.|^_LOCAL\\. _HAWK\\.|^TMP\\.EMS)`
- You can modify the filter value by editing the **Topics** property, which will override the default value. See [Configuring Data Collection](#) for more information.

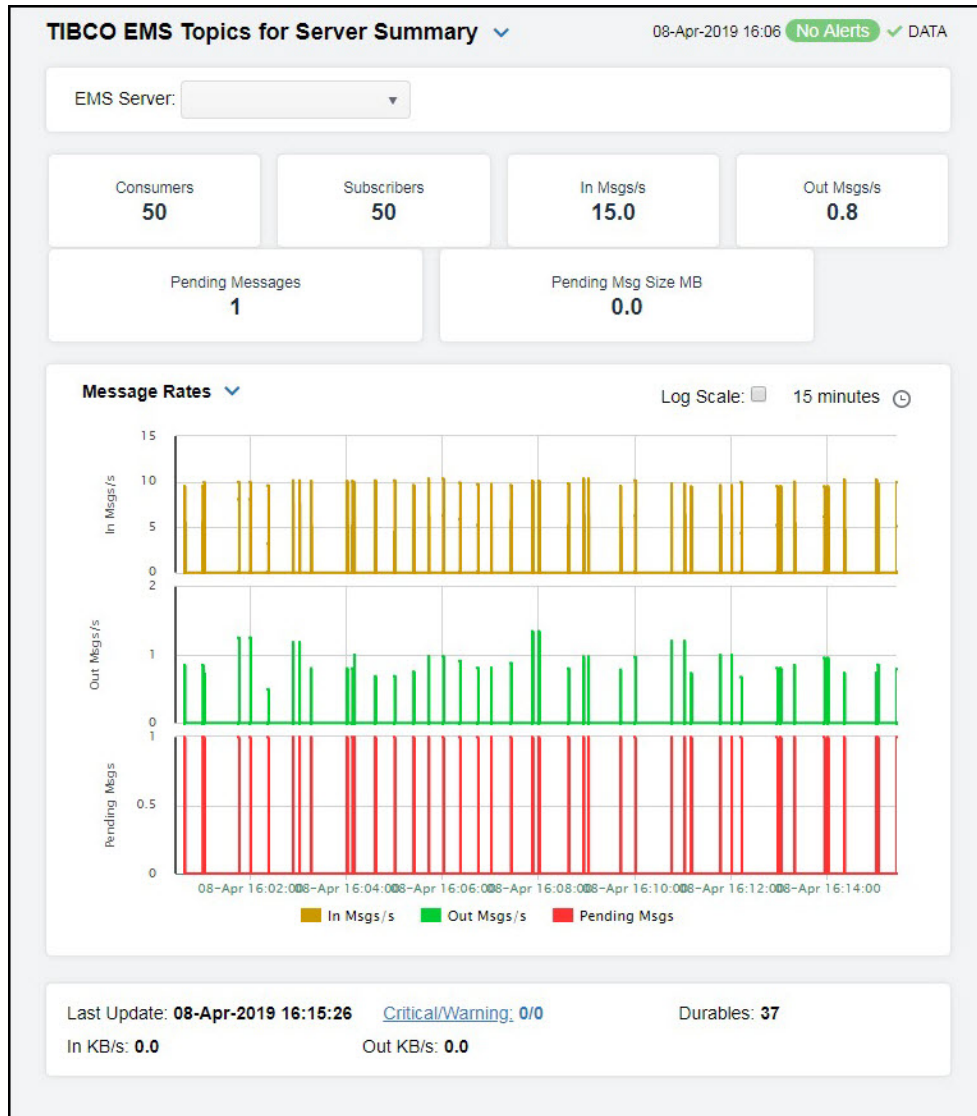
Total	The total number of topics on the selected server.
Table	This table describes all topics on the selected server. Click a row to view metrics for a single topic in the TIBCO EMS Topic Summary - HTML display.
Topic Name	The name of the topic.
URL	The IP address and port number for the server.
Alert Level	<p>The current alert level.</p> <p> -- One or more alerts have exceeded their specified ALARMLEVEL threshold, have an Alert Severity value of 2, and are shown in red.</p> <p> -- One or more alerts have exceeded their specified WARNINGLEVEL threshold, have an Alert Severity value of 1, and are shown in yellow.</p> <p> -- No alerts have exceeded an alert threshold, which have an Alert Severity value of 0, and are shown in green.</p>
Alert Count	The number of current alerts.
In Msgs/s	The number of inbound messages for the topic, per second.
In Total Msgs	The total number of inbound messages for the topic.
Out Msgs/s	The number of outbound messages for the topic, per second.
Out Total Messages	The total number of outbound messages for the topic.
Pending Msgs	The number of currently pending messages for the topic.
Pending Msg Size	The amount of space, in bytes, used by pending messages for the topic.
Active Durables	The number of currently active durables or the topic.
Consumers	The number of consumers for the topic.
Durables	The number of durables for the topic.
Fail Safe	When checked, the message is marked as failsafe delivery.
Flow Control Max Bytes	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 KB/s	The amount of inbound messages for the topic, in kilobytes per second.
In MB	The total amount of inbound messages for the topic, in megabytes, since the server started.
Max Bytes	The maximum size, in bytes, that the topic can store for delivery to each durable or non-durable online subscriber on that topic.
Max Msgs	The maximum number of messages before the server indicates an error and overflow policies are activated.
Out KB/s	The amount of outbound messages for the topic, in kilobytes per second.
Out MB	The total amount of outbound messages for the topic, in megabytes.

Overflow Policy	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.
Subscribers	The number of subscribers for the topic.
Description	Descriptive text to help the administrator identify this resource.
Current In Total Messages	Displays the change (delta) in inboundTotalMessages from the previous cache refresh to the current cache refresh.
Current In Total Bytes	Displays the change (delta) in inboundTotalBytes from the previous cache refresh to the current cache refresh.
Current Out Total Msgs	Displays the change (delta) in outboundTotalMessages from the previous cache refresh to the current cache refresh.
Current Out Total Bytes	Displays the change (delta) in outboundTotalBytes from the previous cache refresh to the current cache refresh.
In Msgs/s (TIBCO)	The number of inbound TIBCO messages for the topic, per second. This metric comes directly from the tibjms.admin.DestinationInfo class from TIBCO.
Out Msgs/s (TIBCO)	The number of outbound TIBCO messages for the topic, per second. This metric comes directly from the tibjms.admin.DestinationInfo class from TIBCO.
In KB/s (TIBCO)	The amount of inbound TIBCO messages for the topic, in kilobytes per second.
Out KB/s (TIBCO)	The amount of outbound TIBCO messages for the topic, in kilobytes per second.
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.

TIBCO EMS Topics for Server Summary - HTML

Clicking **All Topics Summary** from the left/navigation menu opens the **TIBCO EMS Topics for Server Summary** display, which allows you to track performance and utilization metrics and trends for all topics on a single server. Clicking on the server information boxes at the top of the display takes you to the [TIBCO EMS Topics Table - HTML](#) display, where you can view additional

data on all topics. In the trend graph region, you can select from **Message Rates**, which traces inbound/outbound messages per second, **KB Rates**, which traces total inbound/outbound messages per second in kilobytes, or **Pending Msgs**, which traces the total number of messages for all topics on the server currently waiting to be processed and the total size of messages, in megabytes, for all topics on the server currently waiting to be processed. Clicking the **Critical/Warning** link at the bottom of the display opens the **Alerts Table by Component** display.



Fields and Data

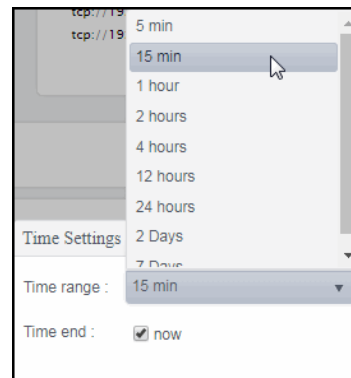
This display includes:

- EMS Server** The EMS Server selected from this drop-down menu populates all associated Topic data in this display.
- Consumers** The number of consumers currently active on the server.
- Subscribers** The number of subscribers for the topic.
- In Msgs/s** The number of inbound messages for the topic, per second.

Out Msgs/s	The number of outbound messages for the topic, per second.
Pending Messages	The number of currently pending messages for the topic.
Pending Msg Size MB	The amount of space, in bytes, used by pending messages for the topic.
Trend Graphs	The following trend graphs are available. <ul style="list-style-type: none"> In Msgs/s -- The number of inbound messages for all topics on the server, per second. Out Msgs/s -- The number of outbound messages for all topics on the server, per second. Pending Msgs -- The total number of messages for all topics on the server currently waiting to be processed. In KB/s -- The size of inbound messages, in kilobytes per second, for all topics on the server. Out KB/s -- The size of outbound messages, in kilobytes per second, for all topics on the server. Pending Msg Size KB -- The total size of messages, in bytes, for all topics on the server currently waiting to be processed. Pending Messages -- The total number of messages for all topics on the server currently waiting to be processed. Pending Msgs Size KB-- The total size of messages, in bytes, for all topics on the server currently waiting to be processed.
Message Rates	
KB Rates	
Pending Msgs	
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.

Select a time range from the drop down menu varying from **5 Minutes** to **Last 7 Days**. By default, the time range end point is the current time.

Time Settings



To change the time range, deselect the **now** toggle, which displays some additional date fields. You can

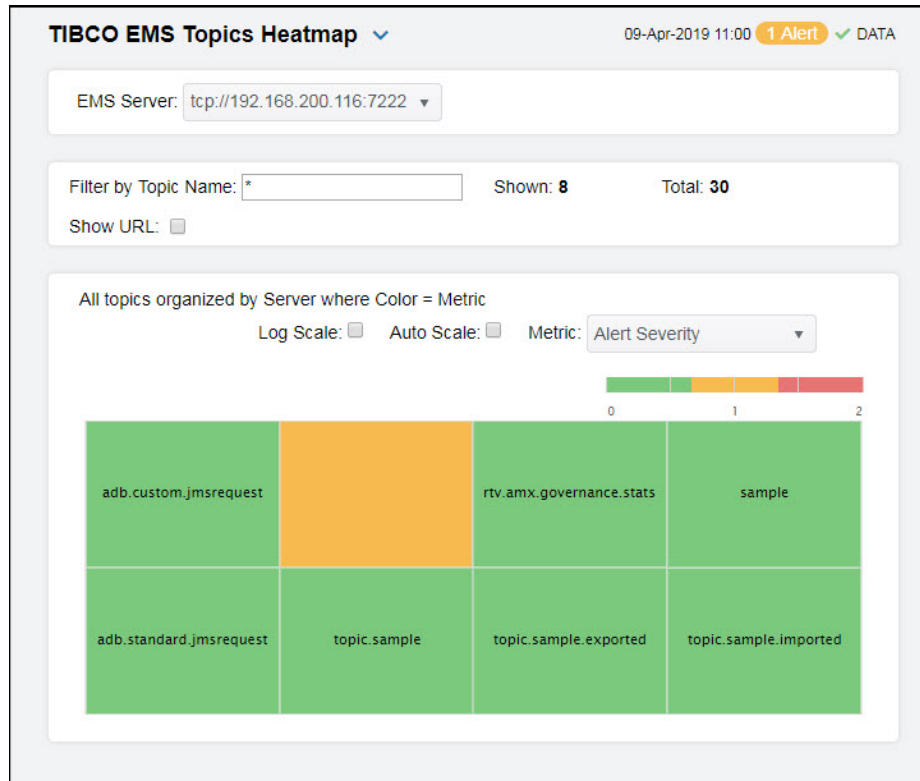
click the left and right arrow buttons to decrease the end time by one time period (the time selected in the **Time range** drop down) per click, or you can choose the date and time from the associated calendar and clock icons. You can also enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM:ss**. For example, Aug 21, 2018 12:24 PM. Click the **now** toggle to reset the time range end point to the current time.

Name	The name of the server selected in the EMS Server drop down list.
Durables	The number of durables for the topic.
In KB/s	The size of inbound messages, in kilobytes per second, for all topics on the server.
Out KB/s	The size of outbound messages, in kilobytes per second, for all topics on the server.

TIBCO EMS Topics Heatmap - HTML

Clicking **All Topics Heatmap** from the left/navigation menu opens the **TIBCO EMS Topics Heatmap**, which is 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. This heatmap allows you to view status and alerts of all topics for a server. You can enter a string in the **Filter by Topic Name** field to show only topics in the table 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. Use the **Metric** drop-down menu to view to **Alert Severity, Alert Count, Consumers, Durables, Subscribers, 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 [TIBCO EMS Topic Summary - HTML](#) display and view metrics for that particular Topic.



Fields and Data


This display includes:

- EMS Server** The EMS Server selected from this drop-down menu populates all associated Topic data in this display.
- Filter by Topic Name** 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.
- Shown** The total number of currently active topics on the selected server, which is filtered by the **Data Collection > Metric Filters > Topics** field in the RTView Configuration Application.
The default value for the **Topics** property is:
`^(?!^\\$sys\\.|^\\$TMP\\$\\.|^AMX_MGMT\\.|^EMSGMS\\.|^AMX_SV\\.|^_HAWK\\.|^_LOCAL\\._HAWK\\.|^TMP\\.EMS)`
 You can modify the filter value by editing the **Topics** property, which will override the default value. See [Configuring Data Collection](#) for more information.
- Total** The total number of topics on the selected server.
- Show URL** Select this check box to display the server URL in the heatmap.
- Log Scale** 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 Scale	<p>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).</p>
Metric	<p>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 TIBCO EMS Topic Summary - HTML display for a detailed view of metrics for that particular topic.</p>
Alert Severity	<p>The maximum alert level in the item (index) associated with the rectangle. Values range from 0 to 2, as indicated in the color gradient bar , where 2 is the greatest Alert Severity.</p> <p>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.</p> <p>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.</p> <p>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.</p>
Alert Count	<p>The total number of alarm and warning alerts in a given item (index) associated with the rectangle.</p> <p>The color gradient bar  shows the range of the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the middle value of the range.</p>
Consumers	<p>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.</p>
Durables	<p>The Auto Scale option does not impact this metric.</p> <p>The total number of active durables in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. The numerical values in the gradient bar range from 0 to the</p>


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.

The total number of pending messages in a given item (index) associated with the rectangle. The

Pending Msgs


color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from **0** to the alert threshold of

EmsTopicsPendingMsgsHigh, which is **3000**. The middle value in the gradient bar indicates the middle value of the range (the default is **1500**).

When **Auto Scale** 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.

The number of inbound messages per second in a given item (index) associated with the rectangle.

In Msg /sec

The color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from **0** to the alert threshold of


EmsTopicsInMsgRateHigh, which is **9**. The middle value in the gradient bar indicates the middle value of the range (the default is **4.5**).

When **Auto Scale** 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.

The total number of inbound messages in a given item (index) associated with the rectangle. The

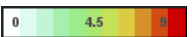
In Total Msg

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 Scale** option does not impact this metric.

Out Msg/sec

The number of outbound messages per second in a given item (index) associated with the


rectangle. The color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from **0** to the alert threshold of **EmsTopicsOutMsgRateHigh**, which is **9**. The

middle value in the gradient bar indicates the middle value of the range (the default is **4.5**).

When **Auto Scale** 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.

The total number of outbound messages in a given item (index) associated with the rectangle.

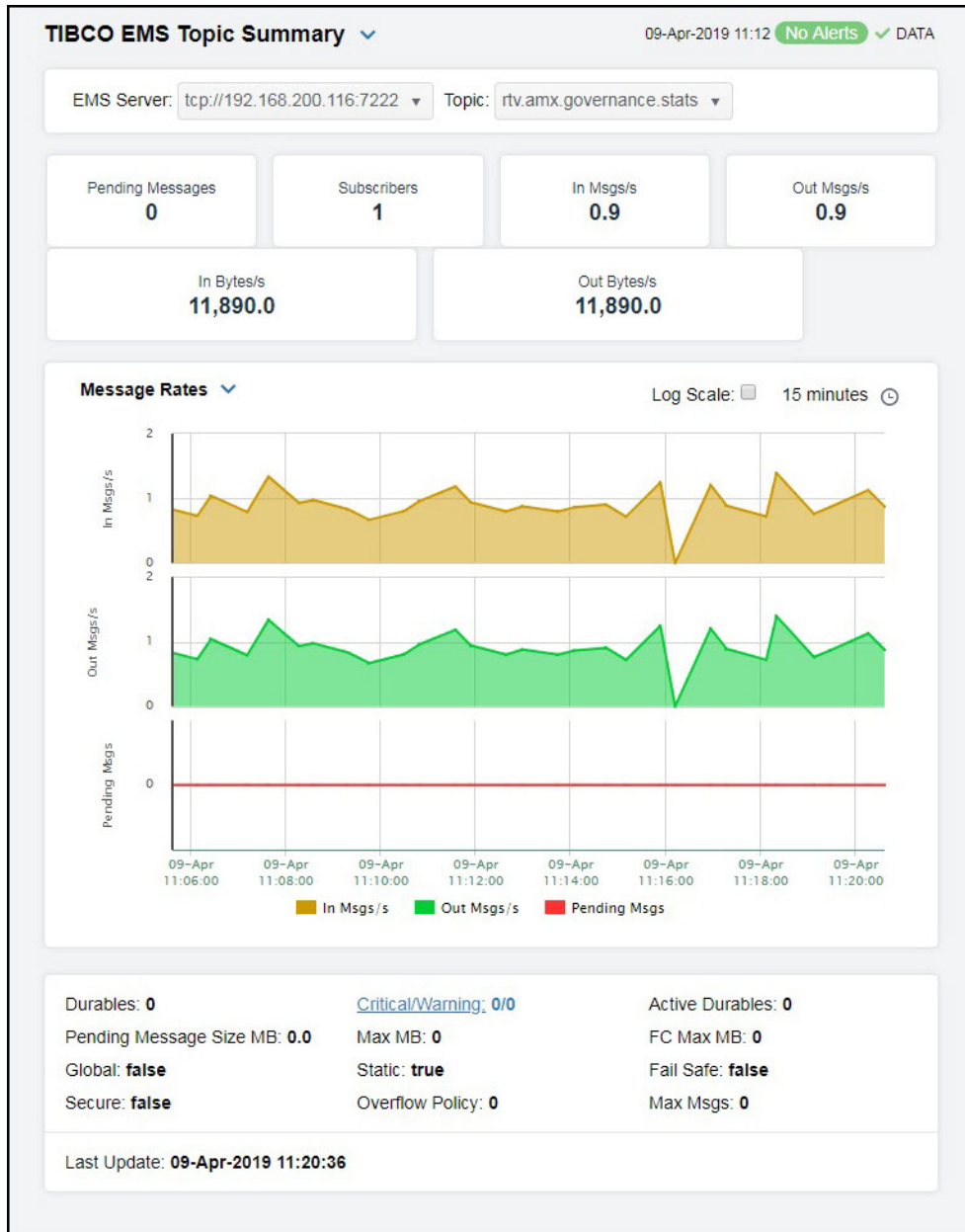
The color gradient bar  shows the range of the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of receivers in the heatmap. The middle value in the gradient bar indicates the middle value of the range.

The **Auto Scale** option does not impact this metric.

Out Total Msgs

TIBCO EMS Topic Summary - HTML

Clicking **Single Topic Summary** from the left/navigation menu opens the **TIBCO EMS Topic Summary** display, which allows you to track performance and utilization metrics for a single topic on a single server. Clicking any of the messages boxes at the top of the display takes you to the [TIBCO EMS Topics Table - HTML](#) display, where you can view additional data on all topics. In the trend graph region, you can select from **Message Rates**, which traces inbound/outbound messages per second, or **Message Flows**, which traces total inbound/outbound messages in bytes. Clicking the **Critical/Warning** link at the bottom of the display opens the Alerts Table by Component display.



Filters

EMS Server

The EMS Server selected from this drop-down menu populates the **Topic** drop-down menu with the Topics belonging to this EMS Server.

Topic

Select the topic for which you want to view data in the display.

Fields and Data

This display includes:

Pending Messages

The number of messages for the selected topic currently waiting to be processed.

Subscribers

The number of subscribers for the topic.

In Msgs/s

The number of inbound messages, per second, for the selected topic.

Out Msgs/s	The number of outbound messages, per second, for the selected topic.
In KB/s	The size of inbound messages, in kilobytes per second, for the selected topic.
Out KB/s	The size of outbound messages, in kilobytes per second, for the selected topic.

Message Rates

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.

Pending Msgs -- Traces the number of messages currently waiting to be processed.

Trend Graphs**Message Flows**

In Msgs -- Traces the number of inbound messages.

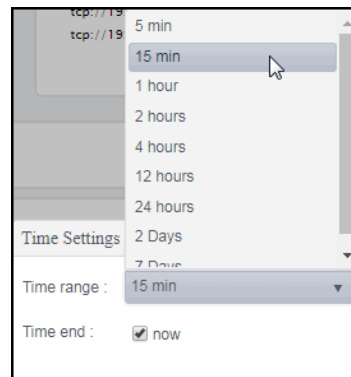
Out Msgs -- Traces the number of outbound messages

Pending Msgs -- Traces the number of messages currently waiting to be processed.

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.

Select a time range from the drop down menu varying from **5 Minutes** to **Last 7 Days**. By default, the time range end point is the current time.

Time Settings

To change the time range, deselect the **now** toggle, which displays some additional date fields. You can click the left and right arrow buttons to decrease the end time by one time period (the time selected in the **Time range** drop down) per click, or you can choose the date and time from the associated calendar and clock icons. You can also enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM:ss**. For example, Aug 21, 2018 12:24

PM. Click the **now** toggle to reset the time range end point to the current time.

Durables	The number of durable subscribers (active and inactive) to the topic.
Critical/Warning	The total number of critical and warning alerts for the server.
Pending Message Size MB	The size of the messages for the selected topic, in megabytes, currently waiting to be processed.
Max MB	The maximum of memory, in megabytes, allocated for use by the topic.
FC Max MB	The maximum amount of memory, in megabytes, allocated for flow control use by the topic.
Global	When true, the message is global and is routed to other servers.
Static	When true, the topic has a static destination.
Fail Safe	When true, the message is marked as failsafe delivery.
Secure	When true, 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.
Max Msgs	The maximum number of messages allocated for the topic.
Last Update	The date and time of the last data update.

TIBCO EMS Topic Detail by Server - HTML

Clicking **Topic Detail by Server** in the left/navigation menu opens the **TIBCO EMS Topic Detail by Server** display, which allows you to track performance and utilization metrics of a single topic across all servers that have the topic defined on it and compare topic activity among servers. Double-clicking any of the rows in the table takes you to the [TIBCO EMS Topic Summary - HTML](#) display, where you can view additional data for that particular topic on that particular server.

TIBCO EMS Topic Detail by Server 16-May-2019 10:56 Alerts DATA

Topic:

Topics: 20

URL	Expired	In Msgs/s	In Total Msgs	Out Msgs/s	Out Tot
tcp://192.168.200.131:7222		0.0	0	0.0	
tcp://192.168.200.172:8011		0.0	0	0.0	
tcp://192.168.200.172:8010		0.0	0	0.0	
tcp://192.168.200.153:7222		0.0	0	0.0	
tcp://192.168.200.116:7222		0.0	0	0.0	
tcp://192.168.200.34:7222		0.0	0	0.0	
tcp://192.168.200.173:9011		0.0	0	0.0	
tcp://192.168.200.173:9010		0.0	0	0.0	
tcp://192.168.200.118:7222		0.0	0	0.0	
tcp://192.168.200.121:7222		0.0	0	0.0	
tcp://192.168.200.119:7222		0.0	0	0.0	
tcp://192.168.200.171:6011		0.0	0	0.0	
tcp://192.168.200.171:6010		0.0	0	0.0	

Filters

Topic The Topic selected from this drop-down menu populates this display.

Fields and Data

This display includes:

Count The number of topics listed in the table.

Table Shows details about the selected Topic for each server that has the Topic defined. Double-click on a table row to view details in the [TIBCO EMS Topic Summary - HTML](#) display.

URL The IP address and port number for the server.

In Msgs/s The amount of inbound messages for the topic, in number of messages per second.

In Total Msgs The total number of inbound messages for the topic.

Out Msgs/s The number of outbound messages per second.

Out Total Msgs The total number of outbound messages for the topic since the server was started.

Pending Msgs The number of currently pending messages for the topic.

Pending Msg Size The amount of space, in bytes, pending messages use for the topic.

Active Durables The number of currently active durables.

Consumers The current number of consumers.

Durables	The number of active and inactive durables.
Fail Safe	When checked, the message is marked as failsafe delivery.
Flow Control Max Bytes	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 KB/s	The amount of inbound messages for the topic, in kilobytes per second.
In MB	The total number of inbound megabytes for the topic.
Max Bytes	The maximum size, in bytes, that the topic can store for delivery to each durable or non-durable online subscriber on the topic.
Max Msgs	The maximum number of messages allocated for use by the topic.
Out KB/s	The amount of outbound messages (in kilobytes) per second.
Out MB	The total amount of outbound messages for the topic, in megabytes, since the server was started.
Overflow Policy	Policy 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.
Subscribers	The number of subscribers for the topic.
Description	Descriptive text to help the administrator identify this resource.
Current In Total Msgs	Displays the change (delta) in inbound total messages from the previous cache refresh to the current cache refresh.
Current In Total Bytes	Displays the change (delta) in inbound total bytes from the previous cache refresh to the current cache refresh.
Current Out Total Msgs	Displays the change (delta) in outbound total messages from the previous cache refresh to the current cache refresh.
Current Out Total Bytes	Displays the change (delta) in outbound total bytes from the previous cache refresh to the current cache refresh.
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.

EMS Queues - HTML

These displays present several views of performance metrics for queues. Clicking **EMS Queues** from the left/navigation menu opens the [TIBCO EMS Queues Table - HTML](#) display, which shows performance and utilization metrics for all queues defined on a specified server. The options available under **EMS Queues** are:

- **All Queues Summary:** Opens the [TIBCO EMS Queues for Server Summary - HTML](#), which shows performance and utilization metrics and trends for all queues defined on a specified server, including message performance metrics.
- **All Queues Heatmap:** Opens the [TIBCO EMS Queues Heatmap - HTML](#), which is 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.
- **Single Queue Summary:** Opens the [TIBCO EMS Queue Summary - HTML](#), which 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.
- **Queue Detail by Server:** Opens the [TIBCO EMS Queue Detail By Server - HTML](#), which shows performance and utilization metrics for all servers that have a specified queue defined, including consumer and receiver count, as well as message performance metrics.

TIBCO EMS Queues Table - HTML

Clicking **EMS Queues** from the left/navigation menu opens the **TIBCO EMS Queues Table** display, which allows you to track performance and utilization metrics for all queues on a single server. You can enter a string in the **Filter by Topic Name** field to show only queues in the table 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. Double-clicking on a row in the table opens the data for the selected queue in the [TIBCO EMS Queue Summary - HTML](#) display so that you can view additional metrics for the selected queue.

TIBCO EMS Queues Table 10-Apr-2019 16:15 1 Alert DATA

EMS Server:

Filter by Queue Name: Shown: **112**
Total: **187**

Queue Name	URL	Alert Level	Alert Count	In Msgs/s
com.tibco.amf.admin.deploymentServerQu	tcp://192.168.200.115:7222	✓	0	
com.tibco.amf.admin.deploymentServerQu	tcp://192.168.200.115:7222	✓	0	
com.tibco.amf.admin.deploymentServerQu	tcp://192.168.200.115:7222	✓	0	
com.tibco.amf.admin.deploymentServerQu	tcp://192.168.200.115:7222	✓	0	
com.tibco.amf.admin.deploymentServerQu	tcp://192.168.200.115:7222	✓	0	
queue.sample	tcp://192.168.200.115:7222	✓	0	
sample	tcp://192.168.200.115:7222	⚠	1	
sample1	tcp://192.168.200.115:7222	✓	0	
tty0.queue.sample	tcp://192.168.200.115:7222	✓	0	
tty1.queue.sample	tcp://192.168.200.115:7222	✓	0	

Page 1 of 3 1 - 40 of 112 items

Filters

EMS Server

The EMS Server selected from this drop-down menu populates all associated Queue data in this display.

Filter by Queue Name

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.

The total number of currently active topics on the selected server, which is filtered by the **Data Collection > Metric Filters > Queues** field in the RTView Configuration Application.

Shown

The default value for the **Queues** property is:

```
^(?!^\\$sys\\.|^\\$TMP\\$\\.|^AMX_MGMT\\.|^EMSGMS\\.|^AMX_SV\\.|^_HAWK\\.|^_LOCAL\\.|^_HAWK\\.|^TMP\\.EMS)
```

You can modify the filter value by editing the **Queues** property, which will override the default value. See [Configuring Data Collection](#) for more information.

Total

The total number of queues on the selected server.

Fields and Data

This display includes:

Table

This table describes all queues on the selected server. Double-click a row to view metrics for a single queue in the [TIBCO EMS Queue Summary - HTML](#) display.

Queue Name

The name of the queue.

URL

The IP address and port number for the server.

The current alert level.

Alert Level

● -- One or more alerts have exceeded their specified **ALARMLEVEL** threshold, have an Alert Severity value of **2**, and are shown in red.

	<ul style="list-style-type: none"> ● -- 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 current alerts.
	The number of inbound messages for the queue, per second.
In Msgs/s	Note: This metric comes directly from the tibjms.admin.DestinationInfo class from TIBCO.
In Total Msgs	The total number of inbound messages for the queue.
	The number of outbound messages for the queue, per second.
Out Msgs/s	Note: This metric comes directly from the tibjms.admin.DestinationInfo class from TIBCO.
Out Total Msgs	The total number of outbound messages for the queue.
Pending Msgs	The number of currently pending messages for the queue.
Consumers	The number of active and inactive consumers.
Fail Safe	When checked, the message is marked as failsafe delivery.
Flow Control Max Bytes	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 KB/s	The amount of inbound messages for the queue, in kilobytes per second.
In MB	The total amount of inbound messages for the queue, in megabytes.
Max Bytes	The maximum amount of bytes allocated for use by the queue.
Max Msgs	The maximum number of messages allocated for use by the queue.
Out KB/s	The amount of outbound messages for the queue, in kilobytes per second.
Out MB	The total amount of outbound messages for the queue, in megabytes.
	Indicates whether an overflow policy is set for the queue:
Overflow Policy	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.
Description	Descriptive text to help the administrator identify

	this resource.
Pending Message Size	The amount of space, in bytes, used by pending messages for the queue.
Exclusive	When checked, the server sends all messages on this queue to one consumer.
Max Redelivery	The maximum number of attempts for attempting redelivery of a message.
Filter In Pattern	The string used to filter the data in the row.
Receivers	The number of receivers that receive queue message.
	The number of inbound TIBCO messages for the queue, per second.
In Msgs/s (TIBCO)	This metric comes directly from the tibjms.admin.DestinationInfo class from TIBCO.
	The number of outbound TIBCO messages for the queue, per second.
Out Msgs/s (TIBCO)	This metric comes directly from the tibjms.admin.DestinationInfo class from TIBCO.
In KB/s (TIBCO)	The amount of inbound TIBCO messages for the queue, in kilobytes per second.
Out KB/s (TIBCO)	The amount of outbound TIBCO messages for the queue, in kilobytes per second.
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.

TIBCO EMS Queues for Server Summary - HTML

Clicking **All Queues Summary** from the left/navigation menu opens the **TIBCO EMS Queues for Server Summary** displays, which allows you to track performance and utilization metrics and trends for all queues on a single server. Clicking any of the messages boxes at the top of the display takes you to the [TIBCO EMS Queues Table - HTML](#) display, where you can view additional data on all queues. In the trend graph region, you can select from **Message Rates**, which traces inbound/outbound messages per second, **KB Rates**, which traces total inbound/outbound messages per second in kilobytes, or **Pending Msgs**, which traces the total number of messages for all queues on the server currently waiting to be processed and the total size of messages, in megabytes, for all queues on the server currently waiting to be processed. Clicking the **Critical/Warning** link at the bottom of the display opens the Alerts Table by Component display.



Filter

EMS Server

The EMS Server selected from this drop-down menu populates all associated queue data in this display.

Fields and Data

This display includes:

Name

The name of the server selected in the **EMS Server** drop down list.

Consumers

The number of consumers across all queues on the selected server.

Receivers

The total number of receivers across all queues on the selected server.

Current In Messages

The total number of inbound messages in the last update period across all queues on the selected server.

Current Out Messages

The total number of outbound messages in the last update period across all queues on the selected server.

Current In KB

The total number of inbound kilobytes in the last update period across all queues on the selected server.

Current Out KB

The total number of outbound kilobytes in the last update period across all queues on the selected server.

Message Rates

Shows metrics for all queues on the selected server.

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.

Pending Msgs -- Traces the number of messages currently waiting to be processed.

KB Rates

Shows metrics for all queues on the selected server.

Trend Graphs

In KB / sec -- Traces the number of inbound messages for all queues, in kilobytes per second.

Out KB / sec -- Traces the number of outbound messages for all queues, in kilobytes per second.

Pending Msg Size KB -- Traces the amount of messages, in kilobytes, currently waiting to be processed.

Pending Msgs

Shows metrics for all queues on the selected server.

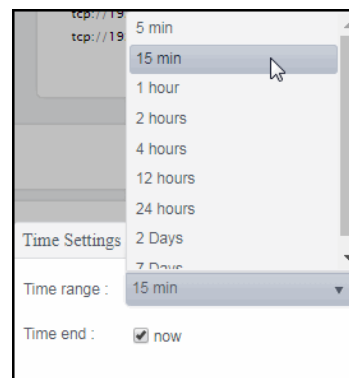
Pending Msgs -- Traces the number of messages currently waiting to be processed.

Pending Msg Size KB -- Traces the amount of messages, in kilobytes, currently waiting to be processed.

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.

Select a time range from the drop down menu varying from **5 Minutes** to **Last 7 Days**. By default, the time range end point is the current time.

Time Settings

To change the time range, deselect the **now**

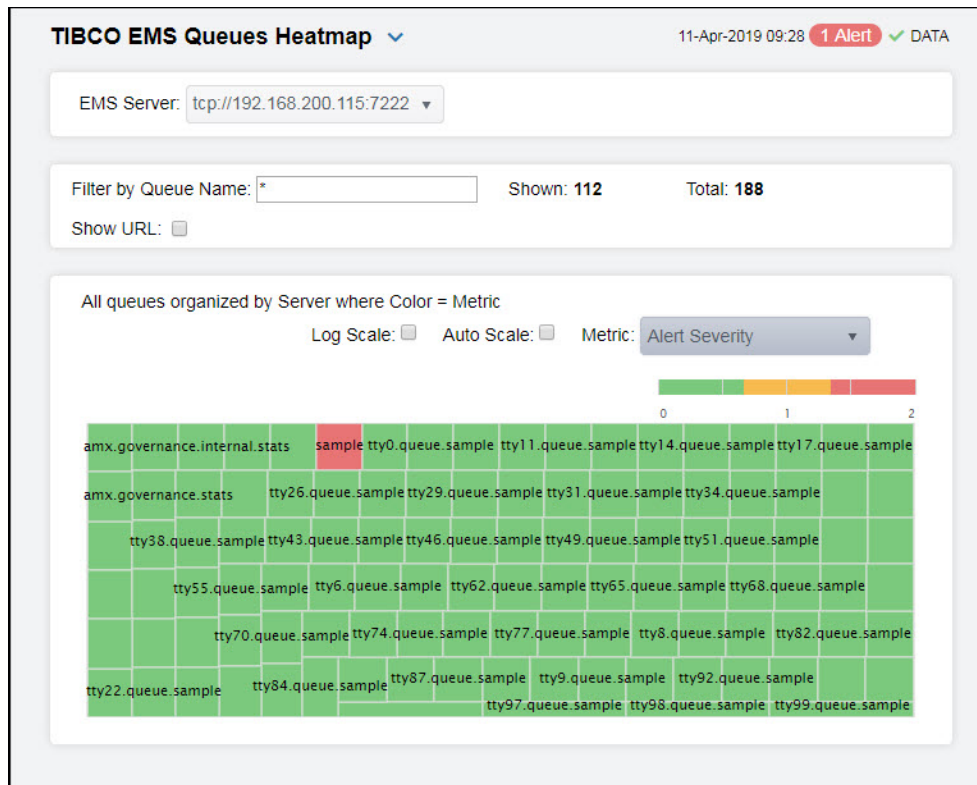
toggle, which displays some additional date fields. You can click the left and right arrow buttons to decrease the end time by one time period (the time selected in the **Time range** drop down) per click, or you can choose the date and time from the associated calendar and clock icons. You can also enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM:ss**. For example, Aug 21, 2018 12:24 PM. Click the **now** toggle to reset the time range end point to the current time.

Critical/Warning	The number of critical and warning alerts across all queues on the server.
In Msgs/s	The number of inbound messages for all queues, per second.
Out Msgs/s	The number of outbound messages for all queues, per second.
Last Update	The date and time of the last data update.
In KB/s	The number of inbound messages for all queues, in kilobytes per second.
Out KB/s	The number of outbound messages for all queues, in kilobytes per second.

TIBCO EMS Queues Heatmap - HTML

Clicking All Queues Heatmap from the left/navigation menu opens the TIBCO EMS Queues Heatmap, which is a heatmap representation of the [TIBCO EMS Queues Table - HTML](#) display that allows you to track performance and utilization metrics and trends for all queues on a single server. This heatmap allows you to view status and alerts of all queues for a particular server. You can enter a string in the **Filter by Topic Name** field to show only topics in the table 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. 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 [TIBCO EMS Queue Summary - HTML](#) display and view metrics for a particular queue. Toggle between the commonly accessed **Table** (link to the [TIBCO EMS Queues Table - HTML](#) display) and **Heatmap** displays. Mouse-over rectangles to view more details about the performance and status of each queue.



EMS Server The EMS Server selected from this drop-down menu populates all associated Queue data in this display.

Filter by Queue Name 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.

The total number of currently active topics on the selected server, which is filtered by the **Data Collection > Metric Filters > Queues** field in the RTView Configuration Application.

Shown The default value for the **Queues** property is:

```
^(?!^\\$sys\\.|^\\$TMP\\.\\$\\.|^AMX_MGMT\\.|^EMSGMS\\.|^AMX_SV\\.|^_HAWK\\.|^_LOCAL\\. _HAWK\\.|^TMP\\.EMS)
```

You can modify the filter value by editing the **Queues** property, which will override the default value. See [Configuring Data Collection](#) for more information.

Total The total number of queues on the selected server.

Log Scale 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 Scale 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 [TIBCO EMS Queue Summary - HTML](#) display for a detailed view of metrics for that particular queue.

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**.

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.


The total number of alarm and warning alerts in a given item (index) associated with the rectangle.

Alert Count

The color gradient bar  shows the range of the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the middle value of the range.

The total number of consumers in a given item (index) associated with the rectangle. The color gradient bar


Consumers

 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 Scale** option does not impact this metric.

The total number of receivers in a given item (index) associated with the rectangle. The color gradient bar

Receivers

 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 Scale** option does not impact this metric.

The total number of pending messages in a given item (index) associated with the rectangle. The color


Pending Msgs

gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from **0** to the alert threshold

of **EmsQueuesPendingMsgsHigh**, which is **3000**. The middle value in the gradient bar indicates the middle value of the range (the default is **1500**).

When **Auto Scale** 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.

The number of inbound messages per second in a given item (index) associated with the rectangle. The


color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from **0** to the alert threshold of **EmsQueuesInMsgRateHigh**, which is **9**. The middle value in the gradient bar indicates the middle value of the range (the default is **4.5**).

In Msgs /sec

When **Auto Scale** 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.


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.

In Total Msg

The **Auto Scale** option does not impact this metric.

The number of outbound messages per second in a given item (index) associated with the rectangle. The


color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from **0** to the alert threshold of **EmsQueuesOutMsgRateHigh**, which is **9**. The middle value in the gradient bar indicates the middle value of the range (the default is **4.5**).

Out Msgs/sec

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.

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.

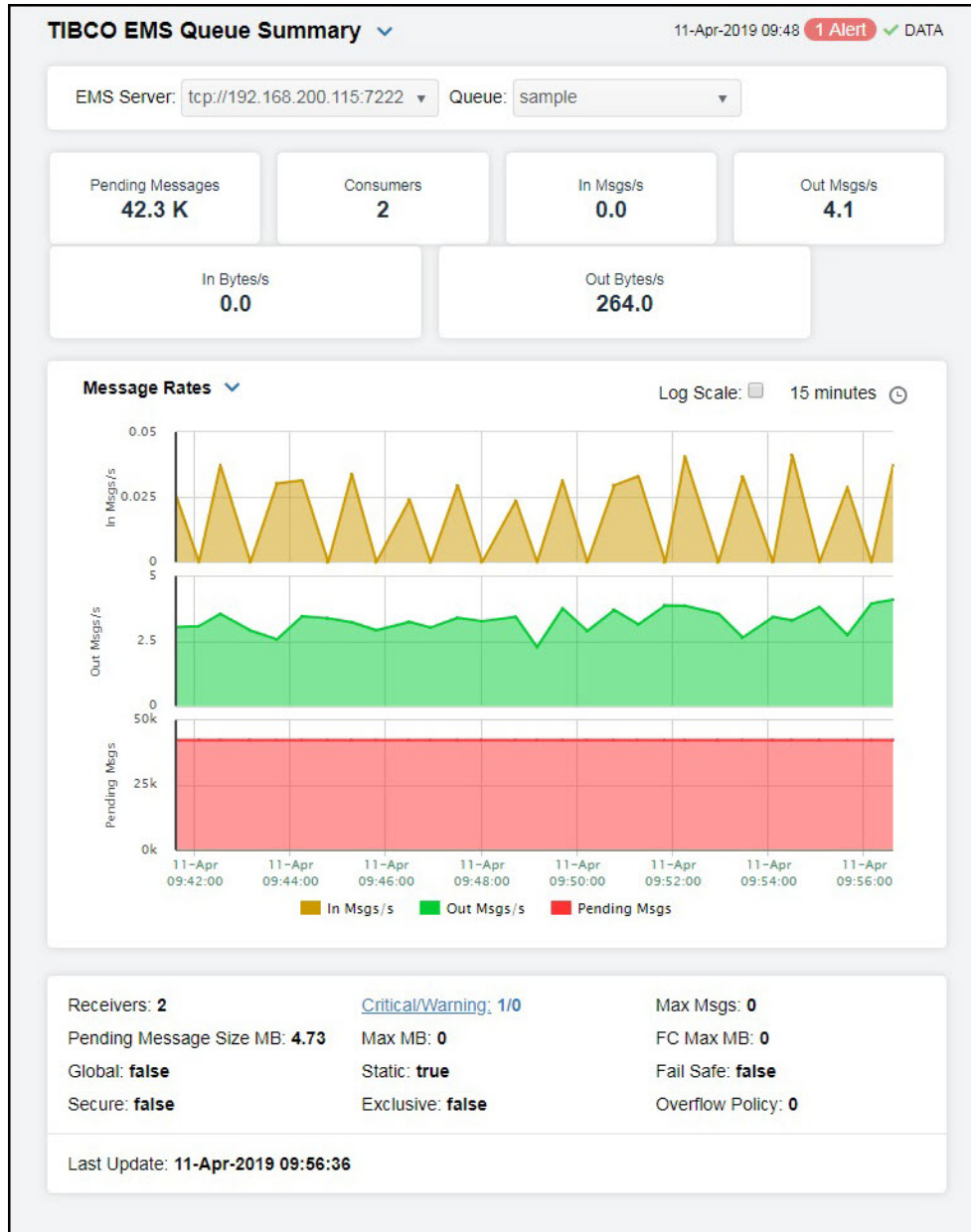
Out Total Msgs

The **Auto Scale** option does not impact this metric.

TIBCO EMS Queue Summary - HTML

Clicking **Single Queue Summary** from the left/navigation menu opens the **TIBCO EMS Queue Summary** display, which allows you to track performance and utilization metrics for a single queue on a single server. Clicking any of the messages boxes at the top of the display

takes you to the [TIBCO EMS Queues Table - HTML](#) display, where you can view additional data on all topics. In the trend graph region, you can select from **Message Rates**, which traces inbound/outbound messages per second, or **Message Flows**, which traces total inbound/outbound messages in bytes. Clicking the **Critical/Warning** link at the bottom of the display opens the Alerts Table by Component display.



Filters

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.

Queue

Select a queue from the drop-down menu. The selection made here populates this display.

Fields and Data

This display includes:

Pending Messages	The total number of messages for the selected queue currently waiting to be processed.
Consumers	The number of consumers currently interacting with the queue.
In Msgs/s	The number of inbound messages, per second, for the selected queue.
Out Msgs/s	The number of outbound messages, per second, for the selected queue.
In KB/s	The size of the inbound messages, in kilobytes per second, for the selected queue.
Out KB/s	The size of outbound messages, in kilobytes per second, for the selected queue.

Message Rates

Shows metrics for the selected queue on the specified server.

In Msgs / sec -- Traces the number of inbound messages, per second.

Out Msgs / sec -- Traces the number of outbound messages, per second.

Pending Msgs -- Traces the number of messages currently waiting to be processed.

Trend Graphs**Message Flows**

Shows metrics for the selected queue on the specified server.

In Msgs-- Traces the number of inbound messages.

Out Msgs -- Traces the number of outbound messages.

Pending Msgs -- Traces the number of messages currently waiting to be processed.

Use Rates

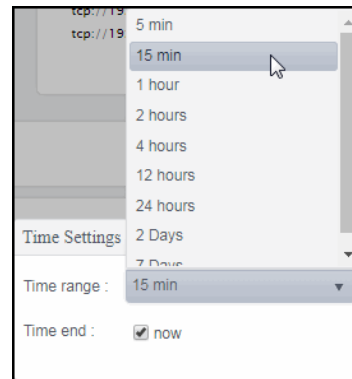
When this check box is selected, the inbound and outbound message rates (**In Msgs/sec** and **Out Msgs/sec**) display in the trend graph. When this check box is not selected, the delta inbound and outbound messages (**Delta In Msgs** and **Delta Out Msgs**) display in the trend graph.

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.

Time Settings

Select a time range from the drop down menu varying from **5 Minutes** to **Last 7 Days**. By default, the time range end point is the current time.



To change the time range, deselect the **now** toggle, which displays some additional date fields. You can click the left and right arrow buttons to decrease the end time by one time period (the time selected in the **Time range** drop down) per click, or you can choose the date and time from the associated calendar and clock icons. You can also enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM:ss**. For example, Aug 21, 2018 12:24 PM. Click the **now** toggle to reset the time range end point to the current time.

Receivers	The number of consumers currently receiving messages from the queue.
Pending Message Size MB	The size, in megabytes, of messages for the selected queue currently waiting to be processed.
Global	When checked, the message is global and is routed to other servers.
Secure	When checked, the queue is designated as secure and enforces permission policies.
Critical/Warning	The number of critical and warning alerts on the queue.
Max MB	The maximum amount of memory, in megabytes, allocated for use by the queue.
Static	When checked, the queue has a static destination.
Exclusive	When checked, the server sends all messages on this queue to one consumer.
Max Msgs	The maximum number of messages allocated for the queue.
FC Max MB	The maximum amount of memory, in megabytes, allocated for flow control use by the queue.
Fail Safe	When checked, the message is marked as failsafe delivery.
Overflow Policy	Indicates whether an overflow policy is set for the queue: 0 = No policy is set. 1 = A policy is set.
Last Update	The date and time of the last data update.

TIBCO EMS Queue Detail By Server - HTML

Clicking **Queue Detail by Server** in the left/navigation menu opens the **TIBCO EMS Queue Detail by Server** display, which allows you to track performance and utilization metrics of a single queue across all servers and compare queue activity among servers. Double-clicking any of the rows in the table takes you to the [TIBCO EMS Queue Summary - HTML](#) display, where you can view additional data for that particular queue on that particular server.

URL	In Msgs/s	In Total Msgs	Out Msgs/s	Out Total Msgs
tcp://192.168.200.172:8031	0.0	0	0.0	0
tcp://192.168.200.172:8030	0.0	0	0.0	0
tcp://192.168.200.171:6021	0.0	0	0.0	0
tcp://192.168.200.171:6020	0.0	0	0.0	0
tcp://192.168.200.172:8011	0.0	0	0.0	0
tcp://192.168.200.115:7222	0.0	416,406	0.0	93,283,777
tcp://192.168.200.172:8010	0.0	0	0.0	0
tcp://192.168.200.116:7222	0.0	0	0.0	0
tcp://192.168.200.171:6031	0.0	0	0.0	0
tcp://192.168.200.171:6030	0.0	0	0.0	0
tcp://192.168.200.173:9011	0.0	0	0.0	0
tcp://192.168.200.117:7222	0.0	0	0.0	0
tcp://192.168.200.173:9010	0.0	0	0.0	0
tcp://192.168.200.173:9011	0.0	0	0.0	0

Filter

Queue The Queue selected from this drop-down menu populates this display.

Fields and Data

This display includes:

Count The number of rows found based on the filter and displayed in the table.

Table Shows details about the selected Queue for each server that has the queue defined. Select a server to view details in the [TIBCO EMS Queue Summary - HTML](#) display.

URL The URL of the server.

In Msgs/s The amount of inbound messages for the queue, in number of messages per second.

In Total Msgs The total number of inbound messages for the queue.

Out Msgs/s The number of outbound messages per second.

Out Total Msgs	The total number of outbound messages since the server was started.
Pending Msgs	The number of currently pending messages.
Consumers	The number of active and inactive consumers.
Fail Safe	When true, the message is marked as failsafe delivery.
Flow Control Max Bytes	The maximum number of bytes allocated for use by flow control.
Global	When true, the message is global and is routed to other servers.
In KB/s	The amount of inbound messages for the queue, in kilobytes per second.
In MB	The total number of inbound megabytes for the queue.
Max Bytes	The maximum amount of bytes allocated for use by the queue.
Max Msgs	The maximum number of messages allocated for use by the queue.
Out KB/s	The amount of outbound messages (in kilobytes) per second.
Out MB	The total amount of outbound messages, in megabytes, since the server was started.
Overflow Policy	Indicates whether an overflow policy is set for the queue: 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.
Description	Descriptive text to help the administrator identify this resource.
Current In Total Msgs	The total number of inbound messages in the last update period for the queue.
Current In Total Bytes	The total number of inbound bytes in the last update period for the queue.
Current Out Total Msgs	The total number of outbound messages in the last update period for the queue.
Current Out Total Bytes	The total number of outbound bytes in the last update period for the queue.
Pending Msg Size	The amount of space, in bytes, pending messages use for the queue.
Exclusive	When checked, the server sends all messages on this queue to one consumer.
Max Redelivery	The maximum number of attempts for attempting redelivery of a message.
Filter In Pattern	The string used to filter the data in the row.
Receivers	The number of receivers of queue messages.
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.

EMS Routes - HTML

These displays present performance metrics and alert status for all routes or one route on an EMS Server. Clicking **EMS Routes** from the left/navigation menu opens the [TIBCO EMS Routes - HTML](#) display, which shows all available utilization metrics for all EMS routes on a specific EMS server. The option available under **EMS Routes** is:

- **Route Summary:** Opens the [TIBCO EMS Route - HTML](#) display, which shows metrics and trend data for a particular route on a particular EMS Server.

TIBCO EMS Routes - HTML

Clicking **EMS Routes** from the left/navigation menu opens the **TIBCO EMS Routes** display, which shows all available utilization metrics for all routes on a specific EMS server. Double-clicking on a route in the Routes for Server table opens the [TIBCO EMS Route - HTML](#) display, which shows additional details for the selected route. Inbound metrics, such as **In Msgs/s**, indicate an in route to the server. Outbound metrics, such as **Out Msgs/s**, indicate an out route to the server.

Filter

EMS Server The EMS Server selected from this drop-down menu populates all associated Routes data in this display.

Fields and Data

This display includes:

Status The current status of the server.

Totals For Server Shows metrics for all server routes on the selected server.

In Msgs / sec The number of inbound messages, per second.

In Total Msgs The total number of inbound messages.

Out Msgs / sec The number of outbound messages, per second.

Out Total Msgs The total number of outbound messages.

Table This table shows metrics for each server route on the selected server. Select a route to view details.

Remote URL The URL of the remote server.

Remote Name 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.

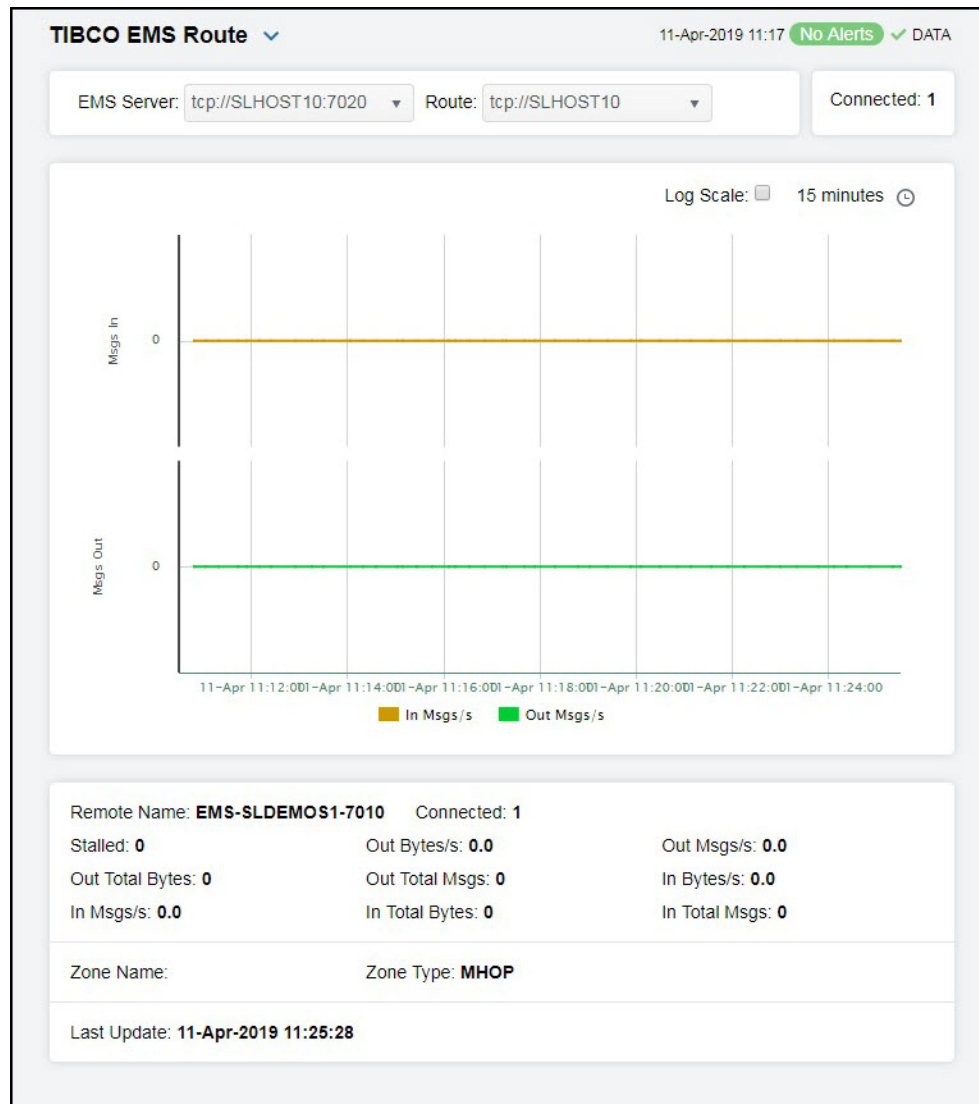
In Bytes/s The rate of inbound data in bytes, per second.

In Msgs/s The rate of inbound messages in number of messages

	per second.
In Total Bytes	The total number of inbound bytes.
In Total Msgs	The total number of inbound messages.
Out Bytes/s	The rate of outbound data in bytes per second.
Out Msgs/s	The rate of outbound messages in number of messages per second.
Out Total Bytes	The total number of outbound bytes.
Out Total Msgs	The total number of outbound messages.
Zone Name	The name of the zone for the route.
Zone Type	Indicates a multi-hop or one-hop zone.
Active	Indicates whether the server route is currently transferring data: 1 = true 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
remoteURLNoCommas	The IP address and name for the remote connection.
Time Stamp	The date and time of the last data update.
Last Update	The date and time of the last data update.

TIBCO EMS Route - HTML

Clicking **Route Summary** from the left/navigation menu opens the **TIBCO EMS Route** display, which shows metrics and trend data for a particular route on a particular EMS Server. Hovering over the trend graphs displays data for each of the metrics at a specific time.



Filter

EMS Server The EMS Server selected from this drop-down menu populates all associated Routes data in this display.

Route Select the route for which you want to view data in the display.

Fields and Data

This display includes:

Connected The number of routes connected.

Shows message data for the selected route.

Trend Graphs

In Msgs/s -- Traces the number of inbound messages, per second.

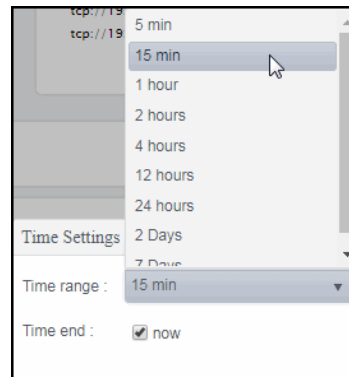
Out Msgs/s -- Traces the number of outbound messages, per second.

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.

Select a time range from the drop down menu varying from **5 Minutes** to **Last 7 Days**. By default, the time range end point is the current time.



Time Settings

To change the time range, deselect the **now** toggle, which displays some additional date fields. You can click the left and right arrow buttons to decrease the end time by one time period (the time selected in the **Time range** drop down) per click, or you can choose the date and time from the associated calendar and clock icons. You can also enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM:ss**. For example, Aug 21, 2018 12:24 PM. Click the **now** toggle to reset the time range end point to the current time.

Remote Name	The name of the remote server.
Stalled	Indicates whether the IO flow stalled on the route. A value of 0 (zero) = not stalled. A value of 1 = stalled.
Out Total Bytes	The total number of outbound bytes.
In Msgs/s	The rate of inbound messages in number of messages per second.
Connected	The number of routes connected.
Out Bytes/s	The rate of outbound data in bytes per second.
Out Total Msgs	The total number of outbound messages.
In Total	The total number of inbound bytes.

Bytes**Out Msgs/s** The rate of outbound messages in number of messages per second.**In Bytes/s** The rate of inbound data in bytes, per second.**In Total Msgs** The total number of inbound messages.**Zone Name** The name of the zone for the route.**Zone Type** Indicates a multi-hop or one-hop zone.**Last Update** The date and time of the last data update.**EMS Producers - HTML**

These displays present performance metrics and alert status for all producers or one producer on an EMS Server. Clicking **EMS Producers** from the left/navigation menu opens the [TIBCO EMS Producers - HTML](#) display, which shows all available utilization metrics for all EMS producers on a specific EMS server. The option available under **EMS Producers** is:

- **Producer Summary:** Opens the [TIBCO EMS Producer - HTML](#) display, which shows metrics and trend data for a particular producer on a particular EMS Server.

TIBCO EMS Producers - HTML

Clicking **EMS Producers** from the left/navigation menu opens the **TIBCO EMS Producers** display, which shows utilization metrics for all producers on a particular EMS Server. You can filter the list of producers in the **Producers for Server** table by **Client ID** and/or **Destination**. Clicking the **Topics** link in the bottom portion of the display opens the [TIBCO EMS Topics Table - HTML](#) display. Clicking the **Queues** link in the bottom portion of the display opens the [TIBCO EMS Queues Table - HTML](#) display.

TIBCO EMS Producers 11-Apr-2019 13:29 No Alerts DATA

EMS Server: Active

Client ID: RegEx: Destination:
 RegEx:

Count: **6** Msgs/s: **0.0** Msgs Total: **99,492,972**
 Bytes/s: **0.0** Total Bytes: **236,200,115,112**

Producers for Server: **EMS-SERVER**

ID	Client ID	Destination Name	Msgs/s	Msgs Total
584234		amx.governance.stat	0.0	14,569,268
584258		amx.governance.inter	0.0	84,066,660
584210		amx.governance.stat	0.0	857,044
584224		com.tibco.amf.admin.	0.0	0
584230		com.tibco.amf.admin.	0.0	0
584227		com.tibco.amf.admin.	0.0	0

Topics: **30** Queues: **242** Durables: **5**
 Producers: **30** Consumers: **88** Routes: **1**

Last Update: **11-Apr-2019 13:38:15**

Filters

EMS Server

The EMS Server selected from this drop-down list displays a list of the currently connected Producers. The field to the right of the EMS Server drop down displays the status of the server.

Client ID

Filter field that allows you to filter the list of producers by client ID.

RegEx

Select this toggle to use a regular expression for the **Client ID** filter field.

Destination

Filter field that allows you to filter the list of producers by destination name.

RegEx

Select this toggle to use a regular expression for the **Destination** filter field.

Fields and Data

This display includes:

Count

The number of currently connected producers on the server.

Msgs/s

The number of messages, per second, for the producer.

Msgs Total

The total number of messages for the producer.

Bytes/s

The amount of messages, in bytes per second, for the producer.

Total Bytes

The total size of messages, in bytes, for the producer.

Producers for Server 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 [TIBCO EMS Producer - HTML](#) drill-down display.

ID	A unique string identifier assigned to each producer.
Client ID	A unique string identifier assigned to each client.
Destination Name	The name of the destination.
Msgs/s	The number of messages, per second, for the producer.
Msgs Total	The total number of messages for the producer.
Bytes/s	The size of messages, in bytes per second, for the producer.
Total Bytes	The total size of messages, in bytes, for the producer.
User Name	The user name.
Host	The name of the host.
Session ID	A unique string identifier assigned to each session.
Conn ID	A unique string identifier assigned to each connection.
Create Time	The amount of time, in milliseconds, since the producer was created.
Destination Type	The configured destination type.
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.
Topics	The total number of topics on the server (pulled directly from the TIBCO API).
Producers	The total number of producers (pulled directly from the TIBCO API).
Queues	The total number of queues on the server (pulled directly from the TIBCO API).
Consumers	The total number of consumers (pulled directly from the TIBCO API).
Durables	The total number of durables on the server (pulled directly from the TIBCO API).
Routes	The total number of routes on the server (pulled directly from the TIBCO API).
Last Update	The date and time of the last data update (pulled directly from the TIBCO API).

TIBCO EMS Producer - HTML

Clicking **Producer Summary** from the left/navigation menu opens the **TIBCO EMS Producer** display, which shows metrics and trend data for a particular producer on a particular EMS Server. Hovering over the trend graphs displays data for each of the metrics at a specific time.



Filters

EMS Server

The selected EMS Server populates the Producer ID/ Client ID drop-down menu with associated Producer IDs/Client IDs.

ID

Drop-down menu containing the Producer IDs/Client IDs.

Fields and Data

This display includes:

Shows message data for the selected producer.

Trend Graph

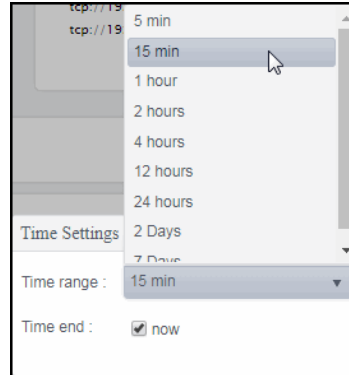
Bytes/s -- Traces the size of messages for the producer, in bytes.

Msgs/s -- Traces the number of messages for the producer, 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.

Select a time range from the drop down menu varying from **5 Minutes** to **Last 7 Days**. By default, the time range end point is the current time.



Time Settings

To change the time range, deselect the **now** toggle, which displays some additional date fields. You can click the left and right arrow buttons to decrease the end time by one time period (the time selected in the **Time range** drop down) per click, or you can choose the date and time from the associated calendar and clock icons. You can also enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM:ss**. For example, Aug 21, 2018 12:24 PM. Click the **now** toggle to reset the time range end point to the current time.

Destination Type	The configured destination type.
Destination Name	The name of the destination.
Client ID	A unique string identifier assigned to each client.
Conn ID	A unique string identifier assigned to each connection.
Msgs/s	The number of messages, per second, for the producer.
Total Bytes	The total size of messages, in bytes, for the producer.
User Name	The user name.
Create Time	The date and time when the producer was created.
Msgs Total	The total number of messages for the producer.
Session ID	A unique string identifier assigned to each session.
Bytes/s	The size of messages, in bytes per second, for the producer.
Last Update	The date and time of the last data update.

EMS Consumers - HTML

These displays present performance metrics and alert status for all consumers or one consumer on an EMS Server. Clicking **EMS Consumers** from the left/navigation menu opens the [TIBCO EMS Consumers - HTML](#) display, which shows all available utilization metrics for all EMS consumers on a specific EMS server. The option available under **EMS Consumers** is:

- **Consumer Summary:** Opens the [TIBCO EMS Consumer - HTML](#) display, which shows metrics and trend data for a particular consumer on a particular EMS Server.

TIBCO EMS Consumers - HTML

Clicking **EMS Consumers** from the left/navigation menu opens the **TIBCO EMS Consumers** display, which shows utilization metrics for all consumers on a particular EMS Server. You can filter the list of consumers in the **Consumers for Server** table by **Client ID** and/or **Destination**. Clicking the **Topics** link in the bottom portion of the display opens the [TIBCO EMS Topics Table - HTML](#) display. Clicking the **Queues** link in the bottom portion of the display opens the [TIBCO EMS Queues Table - HTML](#) display.

TIBCO EMS Consumers ▾
11-Apr-2019 13:55 No Alerts ✓ DATA

EMS Server: tcp://192.168.200.116:7222 ▾

Active

Client ID: *

RegEx:

Destination: *

RegEx:

Count: **13**

Consumer Msgs/s: **0.0**

Consumer Total Msgs: **57,470,741**

Consumer Bytes/s: **0.0**

Consumer Total Bytes: **133,402,130,095**

Consumers for Server: **EMS-SERVER**

ID	Client ID	Destination Name	Consumer Msgs/s	Consumer Total Msgs
193157		rtv.amx.governance.s	0.0	7,714,1
193175		amx.governance.intel	0.0	42,041,1
193176		amx.governance.stat	0.0	7,715,
193104		cl_payload_queue	0.0	
193120		cl_logservice_queue	0.0	
192368		adb.custom.jmsreque	0.0	

[Topics: 30](#)
 Producers: **30**

[Queues: 242](#)
 Consumers: **88**

Durables: **5**
 Routes: **1**

Last Update: **11-Apr-2019 14:04:35**

Filters

EMS Server	The EMS Server selected from this drop-down list displays a list of the currently connected Consumers. The field to the right of the EMS Server drop down displays the status of the server.
Client ID	Filter field that allows you to filter the list of consumers by client ID.
RegEx	Select this toggle to use a regular expression for the Client ID filter field.
Destination	Filter field that allows you to filter the list of consumers by destination name.
RegEx	Select this toggle to use a regular expression for the Destination filter field.

Fields and Data

This display includes:

Count	The number of currently connected producers on the server.
Consumer Msgs/s	The number of messages, per second, for the consumer.
Consumer Total Msgs	The total number of messages for the consumer.
Consumer Bytes/s	The amount of messages, in bytes per second, for the consumer.
Consumer Total Bytes	The total size of messages, in bytes, for the consumer.

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 [TIBCO EMS Consumer - HTML](#) drill-down display.

Consumers for Server Table

ID	A unique string identifier assigned to each consumer.
Client ID	A unique string identifier assigned to each client.
Destination Name	The name of the destination.
Consumer Msgs/s	The number of messages, per second, for the consumer.
Consumer Total Msgs	The total number of messages for the consumer.
Consumer Bytes/s	The size of messages, in bytes per second, for the consumer.
Consumer Total Bytes	The total size of messages, in bytes, for the consumer.
User Name	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 Msgs Sent	The number of messages sent to the consumer that were not yet acknowledged by the consumer's session. The <code>sl.rtvew.jmsadm.queryCIDetails</code> property must be set to <code>true</code> in your <code>sample.properties</code> 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 <code>sl.rtvew.jmsadm.queryCIDetails</code> property must be set to <code>true</code> in your <code>sample.properties</code> 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.

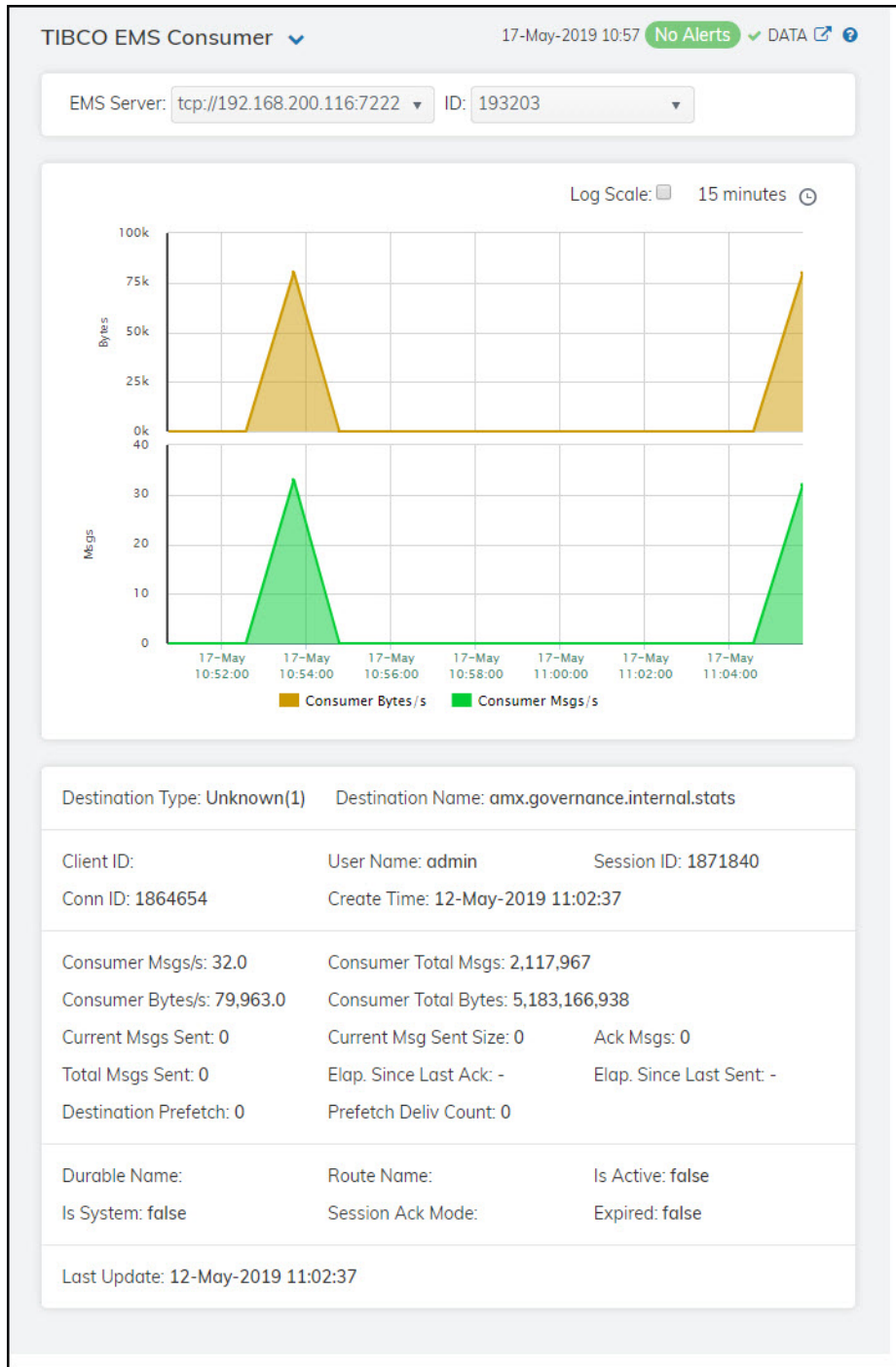
	<p>Note: The <code>sl.rtvview.jmsadm.queryCIDetails</code> property must be set to <code>true</code> in your <code>sample.properties</code> file to see this column.</p>
Total Msgs Sent	<p>The total number of messages sent to the consumer since the consumer was created.</p> <p>Note: The <code>sl.rtvview.jmsadm.queryCIDetails</code> property must be set to <code>true</code> in your <code>sample.properties</code> file to see this column.</p>
Elap. Since Last Ack	<p>The amount of time (in milliseconds) that has elapsed since the last time a message sent to the consumer was acknowledged by the consumer's session.</p> <p>Note: The <code>sl.rtvview.jmsadm.queryCIDetails</code> property must be set to <code>true</code> in your <code>sample.properties</code> file to see this column.</p>
Elap. Since Last Sent	<p>The amount of time (in milliseconds) that has elapsed since the last time the server sent a message to the consumer.</p> <p>Note: The <code>sl.rtvview.jmsadm.queryCIDetails</code> property must be set to <code>true</code> in your <code>sample.properties</code> file to see this column.</p>
Destination Prefetch	<p>The actual destination prefetch value used by the server at runtime.</p> <p>Note: The <code>sl.rtvview.jmsadm.queryCIDetails</code> property must be set to <code>true</code> in your <code>sample.properties</code> file to see this column.</p>
Prefetch Deliv Count	<p>The number of prefetch messages delivered to the consumer by the server. For consumers receiving messages on any destination with positive prefetch value, this value is never more than the prefetch value of the destination. This value cannot be used to identify the status of the consumer, but it can be used in conjunction with other consumer information values to identify consumers who stopped receiving messages due to application-specific problems.</p> <p>Note: The <code>sl.rtvview.jmsadm.queryCIDetails</code> property must be set to <code>true</code> in your <code>sample.properties</code> file to see this column.</p>
Durable Name	<p>The name of the durable.</p>
Route Name	<p>The queue owner server name if the consumer if the consumer's destination is a routed queue.</p> <p>Note: The <code>sl.rtvview.jmsadm.queryCIDetails</code> property must be set to <code>true</code> in your <code>sample.properties</code> file to see this column.</p>
Is Active	<p>If true, the consumer is active and can receive messages from the server.</p> <p>Note: The <code>sl.rtvview.jmsadm.queryCIDetails</code> property must be set to <code>true</code> in your <code>sample.properties</code> file to see this column.</p>
Is System	<p>If true, the consumer was automatically created by the system.</p> <p>Note: The <code>sl.rtvview.jmsadm.queryCIDetails</code> property must be set to <code>true</code> in your <code>sample.properties</code> file to see this column.</p>
Session Ack Mode	<p>Lists the consumer's session acknowledge mode as a constant defined in <code>TibjmsAdmin</code>.</p> <p>Note: The <code>sl.rtvview.jmsadm.queryCIDetails</code> property must be set to <code>true</code> in your <code>sample.properties</code> file to see this column.</p>
Create Time	<p>The amount of time, in milliseconds, since the consumer was created.</p>
Destination Type	<p>The type of destination.</p>
Expired	<p>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 ></p>

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.
Topics	The total number of topics on the server (pulled directly from the TIBCO API).
Producers	The total number of producers (pulled directly from the TIBCO API).
Queues	The total number of queues on the server (pulled directly from the TIBCO API).
Consumers	The total number of consumers (pulled directly from the TIBCO API).
Durables	The total number of durables on the server (pulled directly from the TIBCO API).
Routes	The total number of routes on the server (pulled directly from the TIBCO API).
Last Update	The date and time of the last data update (pulled directly from the TIBCO API).

TIBCO EMS Consumer - HTML

Clicking **Consumer Summary** from the left/navigation menu opens the **TIBCO EMS Consumer** display, which shows metrics and trend data for a particular consumer on a particular EMS Server. Hovering over the trend graphs displays data for each of the metrics at a specific time.



Filters

- EMS Server** The selected EMS Server populates the Consumer ID/ Client ID drop-down menu with associated Producer IDs/Client IDs.
- ID** Drop-down menu containing the Consumer IDs/Client IDs.

Fields and Data

This display includes:

- Trend Graphs** Shows message data for the selected producer.

Msgs / sec -- Traces the number of messages for the consumer, per second.

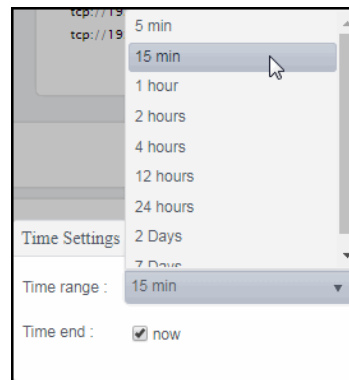
Bytes / sec -- Traces the size of messages for the consumer, in bytes.

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.

Select a time range from the drop down menu varying from **5 Minutes** to **Last 7 Days**. By default, the time range end point is the current time.

Time Settings



To change the time range, deselect the **now** toggle, which displays some additional date fields. You can click the left and right arrow buttons to decrease the end time by one time period (the time selected in the **Time range** drop down) per click, or you can choose the date and time from the associated calendar and clock icons. You can also enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM:ss**. For example, Aug 21, 2018 12:24 PM. Click the **now** toggle to reset the time range end point to the current time.

Destination Type	The configured destination type.
Destination Name	The name of the destination.
Client ID	A unique string identifier assigned to each client.
Conn ID	A unique string identifier assigned to each connection.
User Name	The user name.
Create Time	The amount of time, in milliseconds, since the consumer was created.

Session ID	A unique string identifier assigned to each session.
Consumer Msgs/s	The number of messages, per second, for the consumer.
Consumer Total Bytes	The total size of messages, in bytes, for the consumer.
Ack Msgs	<p>The total number of messages that have been sent to the consumer and have been acknowledged by the consumer's session.</p> <p>The sl.rtvie.wjmsadm.queryCIDetails property must be set to true in your sample.properties file to see this column.</p>
Elap. Since Last Sent	<p>The amount of time (in milliseconds) that has elapsed since the last time the server sent a message to the consumer.</p> <p>The sl.rtvie.wjmsadm.queryCIDetails property must be set to true in your sample.properties file to see this column.</p>
Consumer Total Msgs	The total number of messages for the consumer.
Current Msgs Sent	<p>The number of messages sent to the consumer that were not yet acknowledged by the consumer's session.</p> <p>The sl.rtvie.wjmsadm.queryCIDetails property must be set to true in your sample.properties file to see this column.</p>
Total Msgs Sent	The total number of messages sent for the consumer.
Destination Prefetch	<p>The actual destination prefetch value used by the server at runtime.</p> <p>The sl.rtvie.wjmsadm.queryCIDetails property must be set to true in your sample.properties file to see this column.</p>
Consumer Bytes/s	The size of messages, in bytes per second, for the consumer.
Current Msg Sent Size	<p>The combined size of messages sent to the consumer that were not yet acknowledged by the consumer's session.</p> <p>Note: The sl.rtvie.wjmsadm.queryCIDetails property must be set to true in your sample.properties file to see this column.</p>
Elap. Since Last Ack.	<p>The amount of time (in milliseconds) that has elapsed since the last time a message sent to the consumer was acknowledged by the consumer's session.</p> <p>The sl.rtvie.wjmsadm.queryCIDetails property must be set to true in your sample.properties file to see this column.</p>
Prefetch Deliv Count	<p>The number of prefetch messages delivered to the consumer by the server. For consumers receiving messages on any destination with positive prefetch value, this value is never more than the prefetch value of the destination. This value cannot be used to identify the status of the consumer, but it can be used in conjunction with other consumer information values to identify consumers who stopped receiving messages due to application-specific problems.</p> <p>The sl.rtvie.wjmsadm.queryCIDetails property must be set to true in your sample.properties file to see this column.</p>
Durable Name	The name of the durable.
Is System	<p>If true, the consumer was automatically created by the system.</p> <p>The sl.rtvie.wjmsadm.queryCIDetails property must be set to true in your sample.properties file to see this column.</p>
Route Name	<p>The queue owner server name if the consumer if the consumer's destination is a routed queue.</p> <p>The sl.rtvie.wjmsadm.queryCIDetails property must be set to true in your sample.properties file to see this column.</p>
Session Ack Mode	<p>Lists the consumer's session acknowledge mode as a constant defined in TibjmsAdmin.</p> <p>The sl.rtvie.wjmsadm.queryCIDetails property must be set to true in your</p>

	sample.properties file to see this column.
Is Active	If true, the consumer is active and can receive messages from the server. The sl.rtvview.jmsadm.queryCIDetails property must be set to true in your sample.properties file to see this column.
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.
Last Update	The date and time of the last data update.

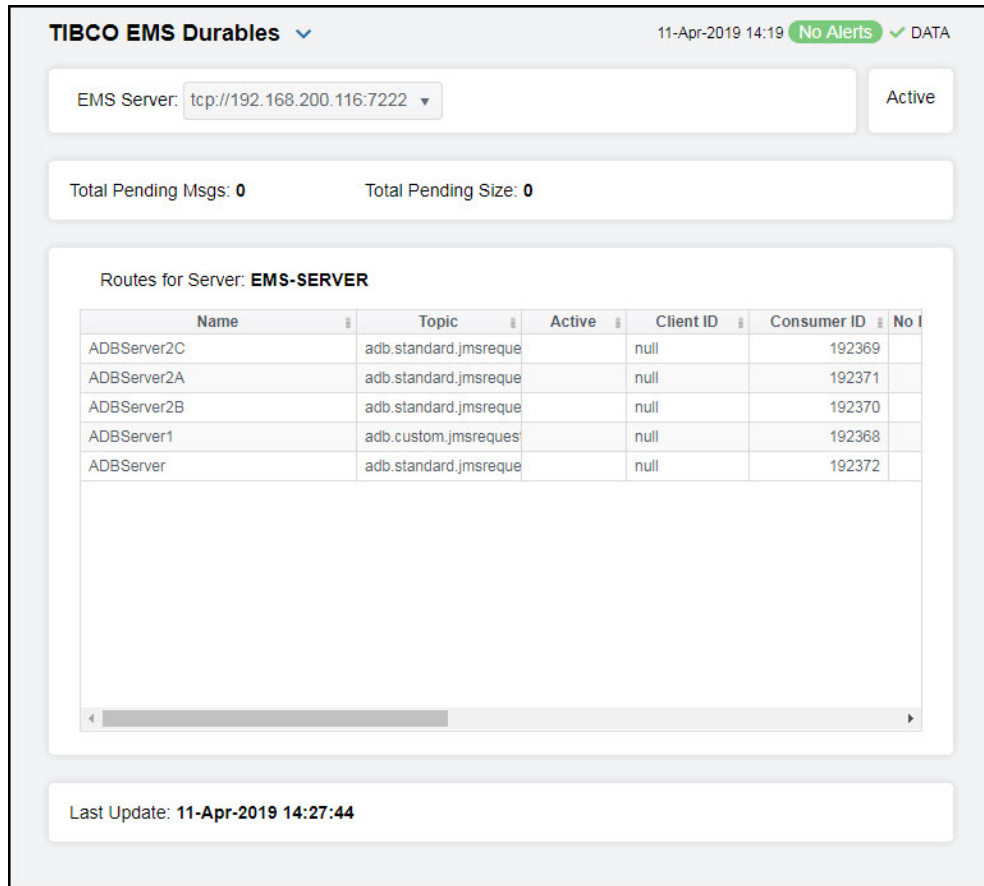
EMS Durables - HTML

These displays present performance metrics and alert status for all durables or one durable on an EMS Server. Clicking **EMS Durables** from the left/navigation menu opens the [TIBCO EMS Durables - HTML](#) display, which shows all available utilization metrics for all EMS durables on a specific EMS server. The option available under **EMS Durables** is:

- **Durable Summary:** Opens the [TIBCO EMS Durable - HTML](#) display, which shows metrics and trend data for a particular durable on a particular EMS Server.

TIBCO EMS Durables - HTML

Clicking **EMS Durables** from the left/navigation menu opens the **TIBCO EMS Durables** display, which shows utilization metrics for all durables on a particular EMS Server. Double-clicking a row in the table opens the selected durable in the [TIBCO EMS Durable - HTML](#) display.



Filter

EMS Server

The EMS Server selected from this drop-down menu populates all associated Durables data in this display. The field to the right of the EMS Server drop down displays the status of the server.

Fields and Data

This display includes:

Total Pending Msgs

The total number of pending messages for the durable.

Total Pending Size

The total amount of pending messages, in bytes, for the selected durable.

Durables for Server Table

This table shows metrics for each durable on the selected server.

Name

The name of the durable.

Topic

The name of the topic.

Active

Indicates whether the durable is active.

Client ID

A unique string identifier assigned to each client.

Consumer ID	A unique string identifier assigned to each consumer. Indicates whether the subscriber receives messages from all connections or its local connection.
No Local Enabled	True -- The subscriber does not receive messages sent from its local connection. False -- The subscriber receives messages from all connections.
Pending Msgs	The total number of pending messages for the selected durable.
Pending Msg 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.
User Name	The name of the user of this durable subscriber.
Time Stamp	The date and time this row of data was last updated.
Last Data Update	The date and time of the last data update.

TIBCO EMS Durable - HTML

Clicking **Durable Summary** from the left/navigation menu opens the **TIBCO EMS Durable** display, which shows metrics and trend data for a particular durable on a particular EMS Server. Hovering over the trend graphs displays data for each of the metrics at a specific time.



Filter

- EMS Server** The EMS Server selected from this drop-down menu populates all associated Durables data in this display. The field to the right of the EMS Server drop down displays the status of the server.
- Durable** Select the durable for which you want to view data.
- Client ID** Select the client ID for which you want to view data.

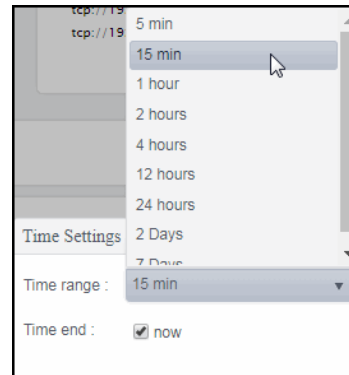
Fields and Data

This display includes:

- Total Pending Msgs** The total number of pending messages for the durable.
- Total Pending Size** The total amount of pending messages, in bytes, for the selected durable.
- Trend Graph** Shows message data for the selected consumer.
- Pending Msgs** -- 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.

Select a time range from the drop down menu varying from **5 Minutes** to **Last 7 Days**. By default, the time range end point is the current time.








Time Settings

To change the time range, deselect the **now** toggle, which displays some additional date fields. You can click the left and right arrow buttons to decrease the end time by one time period (the time selected in the **Time range** drop down) per click, or you can choose the date and time from the associated calendar and clock icons. You can also enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM:ss**. For example, Aug 21, 2018 12:24 PM. Click the **now** toggle to reset the time range end point to the current time.

Topic	The name of the topic.
No Local Enabled	Indicates whether the subscriber receives messages from all connections or its local connection. True -- The subscriber does not receive messages sent from its local connection. False -- The subscriber receives messages from all connections.
Selector	Indicates that the subscriber only receives messages that match this selector.
Active	Indicates whether the durable is active.
Pending Msgs	The total number of pending messages for the selected durable.
User Name	The name of the user of this durable subscriber.
Consumer ID	A unique string identifier assigned to each consumer.
Pending Msg Size	The total amount of pending messages, in bytes, for the selected durable.
Last Update	The date and time of the last data update.



Drilldowns

Displays contained under this View are only available by clicking on buttons/links in other displays. For example, clicking on the "Alerts" icon  in the upper right hand corner of the display opens the **Alerts Table by Component** display. You cannot access these displays directly via the left menu.

- **Component Alerts Table:** Associated with the [Alerts Table by Component](#) display, which can be opened by clicking the Alerts icon  in the upper right hand corner of the display.
- **Component Alert Detail:** Associated with the [Alert Detail for Component](#) display, which can be opened by clicking  in the **Alerts Table** or by clicking  in the **Alerts Table by Component** display.
- **Component Alert Configuration:** Associated with the [Alert Configuration for Component](#) displays, which can be opened by clicking  in the **Alert Detail for Component** display.

Alerts Table by Component

As an alternative to the **Alerts Table**, use the **Alerts Table by Component** to track and manage all alerts that are specifically associated with the CIs shown in a display.

You access the **Alerts Table by Component** by clicking  (the alert status icon) in the title bar of other displays. The display in which you click  is the source display.

Package provides the technology label associated with the alerts shown. For example, **Jvm**, **Tomcat** and **Host** are the technology labels for Java Virtual Machines, Tomcat applications and servers (respectively). These labels are also correlated with the RTView solution package names (for example, the Solution Package for Host Agent). **Category** lists all alert categories related to the source display.

Use the **ACK** and **Cleared** drop-downs to filter the table by **All**, **True** or **False**.

See the **Alert Level** column icon, where:



The alert reached its ALARM LEVEL threshold in the table row.



The alert reached its WARNING LEVEL threshold in the table row.

To investigate, click:

 **Alert Detail**

to open the **Alert Detail for Component** where you can see the current and historical conditions that precipitated the alert being executed.

 **Go to CI**

to open the summary display for the CI associated with the alert where you can investigate utilization metrics for the CI leading up to the alert being executed.

You can search, filter, sort and choose columns to include by clicking a column header icon (to the right of each column label) and selecting **Filter**, **Sort Ascending**, **Sort Descending** or **Columns**. Right-click on a table cell to **Export to Excel**. Use **Ctrl +** click or **Shift +** click to select multiple alerts.

With one or more alerts selected, click **Own** to set the alert(s) owner field, **Acknowledge** to acknowledge the alert(s), **Unacknowledge** to clear the acknowledgement on previously acknowledged alert(s), **Add Comment** to add a comment to the alert(s).

You must be logged in as `rtvalertmgr` or `rtvadmin` to perform the **Own**, **Ack**, **Unack**, or **Comment** actions. Otherwise, you get an error dialog.

Alerts Table by Component 02-May-2019 11:05:09 DATA OK

Package: Host Category: CPU:Network:Storage Cleared: False ACK: False

Alert Count: 16



Row	Update Time	Acknowledge	Cleared	Alert Level	Alert Name	Alert Index Values
2018-Nov-09 23:54:0				🔔	HostCpuPercentHigh	SL-DEMO;SLHOST16(sL_qa) High V
2018-Oct-01 06:20:10				⚠️	HostCpuPercentHigh	SL-DEMO;SLHOST17(sL_amx) High A
2019-May-02 03:28:5				🔔	HostMemoryUsedHigh	SL-DEMO-LX;192.168.200.92 High V
2018-Oct-01 06:19:36				⚠️	HostVirtualMemoryUsedH	SL-DEMO;SLHOST17(sL_amx) High A
2018-Oct-01 06:18:36				🔔	HostMemoryUsedHigh	SL-DEMO;SLHOST17(sL_amx) High V
2018-Jan-12 11:38:56				⚠️	HostCpuPercentHigh	SL-DEMO-LX;192.168.200.205 High A
2019-May-02 10:40:3				⚠️	HostVirtualMemoryUsedH	SL-DEMO-LX;192.168.200.42 High A
2019-Apr-25 10:19:43				🔔	HostMemoryUsedHigh	SL-DEMO;SLHOST8 High V
2018-Jun-19 09:22:23				⚠️	HostCpuPercentHigh	SL-DEMO-LX;192.168.200.202 High A
2018-Nov-09 10:33:54				⚠️	HostVirtualMemoryUsedH	SL-DEMO;SLHOST16(sL_qa) High A
2018-May-01 22:45:4				⚠️	HostCpuPercentHigh	SL-DEMO-LX;192.168.200.202 High A

Alert Detail Go to CI Own Acknowledge Unacknowledge

Add Comment Clear All Comments

Alert Detail for Component

Use the **Alert Detail for Component** display to investigate current and historical activity of a specific alert instance as it applies to the associated CI, and also compare against **Metric History** trends of the associated CI. A trend graph for the CI associated with the alert instance. You can hover over the trend graph to see the values at a particular time. You can specify the time range for the trend graph and view data based on a log scale, which enables visualization on a logarithmic scale and should be used when the range in your data is very broad.

Access the **Alert Detail for Component** display by clicking  in the **Alerts Table** or  in the **Alerts Table by Component** display.

The **Alert History** table at the bottom of the display contains a row of data for each time the alert instance was updated. See the alert **ID**, **Row Update Time**, **Cleared** status and **Reason**, **Owner** and the **Alert Level** column icon, where:



The alert reached its ALARM LEVEL threshold in the table row.



The alert reached its WARNING LEVEL threshold in the table row.

You can search, filter, sort and choose columns to include by clicking a column header icon (to the right of each column label) and selecting **Filter**, **Sort Ascending**, **Sort Descending** or **Columns**. Right-click on a table cell to **Export to Excel**. Use **Ctrl + click** or **Shift + click** to select multiple alerts.

To investigate, click:

 **Go to CI**

to see utilization conditions for the CI associated with the alert in a summary display.

 **Admin**

to open the **Alert Configuration for Component** display where you can see, modify and refine alert threshold settings for that particular alert. A trend graph traces the relevant alert metric for the CI so you can adjust thresholds in real-time.

Alert Detail For Component 02-May-2019 14:09:52 ✔ DATA OK

Alert Name: JvmCpuPercentHigh Severity: 🔔 Cleared: ✔ DATA UPDATE ACK: no

Source: Instance-1-90 Connection: CRMProducer1

Alert Time: 02-May-2019 14:00 Alert Text: High Warning Limit exceeded, current value: 63.46399696813404 limit: 50.0

[Go to CI](#)
 [Own](#)
 [Acknowledge](#)
 [Unacknowledge](#)

[Add Comment](#)
[Admin](#)

Metric History Log Scale: 15 minutes 🕒

Alert History

ID	Row Update Time	Alert Level	Cleared	Cleared Reason	Acknowledged	Owner
937671	2019-May-02 14:09:18	🔔	✔	DATA UPDATE		
937671	2019-May-02 14:03:26	🔔				
937646	2019-May-02 13:56:27	🔔	✔	DATA UPDATE		
937646	2019-May-02 13:55:49	🔔				
937635	2019-May-02 13:51:15	🔔	✔	DATA UPDATE		
937635	2019-May-02 13:51:14	🔔				

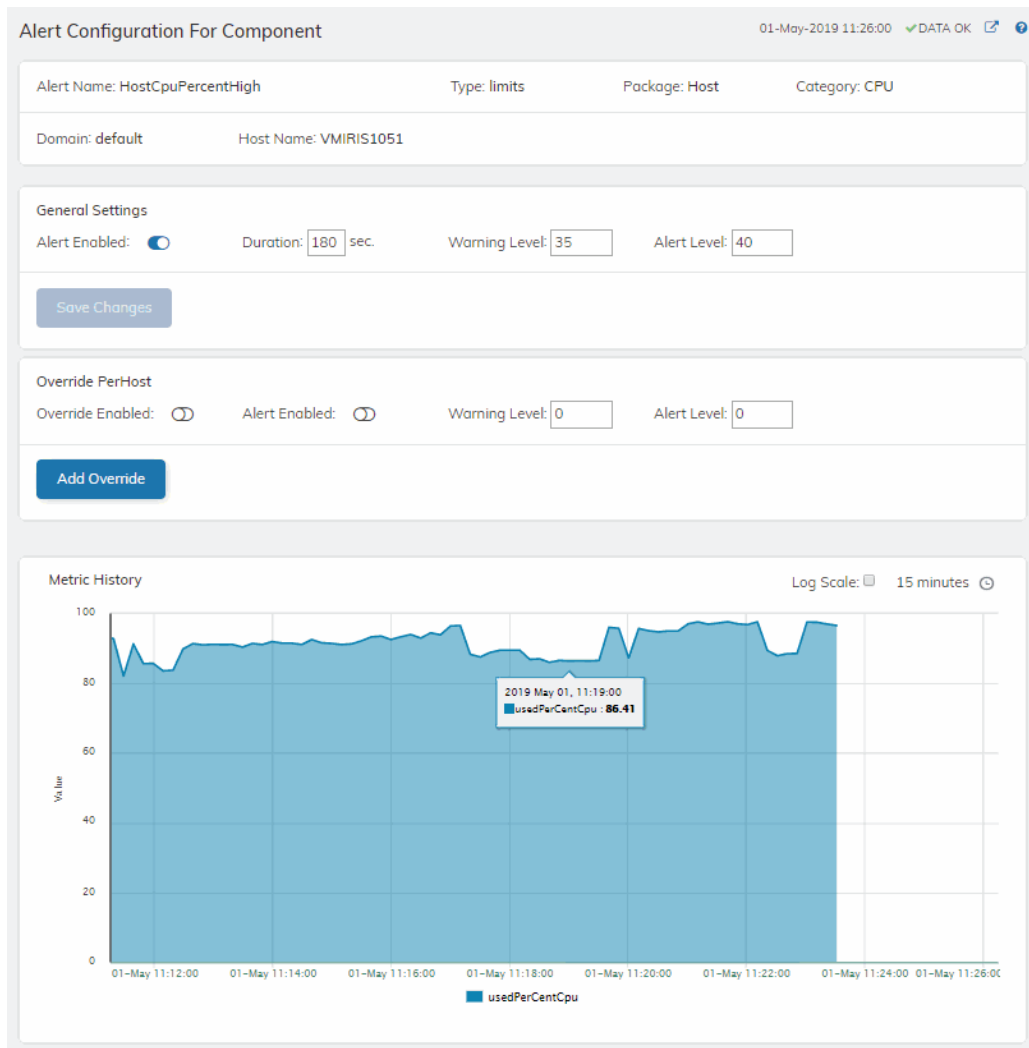
Alert Configuration for Component

Use the **Alert Configuration for Component** display to see, modify and refine alert threshold settings for a particular alert. A trend graph traces the history of the relevant metric for this alert so you can adjust thresholds in real-time. You can also modify alert thresholds, add an override alert and toggle ON or OFF 🔘 🔘 both global and override alerts.

Access the **Alert Configuration for Component** display by clicking [Admin](#) in the **Alert Detail for Component** display.

The bottom half of the display provides a **Metric History** trend graph which traces the performance metric pertaining to the alert. You can hover over the trend graph to see the values at a particular time. You can specify the time range for the trend graph and view data based on a log scale, which enables visualization on a logarithmic scale and should be used when the range in your data is very broad.

You must be logged in as rtvalertmgr or rtvadmin to modify alerts.



Alerts

These displays present detailed information about all alerts that have occurred in your system. These displays present performance data for your system. The following display is available:

- [Alerts Table](#)

Alerts Table

Use this display to track and manage all alerts that have occurred in the system, where:



One or more alerts exceeded their ALARM LEVEL threshold in the table row



One or more alerts exceeded their WARNING LEVEL threshold in the table row

You can search, filter, sort and choose columns to include by clicking a column header icon (located to the right of each column label) and selecting **Filter**, **Sort Ascending**, **Sort Descending** or **Columns**. Use the **Ack'd** and **Cleared** drop-downs to filter the table by those columns. Right-click on a table cell to **Export to Excel** or **Copy Cell Value**. Use **Ctrl + click** or **Shift + arrow** to select multiple alerts. To investigate, select one alert and click:

Details to open the **Component Alert Detail** display to get details about that particular alert instance as it specifically applies to the associated CI.

CI to see utilization conditions for the CI associated with the alert during the seconds (minutes, hours or days) leading up to the alert being executed in a summary display.

With one or more alerts selected, you can click **Own** to set the alert(s) owner field, **Ack** to acknowledge the alert(s), **Unack** to clear the acknowledgement on previously acknowledged alert(s) and **Comment** to add a comment to the alert(s).

You must be logged in as `rtvalertmgr` or `rtvadmin` to perform the **Own**, **Ack**, **Unack**, or **Comment** actions. Otherwise, you get an error dialog.

Time	Ack	Clr	Sevl	Alert Name	Alert Text	Owner	ID	Source	Comments	CI
2019-Apr-30 00:04:07			⚠	JvmNotConnected	Server disconnected		1043	RTV-DATA-TIB		win4
2019-Apr-30 01:34:49			⚠	JvmNotConnected	Server disconnected		1009	Z-SIMDATA-1		local
2019-Apr-30 01:34:49			⚠	JvmNotConnected	Server disconnected		1008	Z-SIMDATA-1		local
2019-Apr-30 01:34:49			⚠	JvmNotConnected	Server disconnected		1007	Z-SIMDATA-1		local
2019-Apr-30 01:34:49			⚠	JvmNotConnected	Server disconnected		1006	Z-SIMDATA-1		local
2019-Apr-30 01:34:49			⚠	JvmNotConnected	Server disconnected		1005	Z-SIMDATA-1		local
2019-Apr-30 01:34:49			⚠	JvmNotConnected	Server disconnected		1004	Z-SIMDATA-1		local
2019-Apr-30 01:34:49			⚠	JvmNotConnected	Server disconnected		1003	Z-SIMDATA-1		local
2019-Apr-30 01:34:49			⚠	JvmNotConnected	Server disconnected		1002	Z-SIMDATA-1		local
2019-Apr-30 01:34:49			⚠	JvmNotConnected	Server disconnected		1001	Z-SIMDATA-1		local
2019-Apr-30 01:34:49			⚠	JvmNotConnected	Server disconnected		1000	Z-SIMDATA-1		local
2019-Apr-30 12:01:02			⚠	JvmCpuPercentHigh	High Alert Limit exceed		1064	Z-SIMDATA-1		local
2019-Apr-30 13:44:01			🔔	JvmCpuPercentHigh	High Warning Limit exc		928739	RTV-DATA-KAF		Inst
2019-Apr-30 13:47:04			🔔	JvmCpuPercentHigh	High Warning Limit exc		928747	RTV-DATA-KAF		Inst
2019-Apr-30 01:36:49			🔔	HostCpuPercentHigh	High Warning Limit exc		1010	Z-SIMDATA-1		defa
2019-Apr-30 01:36:49			🔔	HostCpuPercentHigh	High Warning Limit exc		1010	Z-SIMDATA-1		defa
2019-Apr-30 02:05:10			⚠	HostCpuPercentHigh	High Alert Limit exceed		1011	Z-SIMDATA-1		defa

Admin

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

- **Alert Administration:** Opens the [Alerts Administration](#) display, which displays active alerts and provides interface to modify, enable and manage alerts.

- **Alert Overrides Admin:** Associated with the [Alert Overrides Administration](#) display, which sets and modifies alert overrides. Access to this display is via the **Alert Administration** display. You cannot select this option via the left menu.
- **Alert Engine Status:** Opens the [Alert Engine Admin](#) display, which displays a table of available Data Servers and provides an interface to disable and enable the Alert Engine on a Data Server.
- **Cache Table:** Opens the [Cache Table](#) display, which allows you to view cached data that RTView is capturing and maintaining, and use this data use this for debugging with SL Technical Support.

Alerts Administration

The **Alert Administration** display allows administrators to enable/disable alerts and manage alert thresholds. The table describes the global settings for all alerts on the system.

You can set the **Delay** time (the number of seconds that must pass before an alert is triggered, where **0** sets it to immediately execute).

You can set the **Warning Level** which executes a single warning alert when the number of seconds specified here is exceeded. To set the warning to occur sooner, reduce the **Warning Level** value. To set the warning to occur later, increase the **Warning Level** value.

You can set the **Alarm Level** which executes a single alarm alert when the number of seconds specified here is exceeded. To set the alarm to occur sooner, reduce the **Alarm Level** value. To set the alarm to occur later, increase the **Alarm Level** value.

Note: For low value-based alerts (an alert that executes based on a value going below a certain threshold), to set the alarm to occur sooner you increase the **Alarm Level** value. To set the alarm to occur later, reduce the **Alarm Level** value.

You can apply alert thresholds globally or as an *override*. Setting override alerts allows you to set thresholds for a subset of your resources, or for a single resource (for example, a single server). Override alerts are useful if the majority of your resources require the same threshold setting, but there are a few resources 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. See below for instructions.

You can filter, sort and choose columns to include by clicking a column header icon (located to the right of each column label) and selecting **Filter**, **Sort Ascending**, **Sort Descending** or **Columns**. Use the **Ack'd** and **Cleared** drop-downs to filter the table by those columns. Right-click on a table cell to **Export to Excel**.

To set thresholds and enable a global alert:

Select an alert and, under **Settings for alert** (in the lower portion of the screen), modify settings for the alert **Delay**, **Warning Level** and/or **Alarm Level** and **Save Settings**. With that alert selected, check the **Alert Enabled** box under **Settings for alert** (in the lower portion of the screen) and **Save Settings**. The **Alert Enabled** box (next to the selected alert) is now checked.

You can also override the alert duration time per alert index instead of to all indexes. To override the duration for an alert index, select the alert in the **Alert Administration** display, click **Override** and edit the **Alert Delay**. For alert indexes that were overridden in a previous

release (before duration override was supported) the override duration is set to **-1**, indicating that this is set to use the top level alert duration.

To set thresholds and enable an override alert:

To set an override alert, select an alert and click **Override Settings** to open the **Alert Overrides Admin** display.

The screenshot shows the 'Alerts Administration' interface. At the top, it displays the date '30-Apr-2019 10:34:01' and a status 'DATA OK'. Below this is a package dropdown set to 'All' and a URL 'http://rtvdemos.sl.com/emdemo_central_rtquery'. The main part of the interface is a table with the following columns: Alert Name, Alert Enabled, Alert Delay, Warning Level, Alert Level, and Override Count. The table lists various alerts, with 'HostSwapUsedHigh' selected. Below the table is a settings panel for the selected alert, showing 'Alert Enabled' as unchecked, 'Delay' as 30, 'Warning Level' as 75, and 'Alert Level' as 90. There are buttons for 'Save Settings', 'Original Defaults', and 'Override Settings'. At the bottom, it shows 'Alert Selected: HostSwapUsedHigh' and its description: 'The percentage of swap space used is above the limits defined for that Host'.

Alert Name	Alert Enabled	Alert Delay	Warning Level	Alert Level	Override Count
HostNetworkTxRateHigh	<input type="checkbox"/>	30	50	75	0
HostProcessCountLow	<input type="checkbox"/>	30	15	5	0
HostStateData	<input type="checkbox"/>	30			0
HostStorageUsedHigh	<input type="checkbox"/>	30	80	90	0
HostSwapUsedHigh	<input type="checkbox"/>	30	75	90	0
HostVirtualMemoryUsedHigh	<input type="checkbox"/>	30	75	90	0
JvmCpuPercentHigh	<input checked="" type="checkbox"/>	60	50	70	0
JvmGcDutyCycleHigh	<input type="checkbox"/>	30	50	75	0
JvmMemoryUsedAfterGCHigh	<input type="checkbox"/>	0	1	80	0
JvmMemoryUsedHigh	<input checked="" type="checkbox"/>	60	75	86	0
JvmNotConnected	<input checked="" type="checkbox"/>	60			0
JvmStateData	<input type="checkbox"/>	30			0
JvmThreadCountHigh	<input checked="" type="checkbox"/>	60	8000	12000	0

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Settings for alert
 Alert Enabled: Delay: 30 Warning Level: 75 Alert Level: 90
 Save Settings Original Defaults Override Settings
 Alert Selected: HostSwapUsedHigh Description: The percentage of swap space used is above the limits defined for that Host

Note: For more information on TIBCO RTView for TIBCO Enterprise Message Service alerts, see [Alert Definitions](#)

Alert Name	The name of the alert.
Alert Enabled	When checked, the alert is enabled globally.
Alert Delay	The amount of time (in seconds) that the value must be above the specified Warning Level or Alarm Level threshold before an alert is executed. 0 is for immediate execution.
Warning Level	The global warning threshold for the selected alert. When the specified value is exceeded a warning is executed.
Alert Level	The global alarm threshold for the selected alert. When the specified value is exceeded an alarm is executed.
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 alert

Select an alert in the table to use the following options:

Alert Enabled	Check / uncheck this box to enable or disable the selected alert globally.
Delay	Enter the amount of time (in seconds) that the value must be above the specified Warning Level or Alarm Level threshold before the selected alert is executed. 0 is for immediate execution.
Warning Level	Enter 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.
Alert Level	Enter 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.
Save Settings	Click to apply alert settings for the selected alert.
Original Defaults	Click to revert to original alert settings for the selected alert.
Override Settings	Click to set an alert override in the Alert Overrides Admin display on the selected alert.

Alert Overrides Administration

Administrators use this display to override the alert settings defined in the **Alert Administration** display. To access this display, select an alert in the **Alert Administration** display and choose **Override Settings**.

Alert Overrides Administration Data Server: TIB-DataServerInts 24-Jun-2020 14:43:56 DATA OK

Alert: AcwInstanceDiskReadOpsHigh Override Type: Performance Display: All

Search: RegEx:

domain	hostname	Override Enabled	Alert Enabled	Warning Level	Alert Level
SL-DEMO-LX	192.168.200.201				
SL-DEMO	SLHOST13				
SL-DEMO	SLHOST14				
SL-DEMO	SLHOST3				
SL-DEMO-LX	192.168.200.42				
SL-DEMO	SLHOST20				
SL-DEMO-LX	192.168.200.92				
SL-DEMO-LX	192.168.200.91				
SL-DEMO	SLHOST93				
SL-DEMO	SLHOST1				
SL-DEMO	SLHOST10				
SL-DEMO	SLRTVMGR				
SL-DEMO	SLHOST2				
SL-DEMO-LX	192.168.200.89	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	60	85
SL-DEMO	vmxp-16				

Settings for selected index

Override Enabled: Alert Enabled: Warning Level: Alert Level:

The table lists all the possible overrides that can be defined for the alert you selected from the **Alert Administration** display. Each row in the table represents a different resource or group of resources that can be overridden. When the four last columns are blank, that means the resource has not been overridden, and the default settings for the alert apply. Otherwise, columns describe whether the alert is enabled, if the override itself is enabled, the overridden alert thresholds and the overridden duration for each row.

Use the **Override Type** drop-down menu to switch the list to a specific type of override (the options for this menu vary according to the alert type), and use the **Display** drop-down menu to list **All** resources, **Overridden** resources or **Free** resources.

You can also enter a pattern or regular expression in the **Search** string to limit the list.

The **RegEx** checkbox indicates whether the text you entered is treated as a search pattern or as a regular expression. Multiple rows can be selected to create/edit/remove many overrides simultaneously.

You can filter, sort and choose columns to include by clicking a column header icon (located to the right of each column label) and selecting **Filter**, **SortAscending**, **Sort Descending** or **Columns**. Use the **Display** drop-down to filter the table to show **All** resources, only resources with the **Overridden** alert applied or **Free** resources (to show only resources without the alert override applied). Right-click on a table cell to **Export to Excel** or **Copy Cell Value**.

To set overrides:

Select an **Override Type** from the drop-down menu (depending on the alert, there might be only one type) and then select one or more rows from the table. Under **Settings for selected index** (in the lower portion of the screen), modify settings for the **Override Enabled**, **Alert Enabled**, **Alert Delay**, **Warning Level** and/or **Alarm Level**, then click **Add Override**. The table updates with your new settings.

To alter overrides:

To alter existing overrides with new settings, select them from the table, set all properties under **Settings for selected index** as desired, then click **Save Settings**. To clear existing overrides, select one or more rows, then click **Remove Override**.

Note: You can override alert and warning levels without overriding duration by setting it to **-1**.

For alert indexes that were overridden in a previous release (before duration override was supported) the override duration is set to **-1**, indicating that this is set to use the top level alert duration.

Alert Engine Admin

This display allows you to enable and disable the alert engine(s) of your Data Server(s) on a per-server basis. This display requires administrator privileges.

Alert Engine Status

Data Server	Connected	Alert Engine Enabled	URL
SL-DataServerInfra-1	✓	<input type="radio"/>	http://172.21.30.107:3270/rtvquery
SL-DataServerKafka-1	✓	<input type="radio"/>	http://172.21.30.107:3470/rtvquery

Enable alert engine on selected servers

Disable alert engine on selected servers

The **Alert Engine Status** table lists Data Servers that are connected to your deployment. The **Connected** column will display whether or not the Data Server is presently connected. If the Data Server is connected, the **Alert Engine Enabled** column will display whether the alert engine for that Data Server is enabled or not.

Disabling the alert engine on a Data Server clears all existing alerts on that server. In the Data Server's RtvAlertTable cache, the "Cleared Reason" column will show MANUAL for each alert that was cleared as a result of disabling the alert engine. No new alerts will be generated by that server until its alert engine is re-enabled..

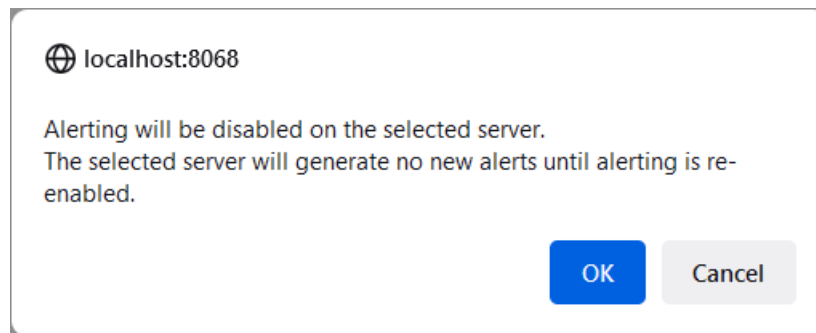
By default the alert engine is enabled for a Data Server. When a Data Server is restarted, its alert engine is always re-enabled.

Disable Alert Engine

Select one or more Data Servers in the **Alert Engine Status** table, then click

Disable alert engine on selected servers

A confirmation dialog box will display. Click **OK** to continue and disable the selected alert engine(s).

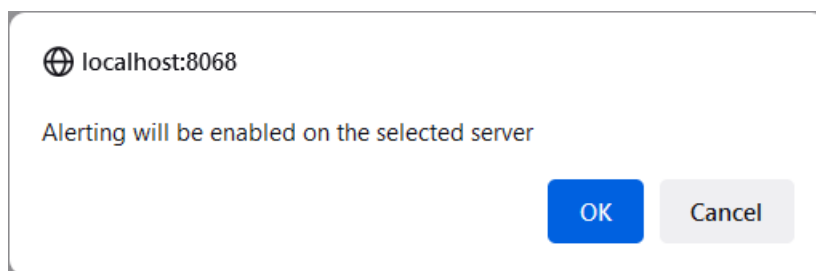


Enable Alert Engine

Select one or more Data Servers in the **Alert Engine Status** table, then click

Enable alert engine on selected servers

A confirmation dialog box will display. Click **OK** to continue and enable the selected alert engine(s).



Warning! On Firefox, the enable/disable confirmation dialogs may display a checkbox with the text "Don't allow HOST:8068 to prompt you again". This is from the browser, not from RTView. Do not check that box, as it will prevent the display from working. If it is accidentally selected, clear the Firefox browser cache (**Options -> History -> Clear recent history ...**)

Cache Table

View the raw data that RTView is capturing and maintaining to investigate utilization and capacity metrics, as well as connection details, for caches on a data server.

Select a **Data Server** from the drop-down menu. The upper table contains a row of data for each cache on the selected data server. You can see the current number of **Rows** and **Columns** in each table and the amount of **Memory** used. You can also find out the cache **Table** type of which there are five:

- **current** tables show the most recently received values for each index.
- **current_condensed** tables are current tables with primary compaction configured.
- **history** tables show the historical values for each index.
- **history_condensed** tables are history tables with primary compaction configured.
- **history_combo** tables are history tables with primary compaction configured, and which is also configured to store rows of recent raw data followed by rows of older condensed data.

Select a cache to see connection utilization details for that cache in the lower table. The lower 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.

You can search, filter, sort and choose columns to include by clicking a column header icon (to the right of each column label) and selecting **Filter**, **Sort Ascending**, **Sort Descending** or **Columns**. Or just click a column header to sort.

Right-click on a table cell to **Export to Excel** or **Copy Cell Value**. Use **Ctrl +** click or **Shift +** click to select multiple alerts. Use **History Tables** to include / exclude history tables in the table. Right-click on a table cell to **Export to Excel** or **Copy Cell Value**.

This low-level option can be useful to identify the source of the problem when the displays are not showing the expected data. Use this data for debugging and troubleshooting with Technical Support.

Cache Table 07-May-2019 14:11 ✓ DATA

Data Server: History Tables:

Data Server URL: https://rtvdemos.sl.com/emdemo_central_rtquery

Cache	Table	Rows	Columns	Memory
JmxStatsTotals	current	1	4	441
RtvAlertGroupMap	current	493	3	67424
RtvAlertMapByCI	current	62	5	13614
RtvAlertSourceStats	current	8	2	940
RtvAlertStatsByArea	current	8	9	2930
RtvAlertStatsByAreaAndAlertGroup	current	8	10	3454
RtvAlertStatsByCI	current	59	5	9228
RtvAlertStatsByCIAndAlertGroup	current	59	6	12506

Cache: **RtvAlertStatsByCIAndAlertGroup** Table: **current**

time_stamp	CITYPE	CINAME	ALERTGROUP	MaxSeverity	AlertCount
2019-May-07 14:11:33	JVM	localhost:SOLMON_MIS	None	2	1
2019-May-07 14:11:33	JVM	localhost:EMSMON_TON	None	2	1
2019-May-07 14:11:33	JVM	localhost:EMSMON_DAT	None	2	1
2019-May-07 14:11:33	JVM	localhost:SOLMON_DISF	None	2	1
2019-May-07 14:11:33	JVM	localhost:SOLMON_DATI	None	2	1
2019-May-07 14:11:33	JVM	localhost:EMSMON_DISI	None	2	1
2019-May-07 14:11:33	JVM	localhost:SOLMON_TOM	None	2	1
2019-May-07 14:11:33	JVM	localhost:EMSMON_DAT	None	2	1
2019-May-07 14:11:33	JVM	Instance-1-90;CRMBroke	None	1	1
2019-May-07 14:11:33	JVM	Instance-1-90;CRMZooki	None	1	1
2019-May-07 14:11:33	JVM	Instance-1-171;CRMCon	None	1	1
2019-May-07 14:11:33	JVM	Instance-1-171;CRMCon	None	1	1
2019-May-07 14:11:33	JVM	Instance-1-171;CRMBrok	None	1	1
2019-May-07 14:11:33	JVM	localhost:TMolecule5_2	None	1	1
2019-May-07 14:11:33	JVM	localhost:PMolecule12_1	None	1	1

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CHAPTER 6 Using the Monitor

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

- “Overview” on page 169
- “EMS Monitor Views/Displays” on page 180

Overview

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

- “Monitor Main Display” on page 169: Describes the EMS Monitor display that opens by default as well as the navigation tree.
- “Heatmaps” on page 170: Describes how to read heatmaps.
- “Tables” on page 172: Describes how to read tables.
- “Trend Graphs” on page 178: Describes how to read trend graphs.
- “Using the Monitor” on page 169: Describes the top layer of the title bar shared by EMS Monitor displays.
- “Export Report” on page 179: Allows you to quickly export reports for displays, or for tables and grid objects in a display, to a PDF file.

Monitor Main Display

The **All Servers Heatmap** is the default display of the EMS Monitor. This color-coded heatmap provides a good starting point for immediately getting the status of all your Data Servers.

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



Each rectangle (node) in the heatmap represents a server, where color is representative of the selected **Metric**. Click on a node to drill down to the [Single Server Summary](#) display to view detailed performance metrics for a specific server. Mouse-over nodes to view details about server performance and status. Or, you can use the **Table** (convenience button) to see details for all servers.

To illustrate how the Monitor main page might be used, let us use a commonly encountered EMS issue as an example. If a consumer connection is lost but remains registered as a durable, messages being sent to the consumer start getting backed up. The messages are stored in memory, causing the **messageMemoryPct** value (the amount of memory used by messages on the server) to gradually increase. When it reaches 100% data starts getting lost. This type of issue is clearly visible in the Monitor--before it becomes an issue--when you select the **All Pending Messages** view in the Monitor main page.

Navigation Tree


The EMS Monitor navigation tree (in the left panel) is organized as follows:


- **Overview**: The displays in this section present performance metrics and the most critical alert status for all EMS Servers in various formats, including a heatmap, a table, a grid and a topological map.
- **Single EMS Server**: The displays in this section present detailed performance metrics and connection information for a specific EMS Server.
- **EMS Topics**: The displays in this section present several views of performance metrics for destinations, including views by destination and views by server.
- **EMS Clients**: The displays in this section present performance metrics for all server connections, including users, routes between servers, producers, consumers and durables connected to a specific EMS Server.
- **Alert Views**: The display in this section presents the status of all alerts across all EMS Servers, and allows you to track, manage and assign alerts.
- **Administration**: The displays in this section enable you to set global alerts and override alerts. You can also view internal data gathered and stored by RTView (used for troubleshooting with SL Technical Support).
- **RTView Servers View**: The displays in this section enable you to view performance metrics gathered by RTView, and monitor all RTView Servers.

Heatmaps

Heatmaps organize your EMS resources (servers, topics, queues, consumers, and producers) 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 EMS resources in the rectangle; a larger size is a larger value. Heatmaps include drop-down menus to filter data by. The filtering options vary among heatmaps.



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

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


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


Alert Impact

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

Alert Severity


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

 -- Metrics that have exceeded their specified **ALARM LEVEL** threshold have an **Alert Severity** value of **2**. For a given rectangle, this indicates that one or more metrics have reached their alert thresholds.


 -- Metrics that have exceeded their specified **WARNING LEVEL** threshold have an **Alert Severity** value of **1**. For a given rectangle, this indicates that one or more metrics have reached their warning thresholds.

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

Alert Count

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

Criticality

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

Criticality is specified in the Service Data Model by your administrator. **Criticality** values range from **A** to **E**, where **A** is the highest Criticality (level **5** maps to a Criticality of **A** and level **1** maps to a **Criticality** of **E** with equally spaced intermediate values).

Mouse-over

The mouse-over functionality provides additional detailed data in a tooltip when you mouse-over a heatmap. The following figure illustrates mouse-over functionality in a heatmap object. In this example, when you mouse-over a host, details are shown such as alert count, number of connections, and pending messages.



Log Scale

Typically, heat maps provide the Log Scale option, which enables visualization on a logarithmic scale. This option should be used when the range in your data is very broad. For example, if you have data that ranges from the tens to the thousands, then data in the range of tens will be neglected visually if you do not check this option. This option makes data on both extreme ranges visible by using the logarithmic of the values rather than the actual values.

Tables

EMS Monitor tables contain the same data that is shown in the heatmap in the same View. Tables provide you a text and numeric view of the data shown in that heatmap, and additional data not included the heatmap. For example, the **All Servers Table** display (shown below) shows the same data as the **All Servers Heatmap** display (shown above).

Server	Expired	Alert Level	State	CPU Usage (%)	Free Memory (MB)	V. Memory Usage (%)	BW Version	Deployed Engines	Active Engines	Source	Time Stamp
SLHOST16(sl_amx)	<input type="checkbox"/>	●	ACTIVE	5.95	926.28	18.97		9	9	localhost	01/28/16 11:48:30
SLHOST16(sl_qa_conn)	<input checked="" type="checkbox"/>	●	EXPIRED	10.74	816.29	19.01	v5.10	0	0	localhost	01/28/16 11:30:04
SLHOST17(sl_amx)	<input type="checkbox"/>	●	ACTIVE	0.69	3,323.74	2.20		9	9	localhost	01/28/16 11:48:21
SLHOST21(dev)	<input type="checkbox"/>	●	ACTIVE	4.00	2,446.26	20.80		0	0	localhost	01/28/16 11:48:49
SLHOST22(sl_qa_conn)	<input type="checkbox"/>	●	ACTIVE	0.00	5,249.51	0.00	v5.10	27	1	localhost	01/28/16 11:48:31
SLHOST5(domain5)	<input type="checkbox"/>	●	ACTIVE	17.33	1,763.04	0.71	v5.7	5	0	localhost	01/28/16 11:48:29
SLHOST6(domain6)	<input type="checkbox"/>	●	ACTIVE	3.52	915.39	1.68	v5.7	6	5	localhost	01/28/16 11:48:21

Table rows also sometimes use color to indicate the current most critical alert state for all resources associated with a given row. For example, the color coding is typically as follows:

- -- One or more alerts exceeded their critical threshold for one or more associated resources.
- -- One or more alerts exceeded their warning threshold for one or more associated resources.

Tables support advanced HTML interactive features such as 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.

Some tables in the **Components** tab gray out rows when they're in an expired state. A row is expired when data has not been received within the time specified in the solution package that is hosting the data.

Also see:

- [Multiple Column Sorting](#)
- [Column Visibility](#)
- [Column Filtering](#)
- [Column Locking](#)
- [Column Reordering](#)
- [Saving Settings](#)
- [Row Paging](#)
- [Row Color Code](#)
- [Row Keyboard Selection](#)

Multiple Column Sorting

Click on a column header to sort the table by that column. On the first click, the column is sorted in ascending order (smallest value at the top), on the second click the sort is in

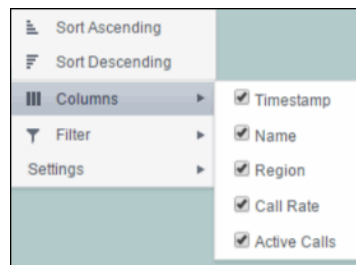
descending order, and on the third click, the column is returned to its original unsorted state. A sort on a string column is case-insensitive.

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

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

Column Visibility

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



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

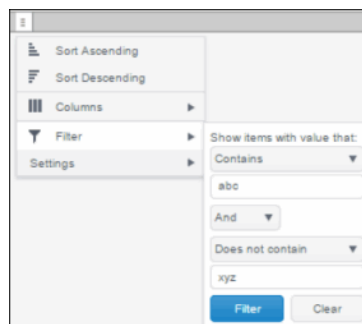
Column visibility changes are NOT reflected in an export to HTML and Excel.

Column Filtering

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

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

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



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

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

The image shows two instances of the 'Column Filter' dialog. The left dialog is for a numeric column, showing a dropdown menu with '>=' selected, a text input field containing '42.00', and a dropdown menu with 'And' selected. Below these are two more dropdown menus, one with '<' selected and one with '100' in the input field. At the bottom are 'Filter' and 'Clear' buttons. The right dialog is for a boolean column, showing a dropdown menu with 'is true' selected. Below it are two radio buttons, 'is true' and 'is false', with 'is true' selected. At the bottom are 'Filter' and 'Clear' buttons.

- **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:

The image shows two instances of the 'Column Filter' dialog for a date column. The left dialog shows a dropdown menu with 'Is after' selected, a text input field containing '2/3/2015 12:00 AM', and a calendar icon. Below the input field is a calendar for February 2015, with the date 2/3/2015 highlighted. The right dialog shows a dropdown menu with 'Is after' selected, a text input field containing '2/3/2015 12:00 AM', and a time icon. Below the input field is a dropdown list of times from 12:00 AM to 3:30 AM, with 12:00 AM selected.

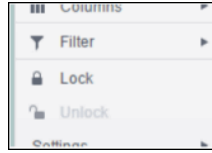
Alternatively, a date and time can be typed into the edit box. The strings shown in a date column are formatted by the Display Server using its time zone. But if a filter is specified on a date column, the date and time for the filter are computed using the client system's time zone. This can be confusing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

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

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

Column Locking

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



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

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

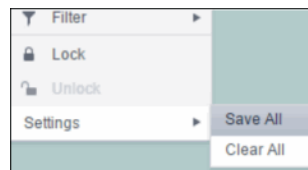
Column Reordering

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

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

Saving Settings

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



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

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

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

role is admin and the browser is IE and the display is X, but the host system is H2 not H1, then the grid settings saved on H1 are not applied.

Revert Table Settings

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

Row Paging

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

217	emreference	sl.rtvew.sub	\$rtvConfigDataServer.CONFIG_SERVER
229	emreference	sl.rtvew.properties.queryTimeOut	10
216	emreference	sl.rtvew.sql.sqldb	ALERTDEFS --- __none ---

Page 1 of 2 1 - 200 of 235 items

Row Color Code

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

JVM	localhostGLASSFISH_SERVER_8	1	10
JVM	localhostMYDEMO_DATASERVER	1	8
JVM	localhostMYDEMO_DISPLAYSERVER	1	8
JVM	sl.demos.com.213415_RTVD8	1	10
JVM	localhostBWM-DB-1	1	5
WAS	SLHOST12Node01Cell.SLHOST12Node01.server1	1	5
JVM	localhostRTVMGR_DATABASE	1	5
JVM	localhostRTVMGR_DATASERVER	0	0
JVM	localhostWLM_DATABASE	0	0
EMS	tcp://SLHOST10.7021	0	0
EMS	tcp://SLHOST10.7020	0	0
WLS	TestDomain.ManagedServer2	0	0

The yellow row color indicates that one or more alerts exceeded their warning threshold for one or more CIs associated with the Service. The red row color indicates that one or more alerts exceeded their critical threshold for the CI associated with the Service (in this case there is a single CI). To summarize:

Row Color Code:

Tables with colored rows indicate the following:

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

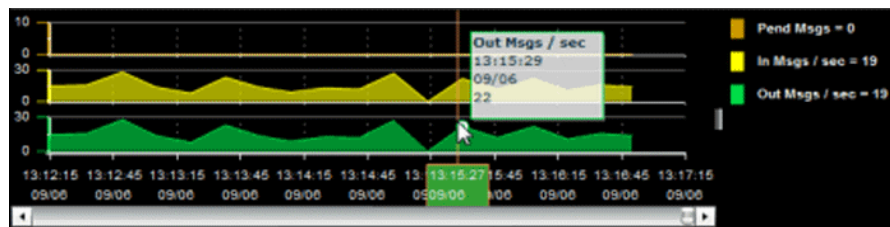
Row Keyboard Selection

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

8	C:\rtvdemos\rtvapm\common\conf\rtvapm	sl.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

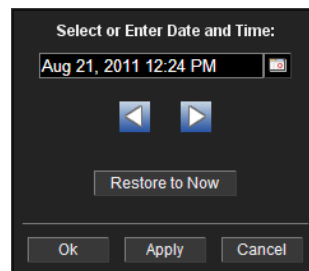
Trend Graphs




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



Time Range

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



To change the time range 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, Aug 21, 2011 12:24 PM. Click **Apply**. Use the Navigation Arrows   to move forward or backward one time period (the time period selected from the Time Range drop-down menu). Click **Restore to Now** to reset the time range end point to the current time.

Mouse-over






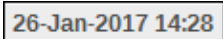




The mouse-over functionality provides additional detailed data in a tooltip when you mouse-over trend graphs. The above figure illustrates mouse-over functionality. In the example above, when you mouse-over a single dot, or data point, in the Out Msgs / sec trend graph, a pop-up window shows data for 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.

Title Bar Functionality

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



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

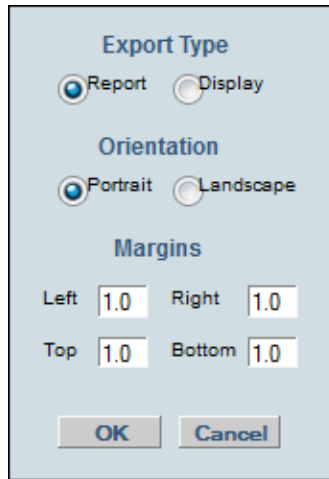
	Opens the previous display.
	Opens the display that is up one level.
	Navigates to a display that is most commonly accessed from the current display. The target display differs among displays.
	Navigates to displays that are most commonly accessed from the current display. The drop-down menu options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

Export Report

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

To generate a report for a display:

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

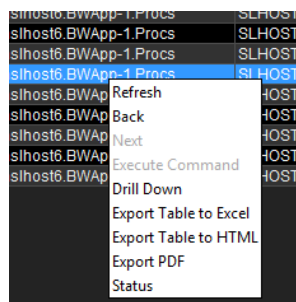


Set the margins and choose the **Export Type**:

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

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

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



EMS Monitor Views/Displays

This section includes descriptions of the EMS Monitor Views and their associated displays.

- [Overview](#)
- [Single EMS Server](#)
- [EMS Topics](#)
- [EMS Queues](#)
- [EMS Clients](#)

- [Alert Views](#)
- [Administration](#)
- [RTView Servers View](#)

All EMS Servers

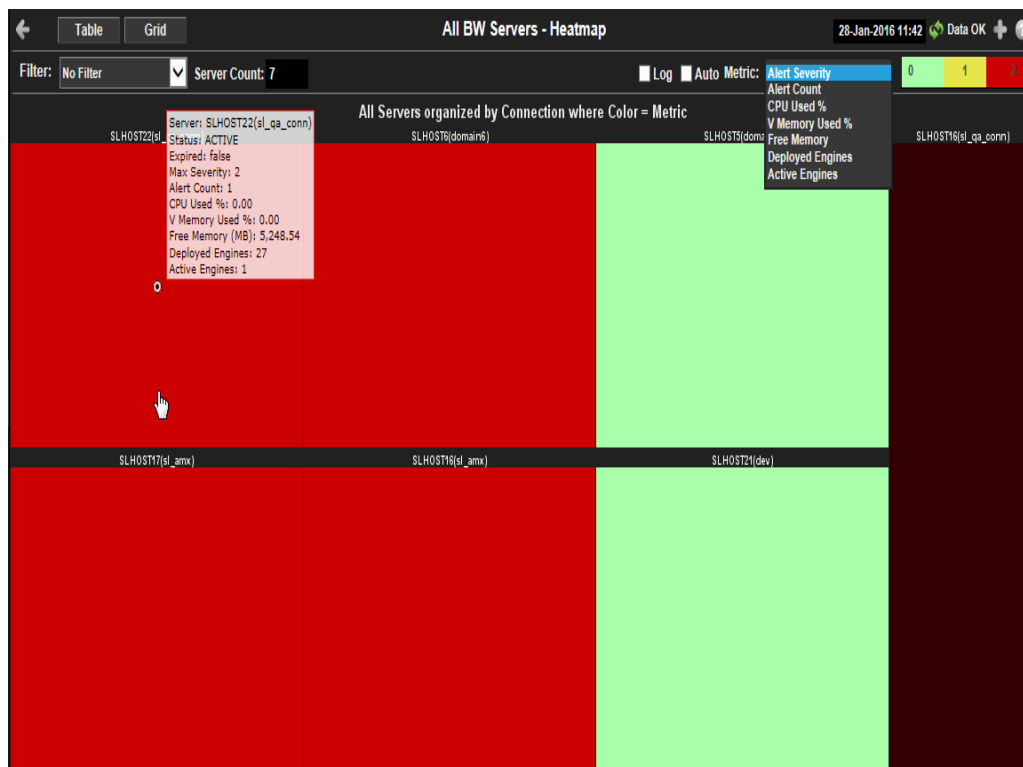
These displays present performance metrics and alert status for all EMS servers. The first three displays show different views of the same data:

- [All Servers Heatmap](#): Heatmap shows server and alert status for all EMS servers.
- [All Servers Table](#): Table shows all available utilization metrics for all EMS servers.
- [All Servers Grid](#): Grid enables you to see general performance of EMS servers in parallel. If you have few servers, this display is useful for verifying servers are active and generally performing as expected.
- [All Servers Topology](#): Topology of server routes and connections, as well as the status of active servers and standby servers that form a fault-tolerant pair.







All Servers Heatmap

View status and alerts of all EMS servers. Use the **Metric** drop-down menu to view the **Alert Severity**, **Alert Count**, **Connections**, **Pending Messages**, **Inbound Message Rate**, **Outbound Message Rate**, or **Message Memory Percent (%)**.

The heatmap is organized by host, each rectangle representing a server. The rectangle color indicates the most critical alert state. Click on a node to drill-down to the Single Server Summary display and view metrics for a particular server. Toggle between the commonly accessed **Table**, **Grid**, and **Heatmap** displays. Mouse-over rectangles to view more details about host performance and status.



Title Bar (possible features are):



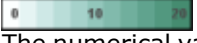

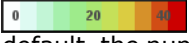

-   Open the previous and upper display.
-  Open an instance of this display in a new window.
-  Open the online help page for this display.
- open commonly accessed displays.
- The number of items currently in the display.
-  **Data OK** Data connection state. Red indicates the Data Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the data source is connected.
- Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
-  Open the **Alert Views - RTView Alerts Table** display.

Fields and Data

This display includes:

Server Count	The total number of active, inactive, and standby EMS servers.
Active	The total number of currently active EMS servers.
Total Msgs In/s	<p>In/s The total number of inbound messages, per second, from all producers and consumers on all EMS servers.</p> <p>Out/s The total number of outbound messages, per second, from all producers and consumers on all EMS servers.</p>
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 Servers	Select to include servers that are not currently running. Inactive Servers are represented in dark red.
Standby Servers	Select 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	<p>The maximum alert level in the item (index) associated with the rectangle. Values range from 0 to 2, as indicated in the color gradient bar , where 2 is the greatest Alert Severity.</p> <p>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.</p> <p>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.</p> <p>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.</p>
Connections	<p>The total number of alarm and warning alerts in a given item (index) associated with the rectangle.</p> <p>The color gradient bar  shows the range of the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the middle value of the range.</p> <p>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.</p> <p>The Auto option does not impact this metric.</p>
Pend Messages	<p>The total number of pending messages in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from 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).</p> <p>When Auto is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.</p>
In Msg Rate	<p>The total number of inbound messages in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from 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).</p> <p>When Auto is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.</p>
Out Msg Rate	<p>The total number of outbound messages in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from 0 to the alert threshold of EmsServerOutMsgRateHigh, which is</p>

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.

The percent (%) memory used by messages in a given item (index) associated with the rectangle. The color gradient bar

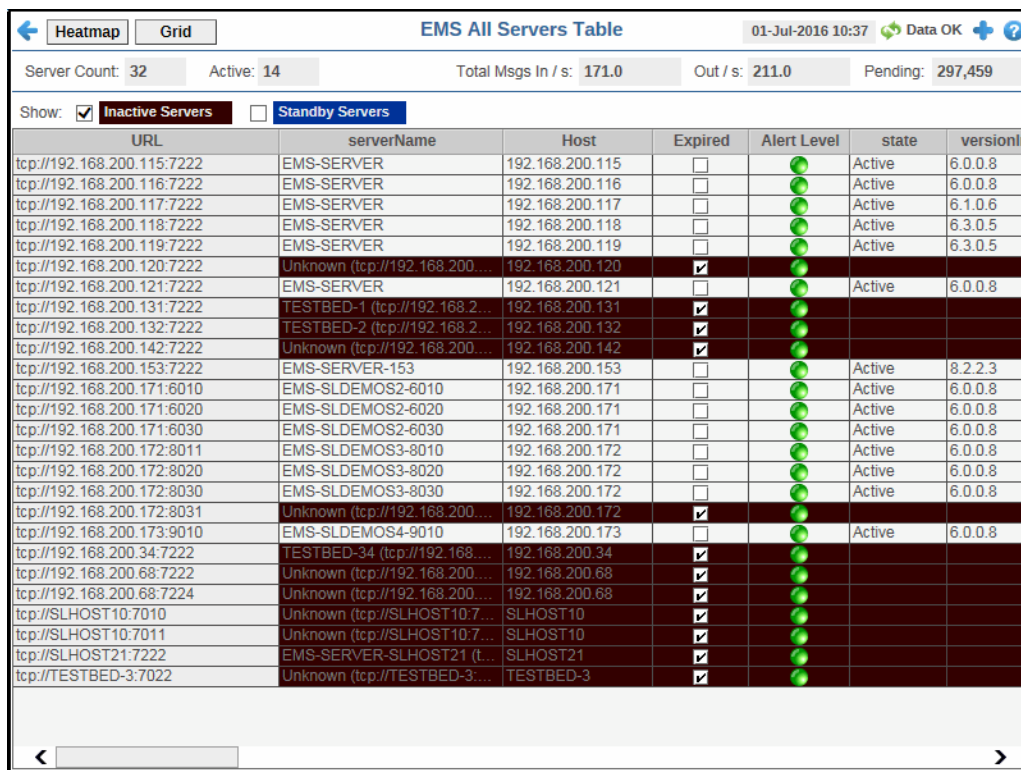
 shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from **0** to the alert threshold of **EmsServerMemUsedHigh**, which is **40**. The middle value in the gradient bar indicates the middle value of the range (the default is **20**).

Mem Msg %

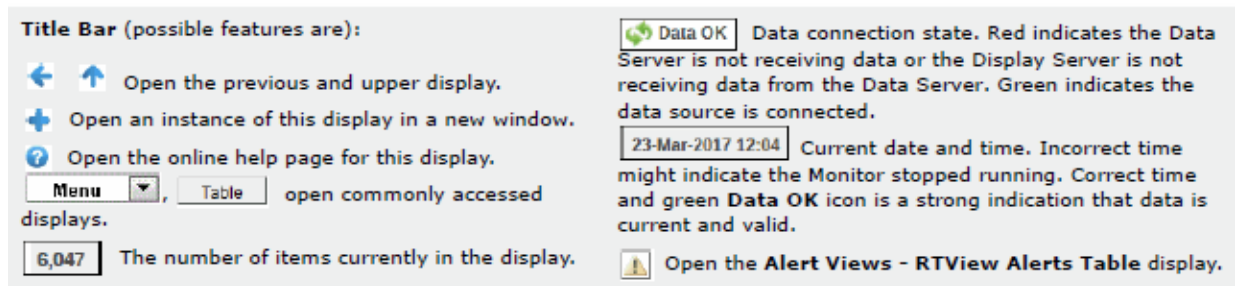
When **Auto** is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.

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.



URL	serverName	Host	Expired	Alert Level	state	version
tcp://192.168.200.115:7222	EMS-SERVER	192.168.200.115	<input type="checkbox"/>		Active	6.0.0.8
tcp://192.168.200.116:7222	EMS-SERVER	192.168.200.116	<input type="checkbox"/>		Active	6.0.0.8
tcp://192.168.200.117:7222	EMS-SERVER	192.168.200.117	<input type="checkbox"/>		Active	6.1.0.6
tcp://192.168.200.118:7222	EMS-SERVER	192.168.200.118	<input type="checkbox"/>		Active	6.3.0.5
tcp://192.168.200.119:7222	EMS-SERVER	192.168.200.119	<input type="checkbox"/>		Active	6.3.0.5
tcp://192.168.200.120:7222	Unknown (tcp://192.168.200...	192.168.200.120	<input checked="" type="checkbox"/>			
tcp://192.168.200.121:7222	EMS-SERVER	192.168.200.121	<input type="checkbox"/>		Active	6.0.0.8
tcp://192.168.200.131:7222	TESTBED-1 (tcp://192.168.2...	192.168.200.131	<input checked="" type="checkbox"/>			
tcp://192.168.200.132:7222	TESTBED-2 (tcp://192.168.2...	192.168.200.132	<input checked="" type="checkbox"/>			
tcp://192.168.200.142:7222	Unknown (tcp://192.168.200...	192.168.200.142	<input checked="" type="checkbox"/>			
tcp://192.168.200.153:7222	EMS-SERVER-153	192.168.200.153	<input type="checkbox"/>		Active	8.2.2.3
tcp://192.168.200.171:6010	EMS-SLDEMOS2-6010	192.168.200.171	<input type="checkbox"/>		Active	6.0.0.8
tcp://192.168.200.171:6020	EMS-SLDEMOS2-6020	192.168.200.171	<input type="checkbox"/>		Active	6.0.0.8
tcp://192.168.200.171:6030	EMS-SLDEMOS2-6030	192.168.200.171	<input type="checkbox"/>		Active	6.0.0.8
tcp://192.168.200.172:8011	EMS-SLDEMOS3-8010	192.168.200.172	<input type="checkbox"/>		Active	6.0.0.8
tcp://192.168.200.172:8020	EMS-SLDEMOS3-8020	192.168.200.172	<input type="checkbox"/>		Active	6.0.0.8
tcp://192.168.200.172:8030	EMS-SLDEMOS3-8030	192.168.200.172	<input type="checkbox"/>		Active	6.0.0.8
tcp://192.168.200.172:8031	Unknown (tcp://192.168.200...	192.168.200.172	<input checked="" type="checkbox"/>			
tcp://192.168.200.173:9010	EMS-SLDEMOS4-9010	192.168.200.173	<input type="checkbox"/>		Active	6.0.0.8
tcp://192.168.200.34:7222	TESTBED-34 (tcp://192.168...	192.168.200.34	<input checked="" type="checkbox"/>			
tcp://192.168.200.68:7222	Unknown (tcp://192.168.200...	192.168.200.68	<input checked="" type="checkbox"/>			
tcp://192.168.200.68:7224	Unknown (tcp://192.168.200...	192.168.200.68	<input checked="" type="checkbox"/>			
tcp://SLHOST10.7010	Unknown (tcp://SLHOST10.7...	SLHOST10	<input checked="" type="checkbox"/>			
tcp://SLHOST10.7011	Unknown (tcp://SLHOST10.7...	SLHOST10	<input checked="" type="checkbox"/>			
tcp://SLHOST21.7222	EMS-SERVER-SLHOST21 (t...	SLHOST21	<input checked="" type="checkbox"/>			
tcp://TESTBED-3.7022	Unknown (tcp://TESTBED-3...	TESTBED-3	<input checked="" type="checkbox"/>			



Fields and Data

This display includes:

Server Count	The total number of active, inactive and standby EMS servers. Inactive Servers are represented in dark red. Standby Servers are represented in blue.
Active	The total number of currently active EMS servers.
Total Msgs	<p>In/s The total number of inbound messages, per second, from all producers and consumers on all EMS servers.</p> <p>Out/s The total number of outbound messages, per second, from all producers and consumers on all EMS servers.</p> <p>Pending The total number of inbound and outbound messages waiting to be processed on all EMS servers.</p>
	Select the type of servers to display data for. By default, all active servers are displayed.
Show	<p>Inactive Servers Select to include servers that are not processing requests in the table. Inactive Servers are represented in dark red.</p> <p>Standby Servers Select to include servers that are not currently running. Standby Servers are represented in blue.</p>
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.
URL	Select to include servers that are currently in Standby 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.
Alert Level	<p>The maximum alert level in the item (index) associated with the rectangle. Values range from 0 to 2, as indicated in the color gradient bar, where 2 is the greatest Alert Severity.</p> <p> -- One or more alerts have exceeded their specified ALARMLEVEL threshold, have an Alert Severity value of 2, and are shown in red.</p> <p> -- One or more alerts have exceeded their specified WARNINGLEVEL threshold, have an Alert Severity</p>

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.

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.

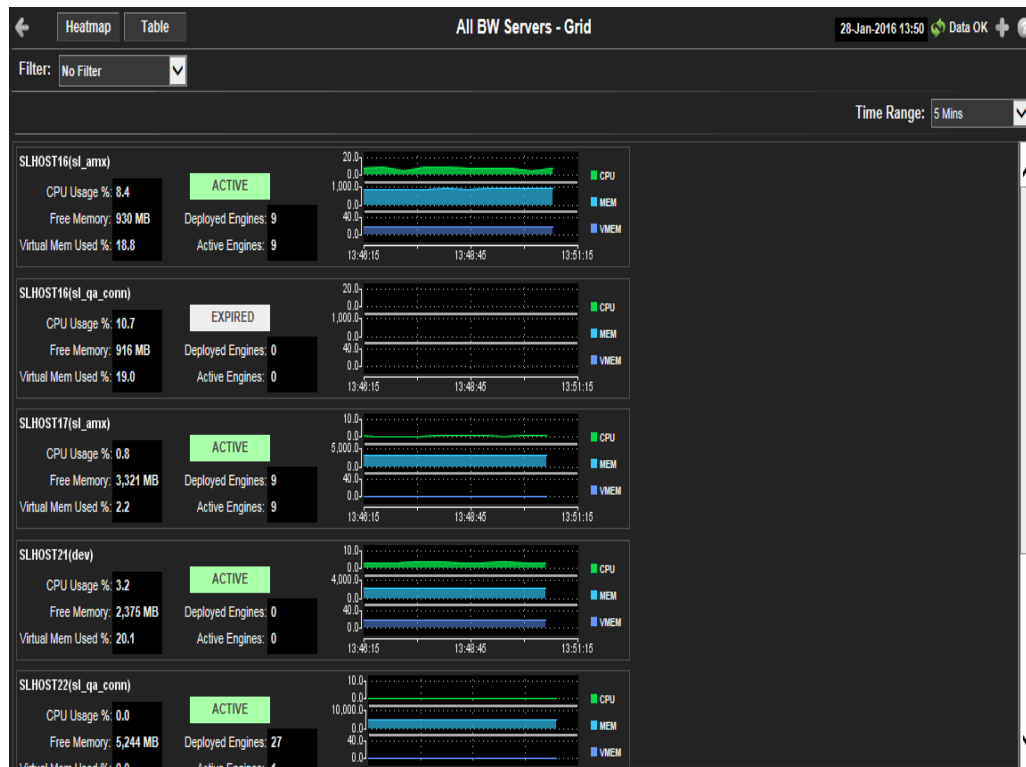
Standby -- The server is functioning as a backup for a primary server. **Standby Servers** are represented in blue.

state	
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.
asyncDBsize	The amount of database space, in bytes, occupied by 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.
diskWriteRate	The speed at which the server writes data to disk.
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 drill-down to the [Single Server Summary](#) display and view detailed metrics for that particular 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.
- 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

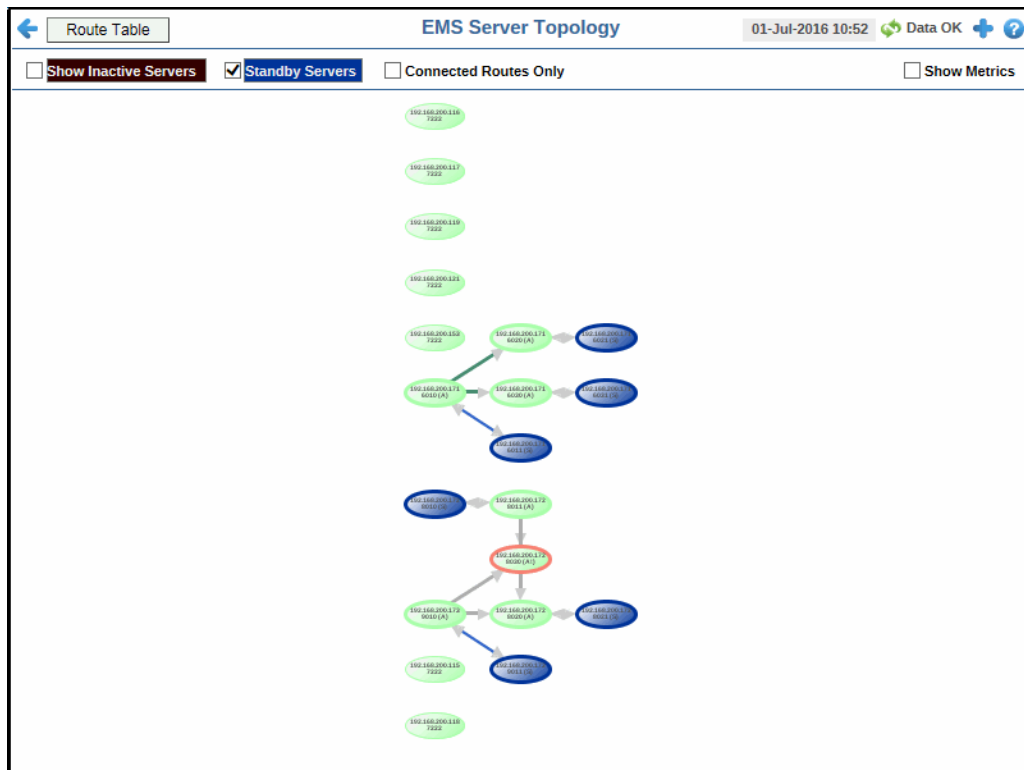
This display includes:

- Server Count** The total number of active, inactive and standby EMS servers. Inactive Servers are represented in dark red. Standby Servers are represented in blue.

Active	The total number of currently active EMS servers.	
	In/s	The total number of inbound messages, per second, from all producers and consumers on all EMS servers.
Total Msgs	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.
	Select the type of servers to display data for. By default, all active servers are displayed.	
Show	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 range from the drop down menu varying from 2 Minutes to Last 7 Days , or display 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.
	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.
	Shows message data for the server.	
	Pend -- Traces the total number of pending messages on the server.	
	Trend Graphs	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.



Title Bar (possible features are):

- ← ↑ Open the previous and upper display.
- + Open an instance of this display in a new window.
- ? Open the online help page for this display.
- Menu, Table open commonly accessed displays.
- 6,047 The number of items currently in the display.
- Data OK Data connection state. Red indicates the Data Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the data source is connected.
- 23-Mar-2017 12:04 Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green Data OK icon is a strong indication that data is current and valid.
- Open the Alert Views - RTView Alerts Table display.

Note: Clicking the **Route Table** button displays the **EMS Server Route Table** window. See [EMS Server Route Table](#) for more information.

Fields and Data

This display includes:

- The total number of active, inactive and standby EMS servers. Inactive Servers are represented in dark red. Standby Servers are represented in blue.
- Show Inactive Servers** Select to show servers that are not processing requests in the topology. Inactive Servers are represented in dark red.
- Show Standby Servers** Select to show servers that are not processing requests in the topology. Standby Servers are represented in blue.
- Show Connected Routes Only** Select to show only routes that have an active connection.
- Show Metrics** Available on desktop application deployments only. Shows the total input message rates, per second, on the top of each server icon and the total output message rate on the bottom of each server icon.

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 **(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.

Topology

Suffix Definition	A -- This is the active server and it is running.
	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 Definition	Green -- This is the active server and it is running.
	Blue -- This is the standby server and it is in standby mode.
	Red -- The server is inactive.
Link Color Definition	Blue -- The two servers in the pair are running.
	Red -- One of the servers in the pair is inactive.
Outline Color Definition	Grey -- The two servers in the pair are running.
	Red -- 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.

EMS Server Route Table					
remoteURL	remoteName	connected	stalled	inboundByteRate	inboundMessageRate
tcp://192.168.200.171:6020,tcp://192.168.200.1...	EMS-SLDEMOS2-6020		0	0.0	
tcp://192.168.200.171:6020,tcp://192.168.200.1...	EMS-SLDEMOS2-6020		0	0.0	
tcp://192.168.200.171:6030,tcp://192.168.200.1...	EMS-SLDEMOS2-6030		0	0.0	
tcp://192.168.200.171:6030,tcp://192.168.200.1...	EMS-SLDEMOS2-6030		0	0.0	
tcp://192.168.200.172:8020,tcp://192.168.200.1...	EMS-SLDEMOS3-8020		0	0.0	
tcp://192.168.200.172:8020,tcp://192.168.200.1...	EMS-SLDEMOS3-8020		0	0.0	
tcp://192.168.200.172:8020,tcp://192.168.200.1...	EMS-SLDEMOS3-8020		0	0.0	
tcp://192.168.200.172:8020,tcp://192.168.200.1...	EMS-SLDEMOS3-8020		0	0.0	
tcp://192.168.200.172:8030,tcp://192.168.200.1...	EMS-SLDEMOS3-8030		0	0.0	
tcp://192.168.200.172:8030,tcp://192.168.200.1...	EMS-SLDEMOS3-8030		0	0.0	
tcp://192.168.200.172:8030,tcp://192.168.200.1...	EMS-SLDEMOS3-8030		0	0.0	
tcp://192.168.200.172:8030,tcp://192.168.200.1...	EMS-SLDEMOS3-8030		0	0.0	
tcp://localhost:7022	EMS-SERVER2		0	0.0	
tcp://localhost:7022	EMS-SERVER2		0	0.0	
tcp://localhost:7022	EMS-SERVER2		0	0.0	
tcp://localhost:7022	EMS-SERVER2		0	0.0	
tcp://localhost:7022	EMS-SERVER2		0	0.0	
tcp://localhost:7022	EMS-SERVER2		0	0.0	
tcp://SLHOST10	EMS-SLDEMOS1-7010		0	0.0	
tcp://vmrh5-4	EMS-SLDEMOS2-6010		0	0.0	
tcp://vmrh5-4	EMS-SLDEMOS2-6010		0	0.0	

Title Bar (possible features are):

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

Data OK Data connection state. Red indicates the Data Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the data source is connected.

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

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

Fields and Data

This display includes:

remoteURL	The remote URL of the server.
remoteName	The name of the server.
connected	The connection state of the server route. <ul style="list-style-type: none"> -- 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. <ul style="list-style-type: none"> 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.

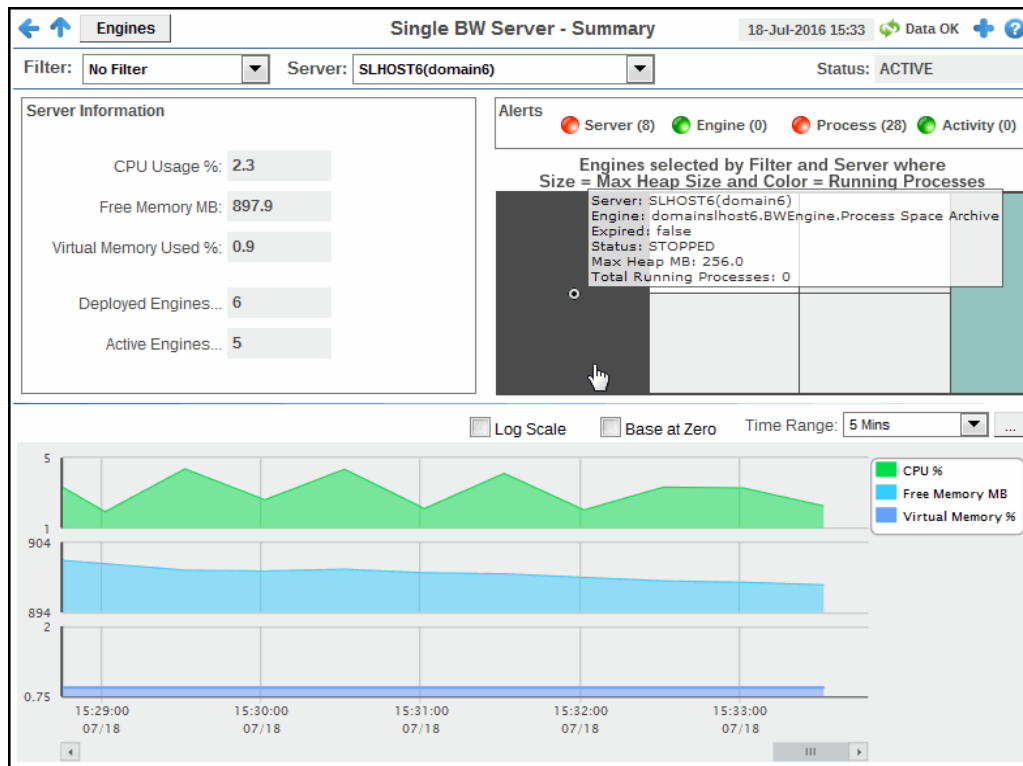
Single EMS Server

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.



Title Bar (possible features are):

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

- Data 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:

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	<p>Version The TIBCO EMS software version currently running.</p> <p>Start Time The data and time that the server was started.</p> <p>Backup The name of the backup server for the server.</p> <p>FT URL The IP address and port number, or the hostname and port number, of the fault tolerant standby server assigned to this server.</p> <p>Last Data Time The time that a data update was last made.</p> <p>State The server status:</p>

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.

The amount of time since the server was started.








Format:

dd HH:MM:SS


<days> <hours>:<minutes>:<seconds>


For example:


10d 08:41:38

Persistence	Uptime	The amount of time since the server was started. Format: dd HH:MM:SS <days> <hours>:<minutes>:<seconds> For example: 10d 08:41:38
	Async Storage	The amount of database space, in bytes, used by asynchronous message persistence data on the server
	Sync Storage	The amount of database space, in bytes, used by synchronous message persistence data on the server.
	Mem Used	The amount of memory, in kilobytes, used by message persistence on the server.
	Max	The maximum amount of memory, in kilobytes, used by message persistence on the server.
	Used %	The amount of memory, in percent, used by message persistence.
	Pooled	The amount of message memory that has been pooled.
	Disk Read Rate	The speed at which the server reads message persistence disk data.
Alerts	Disk Write Rate	The speed at which the server writes 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.
	Server	<ul style="list-style-type: none">  -- 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.
		Status indicator for route-related alerts. Click to open the EMS Single Server Tables display and view the Server Alert Table for more detail.
	Routes	<ul style="list-style-type: none">  -- 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.
		Status indicator for topic-related alerts. Click to open the EMS Single Server Tables display and view the Server Alert Table for more detail.
Topics	<ul style="list-style-type: none">  -- 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 information for the server. The counts shown here are also visible in the EMS 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.
	Durables	The number of durables currently active on the server. Click to open the EMS Clients / Consumer Summary for Server display for details.
	Routes	The number of routes defined on the server.
	Connections	The number of clients currently connected to the server. Click to open the EMS Clients / Connections for Server display for details.
	Consumers	The number of consumers currently connected to the server. Click to open the EMS Clients / Producer Summary for Server display for details.
	Topics	The number of topics currently active on the server. Click to open the EMS Topics / All Topics Table display for details.
	Queues	The number of queues currently active on the server. Click to open the EMS Topics / All Queues Heatmap display for details.
	Msgs/sec	The number of inbound messages, per second, from all producers and consumers
Messages In	Bytes in/sec	The total size of inbound messages, in bytes per second, from all producers and consumers.
	Total	The total number of inbound messages, in bytes, from all producers and consumers since the server was started.
	Msgs/sec	The number of outbound messages, per second, from all producers and consumers.
Messages Out	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.
	Current	The total number of inbound and outbound messages currently waiting to be processed.
Pending Messages	Bytes pending	The total size of inbound and outbound messages, in bytes, currently waiting to be processed.
		Shows message metrics for the selected server.
Trend Graphs	Pend Message	-- Traces the total number of inbound and outbound messages currently 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 last update. This trend graph only displays when **Use Rates** is not selected.

Delta Out Msgs -- Traces the change in total outbound messages since the last update. This trend graph only displays when **Use Rates** is not selected.

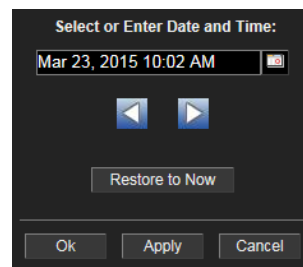
Use Rates When this check box is selected, the inbound and outbound message rates (**In Msgs/sec** and **Out Msgs/sec**) display in the trend graph. When this check box is not selected, the delta inbound and outbound messages (**Delta In Msgs** and **Delta Out Msgs**) display in the trend graph.


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.

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.

Time Range



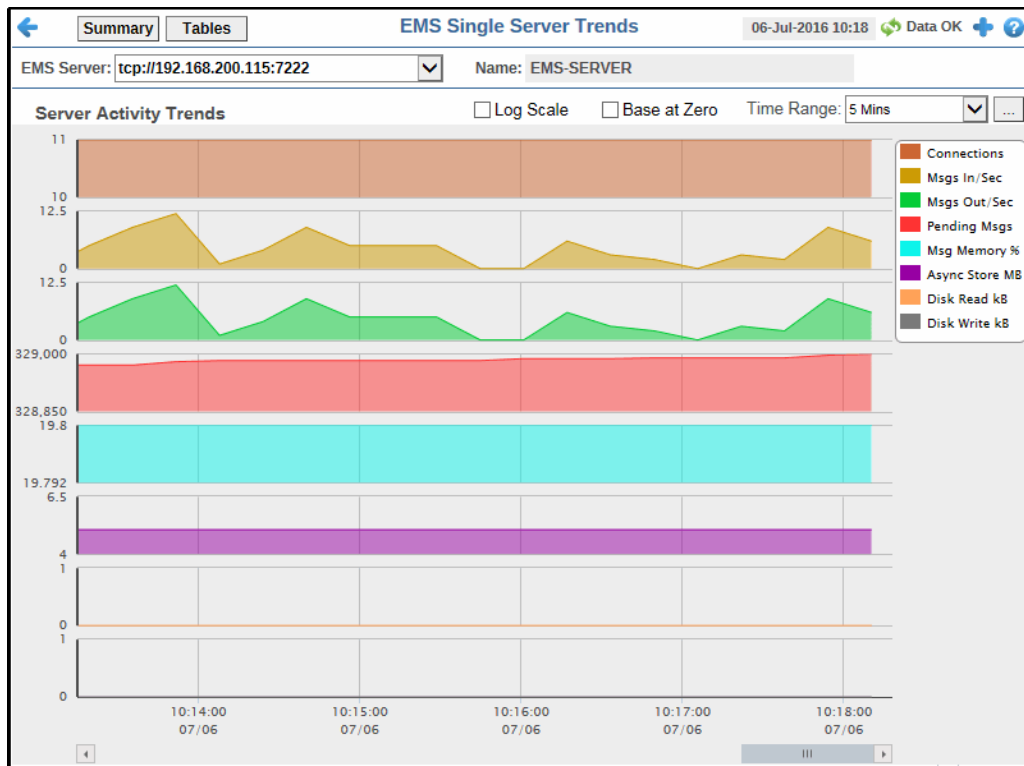
By default, the time range end point is the current time. To change the time range end point, click the  button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

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

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

Single Server Trends

View trend graphs in parallel to investigate performance issues for a specific server.



Title Bar (possible features are):

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

Data OK Data connection state. Red indicates the Data Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the data source is connected.

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

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

Fields and Data

This display includes:

- EMS Server** Select the EMS server for which you want to view data from this drop-down menu. The selection made here populates this display.
- Name** The name of the EMS Server selected from the EMS Server drop-down menu.
- Server Activity Trends** Specifies settings for the trend graphs.
Shows metrics for the selected server.
 - Connections** -- Traces the total number of client connections.
 - Msgs In/Sec** -- Traces the number of inbound messages, per second, from all producers and consumers.
 - Msgs Out/Sec** -- Traces the number of outbound messages, per second, from all producers and consumers.
 - Pending Msgs** -- Traces the total number of messages currently waiting to be
- Trend Graphs**

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

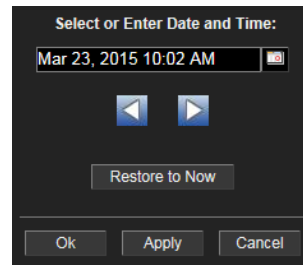
This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens 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.

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.

Time Range



By default, the time range end point is the current time. To

change the time range end point, click the  button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

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

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

Single Server Tables

View all available utilization and performance data for specific servers.

Summary Trends EMS Single Server Tables 06-Jul-2016 10:21 Data OK

EMS Server: tcp://192.168.200.115:7222 Name: EMS-SERVER

Server Table					
time_stamp	Name	Agent	User	Subs	ConnName
07/06/16 10:21:06	EMS-SERVER			\$server:'tcp://192.168.200.115:7222' \$agent... _adm_192.168.200.115	

Server Info Table								
time_stamp	Host	asyncDBSize	backupName	connectionCount	diskReadRate	diskWriteRate	durableCount	fail
07/06/16 10:21:07	192.168.2...	5,312,584		11	0.0	0.0	253	

Current Alerts for Selected EMS Server			
Time	Alert Name	Alert Index	Alert Text

Title Bar (possible features are):

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

- Data OK Data connection state. Red indicates the Data Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the data source is connected.
- 23-Mar-2017 12:04 Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green Data OK icon is a strong indication that data is current and valid.
- Open the Alert Views - RTView Alerts Table display.

Fields and Data

This display includes:

EMS Server	Select the EMS server for which you want to view data from this drop-down menu. The selection made here populates this display
Name	The name of the EMS Server selected from the EMS Server drop-down menu.
Server Table	This table shows information about how the monitor is connected to the server.
time_stamp	The date and time this row of data was last updated.
Name	The name of the server.
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.

		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.
Server Info Table		Select an EMS Server from the EMS Server drop-down menu. This table shows server metrics queried from the 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 server.
	connectionCount	The number of currently connected clients.
	diskReadRate	The speed at which the server reads disk data.
	diskWriteRate	The speed at which the server writes data to disk.
	durableCount	The number of currently active durables.
	FaultTolerantURL	The IP address and port number, or the hostname and port number, of the fault tolerant standby server assigned to this 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 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.
		The server status:
	Active	-- The server is currently processing requests.
state	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.
Current Alerts Table for Selected EMS Server	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.	
	Time	The time the alert was first activated.
	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

The screenshot shows the 'Alert Detail' window with the following fields and values:

- Alert Time:** 02/26/15 07:27:45
- ID:** 1000
- Name:** EmsServerMemUsedHigh
- Index:** tcp://SLHOST21:7222
- Owner:** (empty field)
- Alert Text:** High Warning Limit exceeded, current value: 9.36 limit: 5.0
- Comments:** (empty text area)
- Severity:** 1
- Acknowledged:**
- Cleared:**

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.



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- ? Open the online help page for this display.
- Menu ▾, Table open commonly accessed displays.
- 6,047 The number of items currently in the display.
- Data OK Data connection state. Red indicates the Data Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the data source is connected.
- 23-Mar-2017 12:04 Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green Data OK icon is a strong indication that data is current and valid.
- Open the Alert Views - RTView Alerts Table display.

Note: Clicking **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:

EMS Server The EMS Server selected from this drop-down menu populates all associated Topic data in this display.

Filter Pattern Enter a string to show only topics with names that contain the string. For example, if you enter the string Madrid, all topics with Madrid in the topic name are shown in the table. If no entry is made, all topic names are shown. For most use cases, you can enter a portion of the topic name.

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/rtvapl.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.

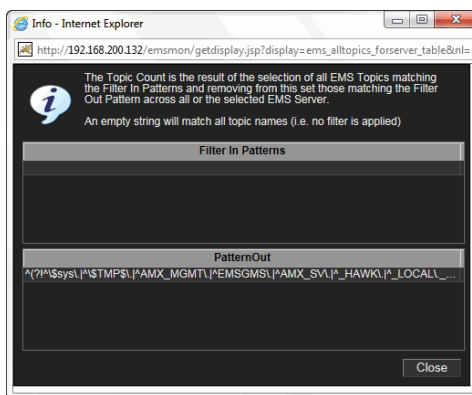
The default value for the **\$emsTopicFilterOutPattern** property is:

```
collector.sl.rtvapl.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.

Filtered Topic Count

Clicking the associated Help button ? displays the **Info** dialog, which displays the defined filter in and filter out properties used by the **Filtered Topic Count**.



Log

This option enables visualization on a logarithmic scale, and should be used when the range in your data is very broad. For example, if you have data that ranges from the tens to the thousands, then data in the range of tens will be neglected visually if you do not check this option. This option makes data on both extreme ranges visible by

using the logarithmic of the values rather than the actual values.

Auto When checked, the values of the selected metric are auto-scaled to its highest defined value. When unchecked, the values of the selected metric display based on the threshold defined for the alert associated with the selected metric. Selecting Auto helps to visualize the range of the values currently present for the selected metric instead of the threshold of the alert that has been associated with the metric. All metrics that have not been associated in the heatmap defaults with alerts use a monochromatic color gradient bar (whites and greens). All metrics that have been associated in the heatmap defaults with alerts use a multi-chromatic color gradient bar (reds, yellows, white, and greens).

Metric Select the metric driving the heatmap display. The default is Alert Severity. Each **Metric** has a color gradient bar that maps values to colors. The heatmap organizes the topics by server, where each rectangle represents a Topic. Mouse-over any rectangle to display the current values of the metrics for the Topic. Click on a rectangle to drill-down to the associated [Single Topic Summary](#) display for a detailed view of metrics for that particular topic.

Alert Severity The maximum alert level in the item (index) associated with the rectangle. Values range from **0** to **2**, as indicated in the color gradient bar




, where **2** is the greatest **Alert Severity**.


2 -- Metrics that have exceeded their specified **ALARMLEVEL** threshold and have an Alert Severity value of **2** are shown in red. For a given rectangle, this indicates that one or more metrics have exceeded their alarm threshold.

1 -- Metrics that have exceeded their specified **WARNINGLEVEL** threshold and have an Alert Severity value of **1** are shown in yellow. For a given rectangle, this indicates that one or more metrics have exceeded their warning threshold.

0 -- Metrics that have not exceeded either specified threshold have an Alert Severity value of **0** and are shown in green. For a given rectangle, this indicates that no metrics have exceeded a specified alert threshold.


The total number of alarm and warning alerts in a given item (index) associated with the rectangle.



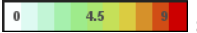


The color gradient bar  shows the range of the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the middle value of the range.

Consumers The total number of consumers in a given item (index) associated with the rectangle. The color gradient bar  shows the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of consumers in the heatmap. The middle value in the gradient bar indicates the middle value of the range.

The **Auto** option does not impact this metric.

Durables The total number of active durables in a given item (index) associated with the rectangle. The color


gradient bar  shows the range of the value/color mapping. The numerical values in the gradient bar range from **0** to the maximum count of durables in the heatmap. The middle

Subscribers	<p>value in the gradient bar indicates the middle value of the range.</p> <p>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.</p>
Pending Msgs	<p>The total number of pending messages in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from 0 to the alert threshold of EmsTopicsPendingMsgsHigh, which is 3000. The middle value in the gradient bar indicates the middle value of the range (the default is 1500).</p> <p>When Auto is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.</p>
In Msg /sec	<p>The number of inbound messages per second in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from 0 to the alert threshold of EmsTopicsInMsgRateHigh, which is 9. The middle value in the gradient bar indicates the middle value of the range (the default is 4.5).</p> <p>When Auto is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.</p> <p>Note: This metric comes directly from the tibjms.admin.DestinationInfo class from TIBCO.</p>
In Total Msg	<p>The total number of inbound messages in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. 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.</p> <p>The Auto option does not impact this metric.</p>
Out Msg/sec	<p>The number of outbound messages per second in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from 0 to the alert threshold of EmsTopicsOutMsgRateHigh, which is 9. The middle value in the gradient bar indicates the middle value of the range (the default is 4.5).</p> <p>When Auto is checked, the numeric values in the</p>

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.

The total number of outbound messages in a given item (index) associated with the rectangle. The

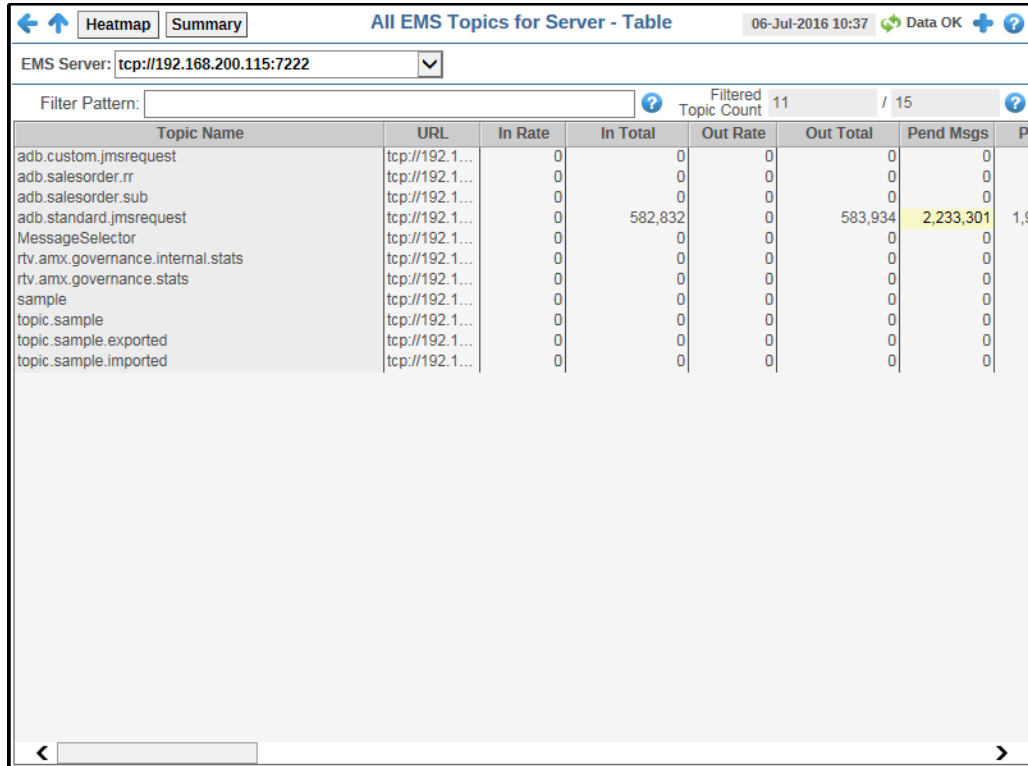
color gradient bar  shows the range of the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of receivers in the heatmap. The middle value in the gradient bar indicates the middle value of the range.

The **Auto** option does not impact this metric.

Out Total Msgs

All Topics Table

Track performance and utilization metrics for all topics on a single server.



The screenshot shows a web-based interface for monitoring EMS topics. At the top, there are navigation buttons for 'Heatmap' and 'Summary', and the title 'All EMS Topics for Server - Table'. The date and time are '06-Jul-2016 10:37', and the status is 'Data OK'. Below the title, the 'EMS Server' is set to 'tcp://192.168.200.115:7222'. A 'Filter Pattern' field is empty. The 'Filtered Topic Count' is 11 out of 15. The table below lists various topics with their performance metrics.

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	

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Data OK Data connection state. Red indicates the Data Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the data source is connected.

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

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

Note: Clicking **Heatmap** in the Title Bar takes you to the **All Topics Heatmap display**. Clicking **Summary** in the Title Bar takes you to the **All Topics Summary display**.

Fields and Data

This display includes:

EMS Server The EMS Server selected from this drop-down menu populates all associated Topic data in this display.

Filter Pattern Enter a string to show only topics with names that contain the string. For example, if you enter the string Madrid, all topics with Madrid in the topic name are shown in the table. If no entry is made, all topic names are shown. For most use cases, you can enter a portion of the topic name.

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/rtvapl.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.

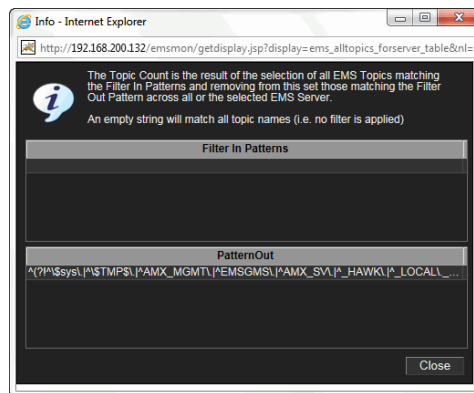
The default value for the **\$emsTopicFilterOutPattern** property is:

```
collector.sl.rtvapl.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**.

Filtered Topic Count



Table

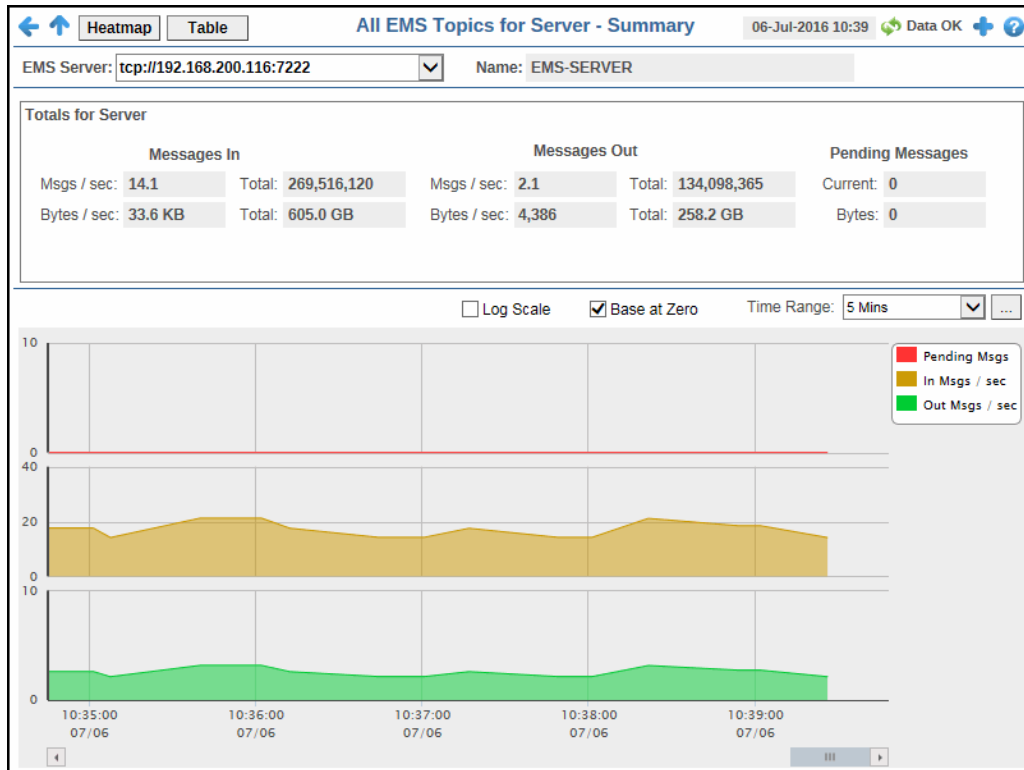
This table describes all topics on the selected server. Click a row to view metrics for a single topic in the **Single Topic Summary** display.

Topic Name	The name of the topic.
URL	The IP address and port number for the server.
In Rate	The number of inbound messages for the topic, 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 topic.
Out Rate	The number of outbound messages for the topic, 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 topic.
Pend Msgs	The number of currently pending messages for the topic.
Pend Size	The amount of space, in bytes, used by pending messages for the topic.
activeDurableCount	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.



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- open commonly accessed displays.
- The number of items currently in the display.

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

Note: Clicking **Heatmap** in the Title Bar takes you to the **All Topics Heatmap display**. Clicking **Table** in the Title Bar takes you to the **All Topics Table display**.

Fields and Data

This display includes:


EMS Server The EMS Server selected from this drop-down menu populates all associated Topic data in this display.

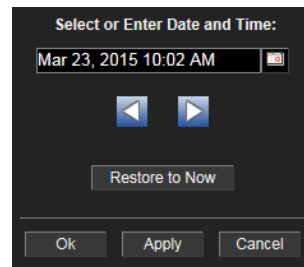
Name The name of the server selected in the **EMS Server** drop down list.

Totals for Server Shows metrics for all 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.

	<p>Total -- The total size of inbound messages, in kilobytes, for all topics on the server since the server was started.</p> <p>Msgs/sec -- The number of outbound messages for all topics on the server, per second.</p> <p>Total -- The total number of outbound messages for all topics on the server since the server was started.</p> <p>Bytes/sec -- The size of outbound messages, in bytes per second, for all topics on the server.</p> <p>Total -- The total size of outbound messages for all topics on the server, in kilobytes, since the server was started.</p>
Messages Out	<p>Current -- The total number of messages for all topics on the server currently waiting to be processed.</p> <p>Bytes -- The total size of messages, in bytes, for all topics on the server currently waiting to be processed.</p>
Pending Messages	Shows metrics for all topics on the selected server.
Trend Graphs	<p>Pend Msgs -- Traces the total number of messages for all topics on the server currently waiting to be processed.</p> <p>In Msgs / sec -- Traces the number of inbound messages for all topics, per second.</p> <p>Out Msgs / sec -- Traces the number of outbound messages for all topics, per second.</p>
	<p>This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option.</p>
	<p>When this option is checked, zero is set as the Y axis minimum for all graph traces.</p>
Log Scale	
Base at Zero	
	<p>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.</p>

Time Range

By default, the time range end point is the current time. To

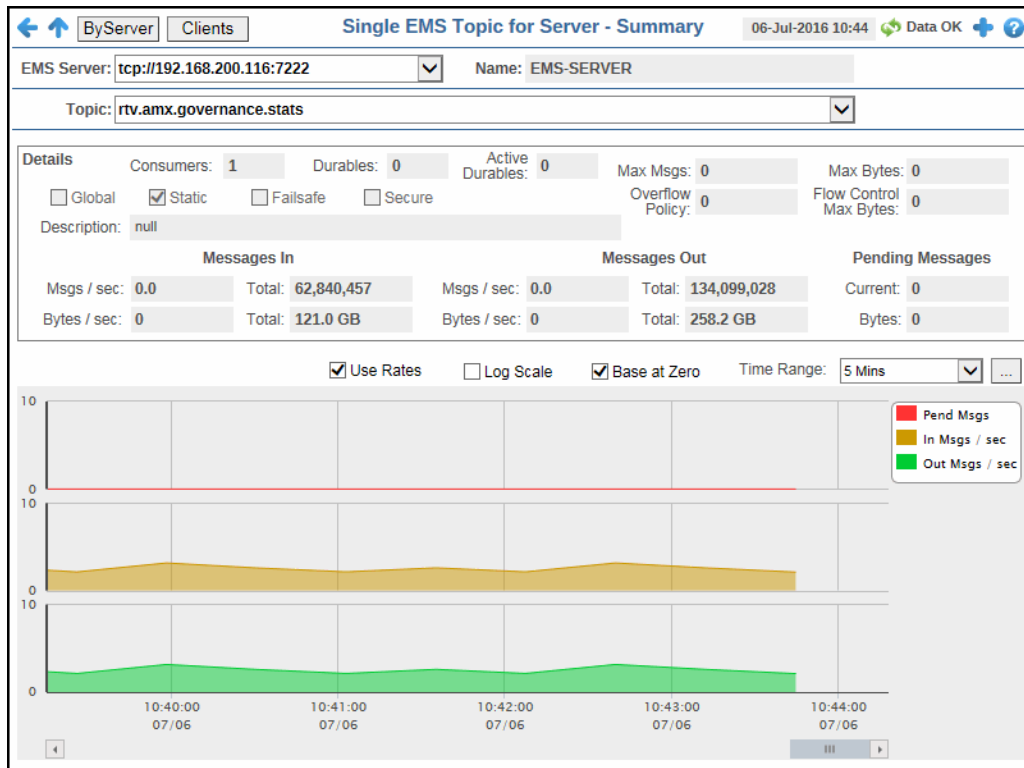
change the time range end point, click the  button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

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

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

Single Topic Summary

Track performance and utilization metrics for a single topic on a single server.



Title Bar (possible features are):

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

- Data OK** Data connection state. Red indicates the Data Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the data source is connected.
- 23-Mar-2017 12:04** Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the **Alert Views - RTView Alerts Table** display.

Note: Clicking **Clients** in the Title Bar takes you to the **Single EMS Topic-Clients display for the selected topic**.

Fields and Data

This display includes:

- EMS Server** The EMS Server selected from this drop-down menu populates the Topics drop-down menu with the Topics belonging to this EMS Server.

- Name** The name of the EMS server selected from the EMS Server drop-down menu.
- Topic** Select a Topic from the drop-down menu to view details for the selected Topic.
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.

Topic	Name	Date	Time	Size	Status		
Alice Chen	5/27/2001	238	Plant	5/1/2001	1230	16:18:0162001	BROKEN
Alice Chen	5/27/2001	229	Plant	5/1/2001	1230	16:18:0162001	WORKING
Alice Chen	5/27/2001	228	Plant	5/1/2001	1230	7:52:0162001	WORKING
Alice Chen	5/27/2001	227	Plant	5/1/2001	1230	7:52:0162001	WORKING
Alice Chen	5/27/2001	226	Plant	5/1/2001	1230	8:39:0162001	WORKING
Alice Chen	5/27/2001	225	Plant	5/1/2001	1230	9:01:0162001	WORKING
Alice Chen	5/27/2001	224	Plant	5/1/2001	1230	9:01:0162001	WORKING
Alice Chen	5/27/2001	223	Plant	5/1/2001	1230	14:41:0162001	COMPLETE
Alice Chen	5/27/2001	222	Plant	5/1/2001	1230	14:41:0162001	WORKING
Alice Chen	5/27/2001	221	Plant	5/1/2001	1230	14:41:0162001	WORKING
Alice Chen	5/27/2001	220	Plant	5/1/2001	1230	14:41:0162001	WORKING
Alice Chen	5/27/2001	219	Plant	5/1/2001	1230	14:41:0162001	WORKING
Alice Chen	5/27/2001	218	Plant	5/1/2001	1230	14:41:0162001	WORKING

Browse


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:

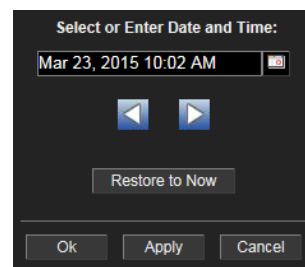
sl.rtview.sub=\$emsDestBrowseButtonVisFlag:1

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.
	Shows message data for the selected topic.	
Trend Graphs	Pend 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 last update. This trend graph only displays when Use Rates is not selected.	
	Delta Out Msgs -- Traces the change in total inbound messages since the last update. 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 Range	Select a time range from the drop down menu varying from 2 Minutes to Last 7 Days , or display All Data . To specify a time range, click the  button.



By default, the time range end point is the current time. To change the time range end point, click the



button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

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

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

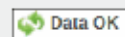
Single EMS Topic-Clients

View data for all consumers and producers associated with the selected topic.

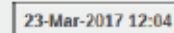
The screenshot shows the 'Single EMS Topic - Clients' window. At the top, there are navigation buttons (back, forward, home), a 'ByServer' dropdown, and a 'Summary' button. The title bar includes the window name, a timestamp '06-Jul-2016 10:51', and a 'Data OK' status icon. Below the title bar, there are fields for 'EMS Server' (tcp://192.168.200.116:7222) and 'Name' (EMS-SERVER). A 'Topic' dropdown is set to 'rtv.amx.governance.stats', and a 'Show Active Only' checkbox is checked. The main content area is divided into two sections: 'Producers' and 'Consumers'. The 'Producers' section has a 'Count: 0' and an empty table with columns: ID, clientID, Msgs / sec, Msgs Total, Bytes / sec, Total Bytes, userName, and hos. The 'Consumers' section has a 'Count: 1' and a table with one row: ID (5614606), clientID, Msgs/sec (0.0), Msgs Total (1,739,409), Bytes/sec (0.0), Total Bytes (3,626,981,...), userName (admin), and hos (SLHOST21).

Title Bar (possible features are):

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



Data OK Data connection state. Red indicates the Data Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the data source is connected.



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



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

Note: Clicking **Summary** in the Title Bar takes you to the **Single Topic Summary display**. Clicking **ByServer** in the Title Bar takes you to the **Single Topic By Server display**.

Fields and Data

This display includes:

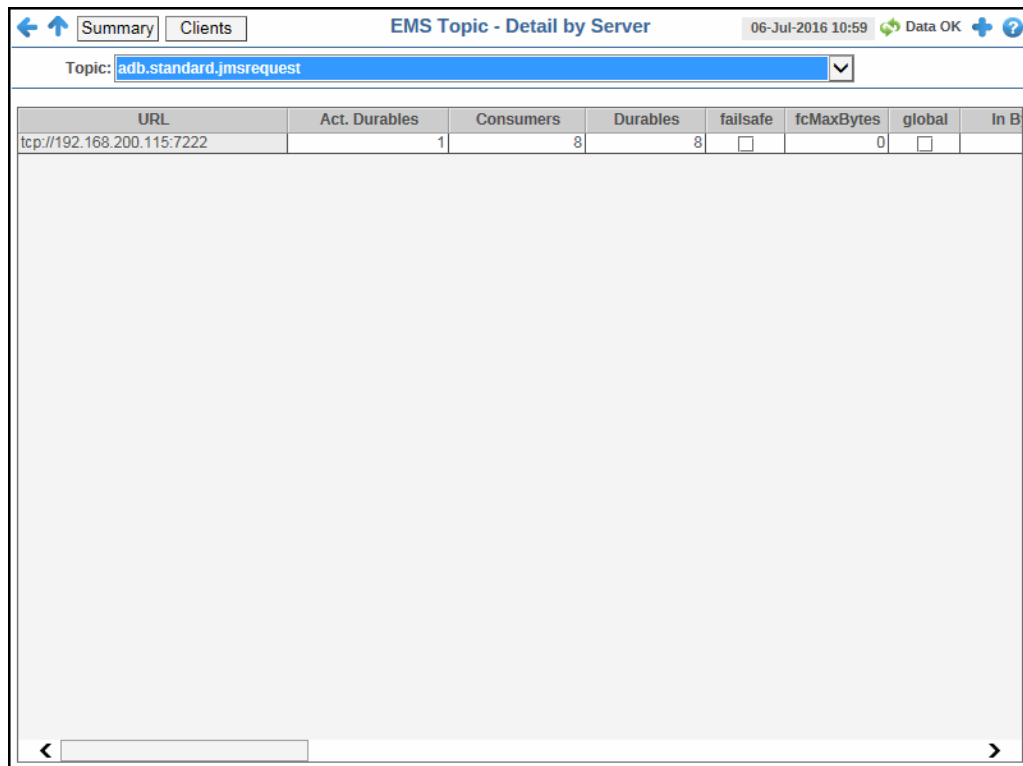
EMS Server	The EMS Server selected from this drop-down menu populates the Topics drop-down menu with the Topics belonging to this EMS Server.
Name	The name of the EMS Server selected from the EMS Server drop-down menu.
Topic	Select a Topic from the drop-down menu to view details for the selected Topic.
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	<p>The number of messages sent to the consumer that were not yet acknowledged by the consumer's session.</p> <p>The sl.rtvew.jmsadm.queryCIDetails property must be set to true in your sample.properties file to see this column.</p>
Size Msg Sent	<p>The combined size of messages sent to the consumer that were not yet acknowledged by the consumer's session.</p> <p>The sl.rtvew.jmsadm.queryCIDetails property must be set to true in your sample.properties file to see this column.</p>
Ack Msgs	<p>The total number of messages that have been sent to the consumer and have been acknowledged by the consumer's session.</p> <p>The sl.rtvew.jmsadm.queryCIDetails property must be set to true in your sample.properties file to see this column.</p>
Sent Msgs	<p>The total number of messages sent to the consumer since the consumer was created.</p> <p>The sl.rtvew.jmsadm.queryCIDetails property must be set to true in your sample.properties file to see this column.</p>
Elap. Since Last Ack	<p>The amount of time (in milliseconds) that has elapsed since the last time a message sent to the consumer was acknowledged by the consumer's session.</p> <p>The sl.rtvew.jmsadm.queryCIDetails property must be set to true in your sample.properties file to see this column.</p>
Elap. Since Last Sent	<p>The amount of time (in milliseconds) that has elapsed since the last time the server sent a message to the consumer.</p> <p>The sl.rtvew.jmsadm.queryCIDetails property must be set to true in your sample.properties file to see this column.</p>
destination Prefetch	<p>The actual destination prefetch value used by the server at runtime.</p> <p>The sl.rtvew.jmsadm.queryCIDetails property must be set to true in your sample.properties file to see this column.</p>
prefetch Delivered Count	<p>The number of prefetch messages delivered to the consumer by the server. For consumers receiving messages on any destination with positive prefetch value, this value is never more than the prefetch value of the destination. This value cannot be used to identify the status of the consumer, but it can be used in conjunction with other consumer information values to identify consumers who stopped receiving messages due to application-specific problems.</p> <p>The sl.rtvew.jmsadm.queryCIDetails property must be set to true in your sample.properties file to see this column.</p>
durable Name	The name of the durable.
routeName	<p>The queue owner server name if the consumer's destination is a routed queue.</p> <p>The sl.rtvew.jmsadm.queryCIDetails property must be set to true in your sample.properties file to see this column.</p>
isActive	When checked, the consumer is active and can receive messages

	from the server.
	The sl.rtvview.jmsadm.queryCIDetails 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.rtvview.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.rtvview.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 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.



Title Bar (possible features are):

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

Data OK Data connection state. Red indicates the Data Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the data source is connected.

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

Open the Alert Views - RTView Alerts Table display.

Note: Clicking **Clients** in the Title Bar takes you to the [Single EMS Topic-Clients display for the selected topic](#). Clicking **Summary** in the Title Bar takes you to the [Single Topic Summary display](#).

Fields and Data

This display includes:

- 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.



Title Bar (possible features are):

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

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

Note: Clicking **Table** in the Title Bar takes you to the [All Queues Table](#) display. Clicking **Summary** in the Title Bar takes you to the [All Queues Summary](#) display.

Fields and Data


This display includes:

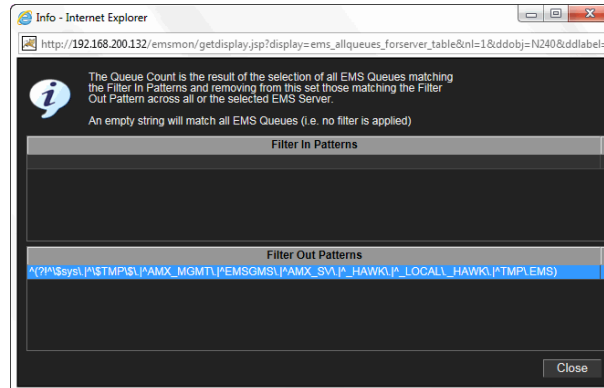
- EMS Server** The EMS Server selected from this drop-down menu populates all the associated Queue data in this display.
- Filter Pattern** Enter a string to show only queues with names that contain the string. For example, if you enter the string Madrid, all queues with Madrid in the queue name are shown in the table. If no entry is made, all queue names are shown. For most use cases, you can enter a portion of the queue name.
- Filtered Queue Count** This field is broken into two different values. The first value is the total number of currently active queues on the selected server, which is filtered by the **Filter Pattern** field and by the default value specified in the **\$emsQueueFilterOutPattern** property in the **emsmon/conf/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.rtvew.sub=$emsQueueFilterOutPattern:'^
(?!^\\$sys\\.|^\\$TMP\\$\\|^AMX_MGMT\\|^EMSGMS\\|^AMX_SV\\.|^_
HAWK\\.|^_LOCAL\\. _HAWK\\.|^TMP\\.EMS)'
```

You can modify the filter value by editing the **\$emsQueueFilterOutPattern** property in the **"sample.properties File"**, which will override the default value.

Clicking the associated Help button  displays the **Info** dialog, which displays the defined filter in and filter out properties used by the **Filtered Queue Count**.



Log

This option enables visualization on a logarithmic scale, and should be used when the range in your data is very broad. For example, if you have data that ranges from the tens to the thousands, then data in the range of tens will be neglected visually if you do not check this option. This option makes data on both extreme ranges visible by using the logarithmic of the values rather than the actual values.

Auto

When checked, the values of the selected metric are auto-scaled to its highest defined value. When unchecked, the values of the selected metric display based on the threshold defined for the alert associated with the selected metric. Selecting Auto helps to visualize the range of the values currently present for the selected metric instead of the threshold of the alert that has been associated with the metric. All metrics that have not been associated in the heatmap defaults with alerts use a monochromatic color gradient bar (whites and greens). All metrics that have been associated in the heatmap defaults with alerts use a multi-chromatic color gradient bar (reds, yellows, white, and greens).

Metric

Select the metric driving the heatmap display. The default is **Alert Severity**. Each Metric has a color gradient bar that maps values to colors. The heatmap organizes the topics by server, where each rectangle represents a Queue. Mouse-over any rectangle to display the current values of the metrics for the Queue. Click on a rectangle to drill-down to the associated **Single Queue Summary** display for a detailed view of metrics for that particular queue.

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.

The total number of alarm and warning alerts in a given item (index) associated with the rectangle.

The color gradient bar  shows the range of the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of alerts in the heatmap. The middle value in the gradient bar indicates the middle value of the range.

The total number of consumers in a given item (index) associated with the rectangle. The color


Consumers

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.

The total number of receivers in a given item (index) associated with the rectangle. The color


Receivers

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.

The total number of pending messages in a given item (index) associated with the rectangle. The


Pending Msgs

color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from 0 to the alert threshold of **EmsQueuesPendingMsgsHigh**, which is **3000**. The middle value in the gradient bar indicates the middle value of the range (the default is **1500**).

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


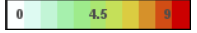
The number of inbound messages per second in a given item (index) associated with the rectangle.

In Msgs /sec

The color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from 0 to the alert threshold of **EmsQueuesInMsgRateHigh**, which is **9**. The middle value in the gradient bar indicates the middle value of the range (the default is **4.5**).

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

Note: This metric comes directly from the

In Total Msg	<p>tibjms.admin.DestinationInfo class from TIBCO.</p> <p>The total number of inbound messages in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. 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.</p> <p>The Auto option does not impact this metric.</p>
Out Msgs/sec	<p>The number of outbound messages per second in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. By default, the numerical values in the gradient bar range from 0 to the alert threshold of EmsQueuesOutMsgRateHigh, which is 9. The middle value in the gradient bar indicates the middle value of the range (the default is 4.5).</p> <p>When Auto is checked, the numeric values in the color gradient bar show the range of the data being displayed rather than the default values. The middle value changes accordingly to indicate the color of the middle value of the range.</p> <p>Note: This metric comes directly from the tibjms.admin.DestinationInfo class from TIBCO.</p>
Out Total Msgs	<p>The total number of outbound messages in a given item (index) associated with the rectangle. The color gradient bar  shows the range of the value/color mapping. 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.</p> <p>The Auto option does not impact this metric.</p>

All Queues Table

Track performance and utilization metrics for all queues on a single server.

Queue Name	URL	In Rate	In Total	Out Rate	Out Total	Pend Msgs	P
amx.governance.internal.stats	tcp://192.1...	0	206,708,124	0	206,708,124	103	
amx.governance.stats	tcp://192.1...	0	62,845,363	0	62,845,367	0	
cl_logservice_queue	tcp://192.1...	0	0	0	0	0	
cl_payload_queue	tcp://192.1...	0	0	0	0	0	
com.tibco.amf.admin.deploymentServerQueue.inst...	tcp://192.1...	0	4	0	4	0	
com.tibco.amf.admin.deploymentServerQueue.inst...	tcp://192.1...	0	9	0	9	0	
com.tibco.amf.admin.deploymentServerQueue.SL...	tcp://192.1...	0	0	0	0	0	
com.tibco.amf.admin.deploymentServerQueue.SL...	tcp://192.1...	0	11	0	11	0	
com.tibco.amf.admin.deploymentServerQueue.Sys...	tcp://192.1...	0	0	0	0	0	
com.tibco.amf.admin.deploymentServerQueue.Sys...	tcp://192.1...	0	8	0	8	0	
com.tibco.amf.admin.deploymentServerQueue.Sys...	tcp://192.1...	0	0	0	0	0	
queue.sample	tcp://192.1...	0	0	0	0	0	
sample	tcp://192.1...	0	0	0	0	0	

Title Bar (possible features are):

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

- Data OK Data connection state. Red indicates the Data Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the data source is connected.
- 23-Mar-2017 12:04 Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green Data OK icon is a strong indication that data is current and valid.
- Open the Alert Views - RTView Alerts Table display.

Note: Clicking **Heatmap** in the Title Bar takes you to the **All Queues Heatmap** display. Clicking **Summary** in the Title Bar takes you to the **All Queues Summary** display.

Fields and Data

This display includes:

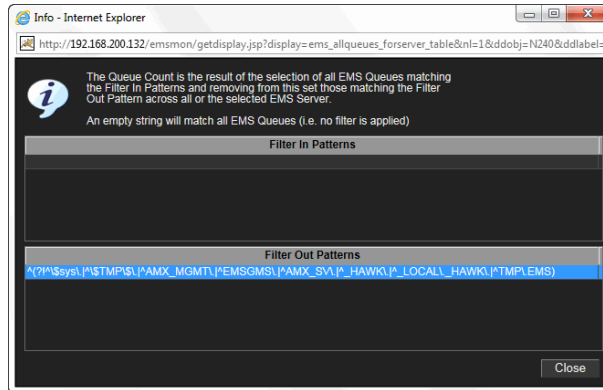
- EMS Server** The EMS Server selected from this drop-down menu populates all associated Queue data in this display.
- Filter Pattern** Enter a string to show only queues with names that contain the string. For example, if you enter the string Madrid, all queues with Madrid in the queue name are shown in the table. If no entry is made, all queue names are shown. For most use cases, you can enter a portion of the queue name.
- Filtered Queue Count** This field is broken into two different values. The first value is the total number of currently active queues on the selected server, which is filtered by the **Filter Pattern** field and by the default value specified in the **\$emsQueueFilterOutPattern** property in the **emsmon/conf/rtvapm.properties** file. The second value is the total number of queues on the selected server. In other words, the filtered number of queues/the total number of queues on the server.

The default value for the **\$emsQueueFilterOutPattern** property is:

```
collector.sl.rtvew.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**.



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.

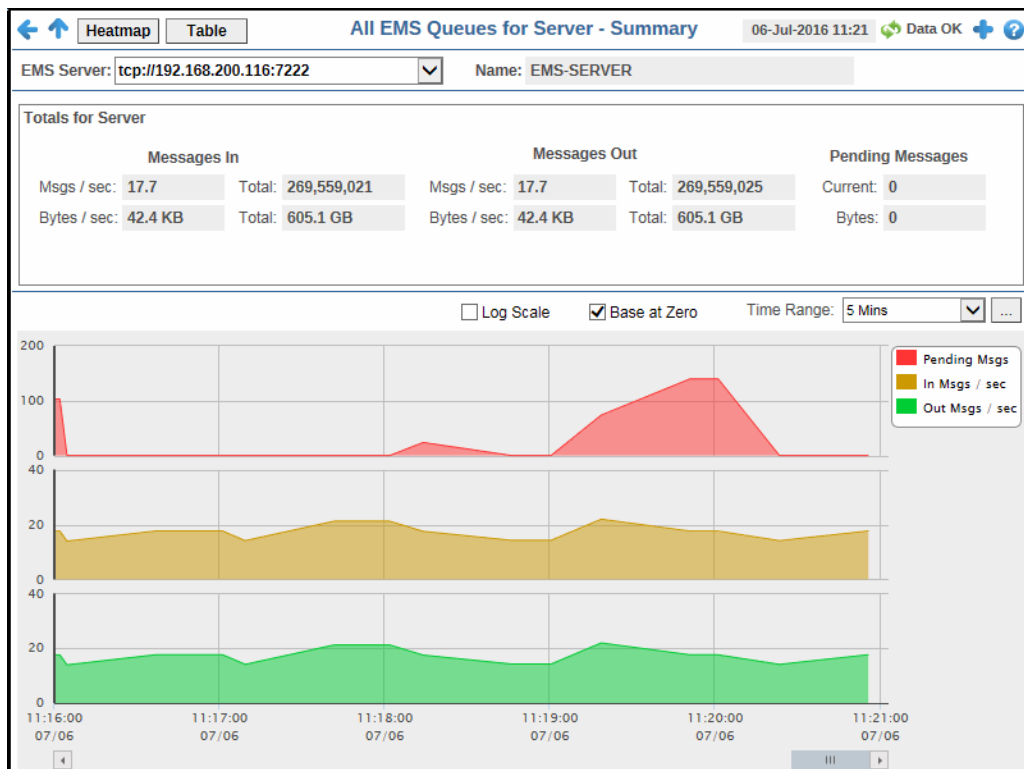
Queue Name	The name of the queue.
Table	
URL	The IP address and port number for the server.
In Rate	The number of inbound messages for the queue, per second. Note: This metric comes directly from the tibjms.admin.DestinationInfo class from TIBCO.
In Total	The total number of inbound messages for the 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.



Title Bar (possible features are):


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

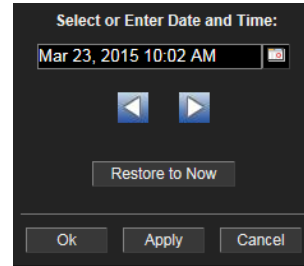
- Data OK** Data connection state. Red indicates the Data Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the data source is connected.
- 23-Mar-2017 12:04** Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the **Alert Views - RTView Alerts Table** display.

Note: Clicking **Heatmap** in the Title Bar takes you to the **All Queues Heatmap display**.
 Clicking **Table** in the Title Bar takes you to the **All Queues Table display**.


Fields and Data


This display includes:

EMS Server	The EMS Server selected from this drop-down menu populates all associated queue data in this display.
Name	The name of the server selected in the EMS Server drop down list.
Totals For Server	Shows metrics for all queues on the selected server.
Messages In	<p>Msgs/sec -- The total number of inbound messages for all queues on the server, per second.</p> <p>Total -- The total number of inbound messages for all queues on the server since the server was started.</p> <p>Bytes/sec -- The amount of inbound messages, in bytes per second, for all queues on the server.</p> <p>Total -- The amount of inbound messages, in kilobytes, for all queues on the server since the server was started.</p>
Messages Out	<p>Msgs/sec -- The total number of outbound messages for all queues on the server, per second.</p> <p>Total -- The total number of outbound messages for all queues on the server since the server was started.</p> <p>Bytes/sec -- The amount of outbound messages, in bytes per second, for all queues on the server.</p> <p>Total -- The amount of outbound messages for all queues on the server, in kilobytes, since the server was started.</p>
Pending Messages	<p>Current -- The total number of messages currently waiting to be processed.</p> <p>Bytes -- The amount of messages, in bytes, currently waiting to be processed.</p>
Trend Graphs	<p>Shows metrics for all queues on the selected server.</p> <p>Pending Msgs -- Traces the number of messages currently waiting to be processed.</p> <p>In Msgs / sec -- Traces the number of inbound messages for all queues, per second.</p> <p>Out Msgs / sec -- Traces the number of outbound messages for all queues, per second.</p>
Log Scale	This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option.
Base at Zero	When this option is checked, zero is set as the Y axis minimum for all graph traces.
Time Range	Select a time range from the drop down menu varying from 2 Minutes to Last 7 Days , or display All Data . To specify a time range, click the  button.



By default, the time range end point is the current time. To

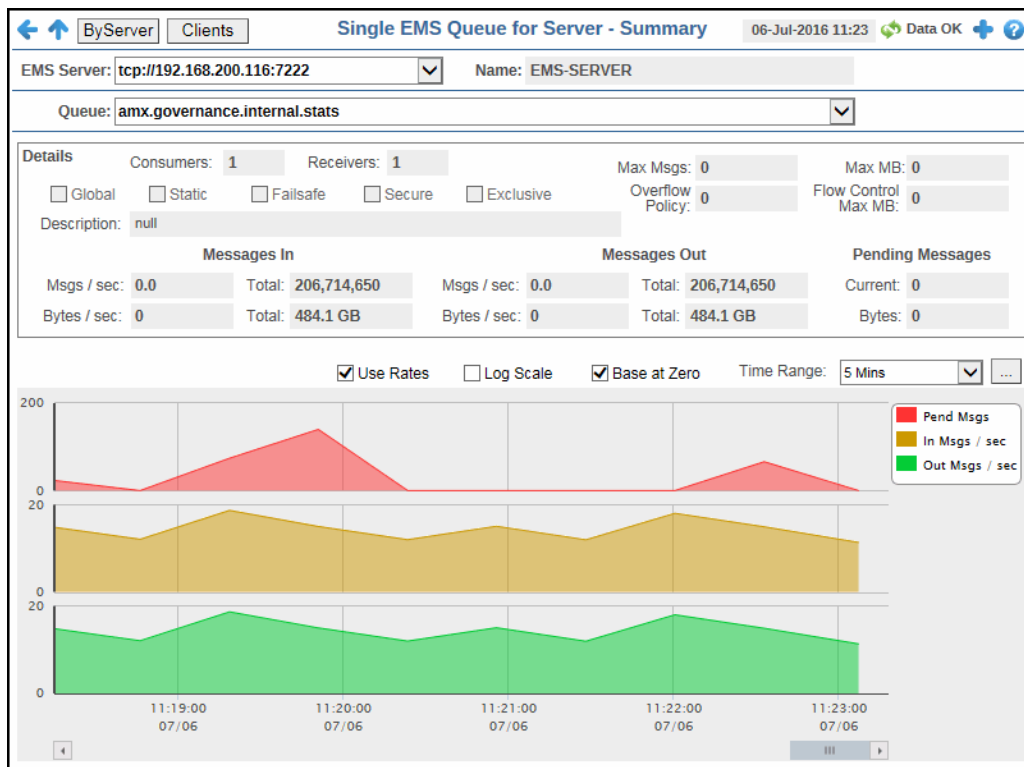
change the time range end point, click the  button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

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

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

Single Queue Summary

Track performance and utilization metrics for a single queue 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.
- 6,047 The number of items currently in the display.

Data OK Data connection state. Red indicates the Data Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the data source is connected.

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

Open the Alert Views - RTView Alerts Table display.

Note: Clicking **Clients** in the Title Bar takes you to the **Single EMS Queue-Clients display**. Clicking **By Server** in the Title Bar takes you to the **Single Queue By Server**

Fields and Data

This display includes:

- EMS Server** The EMS Server selected from this drop-down menu populates the **Queues** drop-down menu with the queues belonging to this EMS Server.
- Name** The name of the EMS Server selected from the **EMS Server** drop-down menu.
- Queue** Select a queue from the drop-down menu. The selection made here populates this display.
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.

Browse

Queue Name	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Test Field	EMS SERVER
Msg 1743	976	705	610	210	450			
Msg 1743	924	602	310	487	511		076Testing	
Msg 1753	294	630	37	360	717		363Testing	
Msg 1754	334	201	440	260	826		380NA	
Msg 1754	973	788	63	366	855		652NA	
Msg 1755	418	167	658	519	67		487Testing	
Msg 1755	791	661	664	704	361		80Testing	
Msg 1755	623	490	68	630	521		25NA	
Msg 1755	883	368	640	764	290		260NA	
Msg 1757	694	204	432	2	508		523Testing	
Msg 1757	626	661	812	270	700		65Testing	
Msg 1758	968	270	611	678	661		920NA	
Msg 1762	660	528	616	370	260		511Testing	

By default, this button is disabled due to the fact that use of this option could significantly impact performance. To enable it, add the following substitution to the properties file with which you execute the Display Server and/or Viewer:

sl.rtvview.sub=\$emsDestBrowseButtonVisFlag:1

Details

Shows metrics for the queue selected from the **Queue** drop-down menu.


- Consumers** The number of consumers currently interacting with the queue.
- Receivers** The number of consumers currently receiving messages from the queue.
- Max Msgs** The maximum number of messages allocated for the queue.
- Max MB** The maximum amount of memory, in megabytes, allocated for use by the queue.
- Global** When checked, the message is global and is routed to other servers.
- Static** When checked, the queue has a static destination.
- Failsafe** When checked, the message is marked as failsafe delivery.
- Secure** When checked, the queue is designated as secure

		and enforces permission policies.
	Exclusive	When checked, the server sends all messages on this queue to one consumer.
	Overflow Policy	Indicates whether an overflow policy is set for the queue: 0 = No policy is set. 1 = A policy is set.
	Flow Control Max MB	The maximum amount of memory, in megabytes, allocated for flow control use by the queue.
	Description	Description of the Queue.
	Msgs/sec	The number of inbound messages, per second, for the selected queue.
Messages In	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.
	Msgs/sec	The number of outbound messages, per second, for the selected queue.
Messages Out	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.
	Current	The total number of messages for the selected queue currently waiting to be processed.
Pending Messages	Bytes	The size, in bytes, of messages for the selected queue currently waiting to be processed.
	Shows metrics for the selected queue on the specified server.	
Trend 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 last update. This trend graph only displays when Use Rates is not selected.	
	Delta Out Msgs -- Traces the change in total inbound messages since the last update. This 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.

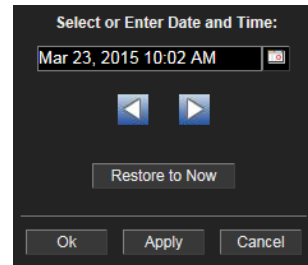
For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option.


Base at Zero


When this option is checked, zero is set as the Y axis minimum for all graph traces.

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.

Time Range



By default, the time range end point is the current time. To change the time range end point, click the  button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

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

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

Single EMS Queue-Clients

View data for all consumers and producers associated with the selected queue.

← ↑ ByServer Summary **Single EMS Queue - Clients** 06-Jul-2016 11:27 Data OK

EMS Server: tcp://192.168.200.116:7222 Name: EMS-SERVER

Queue: amx.governance.internal.stats Show Active Only

Producers Count: 1

ID	clientID	Msgs / sec	Msgs Total	Bytes / sec	Total Bytes	userName	hos
1180060		96.0	413,436,138	245,782.0	1,039,568,000	admin	SLHOST16

Consumers Count: 1

ID	clientID	Msgs/sec	Msgs Total	Bytes/sec	Total Bytes	userName	hos
1180446		48.0	206,718,069	122,915.0	519,849,210	admin	SLHOST16

Title Bar (possible features are):

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

- Data OK Data connection state. Red indicates the Data Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the data source is connected.
- 23-Mar-2017 12:04 Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green Data OK icon is a strong indication that data is current and valid.
- Open the Alert Views - RTView Alerts Table display.

Note: Clicking **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.

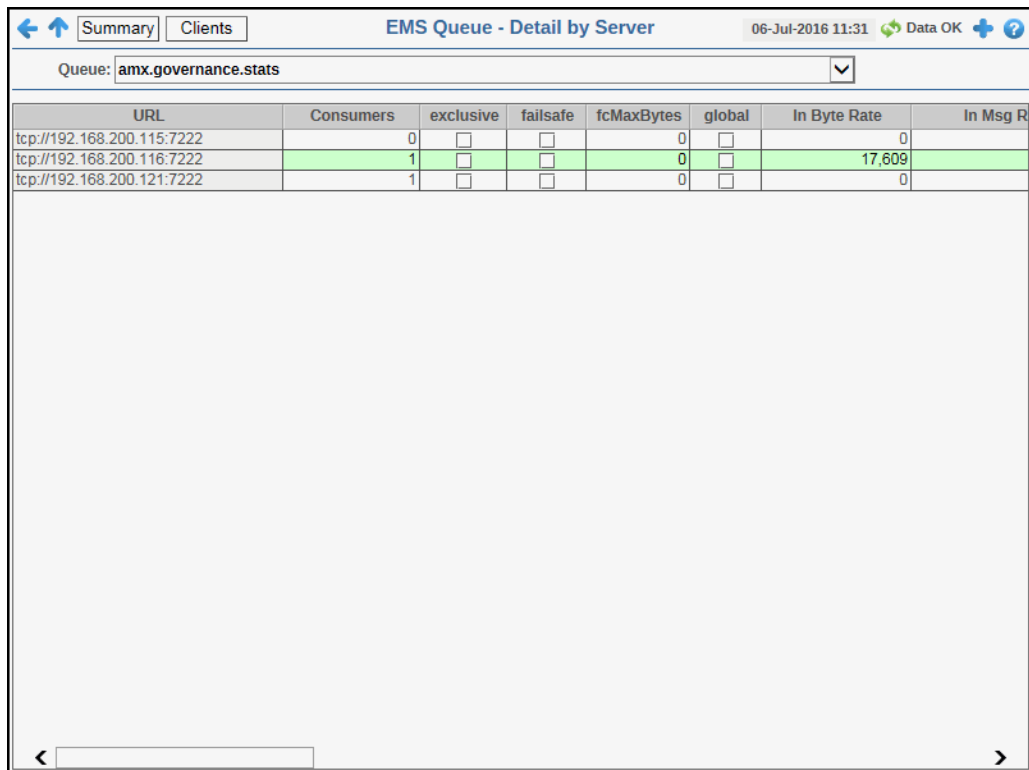
Msgs / sec	The number of messages, per second, that are emitted by the producer.
Msgs Total	The total number of messages emitted by the producer since the server was started.
Bytes / sec	The size of messages, in bytes per second, that are emitted by the producer.
Total Bytes	The total size of messages, 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 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 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.rtvew.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.rtvew.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.rtvew.jmsadm.queryCIDetails 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.rtvew.jmsadm.queryCIDetails 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.rtvew.jmsadm.queryCIDetails 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.rtvew.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. The sl.rtvew.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.rtvew.jmsadm.queryCIDetails 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.rtvew.jmsadm.queryCIDetails 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.rtvew.jmsadm.queryCIDetails 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.rtvew.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.rtvew.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.



URL	Consumers	exclusive	failsafe	fcMaxBytes	global	In Byte Rate	In Msg R
tcp://192.168.200.115:7222	0	<input type="checkbox"/>	<input type="checkbox"/>	0	<input type="checkbox"/>	0	
tcp://192.168.200.116:7222	1	<input type="checkbox"/>	<input type="checkbox"/>	0	<input type="checkbox"/>	17,609	
tcp://192.168.200.121:7222	1	<input type="checkbox"/>	<input type="checkbox"/>	0	<input type="checkbox"/>	0	

Title Bar (possible features are):

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

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

Note: Clicking **Summary** in the Title Bar takes you to the [Single Queue Summary](#) . Clicking **Clients** in the Title Bar takes you to the [Single EMS Queue-Clients](#) display.

Fields and Data

This display includes:

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

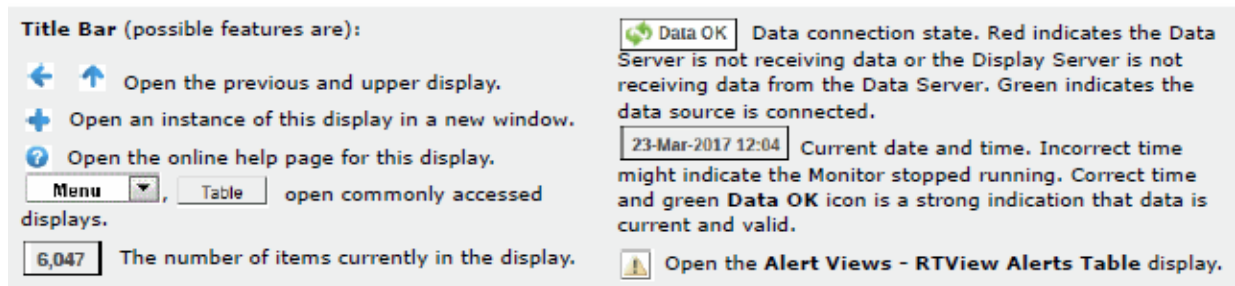
These displays present performance metrics for all server connections, including users, routes between servers, producers, consumers and durables connected to a specific EMS server.

- [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.

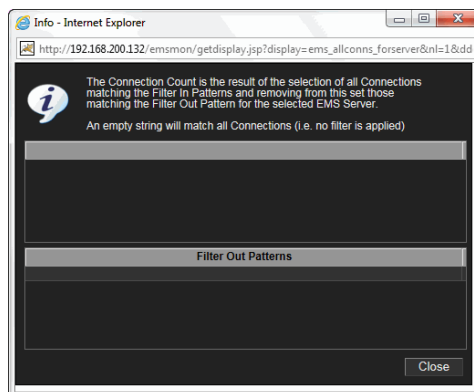
EMS Connections for Server							
EMS Server: <input type="text" value="tcp://192.168.200.116:7222"/>		Name: EMS-SERVER		<input checked="" type="checkbox"/> Show Active Only			
Client ID Filter: <input type="text"/>		User Filter: <input type="text"/>		Filtered Connection Count 85 / 85			
Conn ID	Client ID	Conn URL	User	host	type	consumerCount	produce
1181372		[admin@SLHOST16]	admin	SLHOST16	CONN...	3	
1181373	EMSGMS.Unbound...	[admin@SLHOST16]	admin	SLHOST16	CONN...	0	
1181375		[admin@SLHOST16]	admin	SLHOST16	CONN...	3	
1181376	EMSGMS.Unbound...	[admin@SLHOST16]	admin	SLHOST16	CONN...	0	
1181378		[admin@SLHOST16]	admin	SLHOST16	CONN...	3	
1181379	EMSGMS.amxadmi...	[admin@SLHOST16]	admin	SLHOST16	CONN...	0	
1181388		[admin@SLHOST16]	admin	SLHOST16	CONN...	0	
1181396		[admin@SLHOST16]	admin	SLHOST16	CONN...	0	
1181398		[admin@SLHOST16]	admin	SLHOST16	CONN...	3	
1181399	EMSGMS.amxadmi...	[admin@SLHOST16]	admin	SLHOST16	CONN...	0	
1181402		[admin@SLHOST16]	admin	SLHOST16	CONN...	0	
1181403		[admin@SLHOST16]	admin	SLHOST16	CONN...	3	
1181405	EMSGMS.amxadmi...	[admin@SLHOST16]	admin	SLHOST16	CONN...	0	
1181407		[admin@SLHOST16]	admin	SLHOST16	QUEUE	0	
1181410		[admin@SLHOST16]	admin	SLHOST16	CONN...	0	
1181415		[admin@SLHOST16]	admin	SLHOST16	QUEUE	0	
1181424	AMX_MGMT.DevEn...	[admin@SLHOST16]	admin	SLHOST16	CONN...	4	
1181427	AMX_SV:8bf3d299-...	[admin@SLHOST16]	admin	SLHOST16	CONN...	37	
1181590		[admin@SLHOST16]	admin	SLHOST16	CONN...	3	
1181591	EMSGMS._amxadm...	[admin@SLHOST16]	admin	SLHOST16	CONN...	0	
1181593		[admin@SLHOST16]	admin	SLHOST16	CONN...	3	
1181594	EMSGMS.Unbound...	[admin@SLHOST16]	admin	SLHOST16	CONN...	0	
1181596		[admin@SLHOST16]	admin	SLHOST16	CONN...	3	
1181597	EMSGMS.Unbound...	[admin@SLHOST16]	admin	SLHOST16	CONN...	0	
1181599		[admin@SLHOST16]	admin	SLHOST16	CONN...	3	
1181600	EMSGMS.amxadmi...	[admin@SLHOST16]	admin	SLHOST16	CONN...	0	
1181603		[admin@SLHOST16]	admin	SLHOST16	CONN...	7	
1181609	AMX_MGMT.Syste...	[admin@SLHOST16]	admin	SLHOST16	CONN...	5	



Fields and Data

This display includes:

- EMS Server** The EMS Server selected from this drop-down menu populates all associated Connections data in this display.
- Name** The name of the EMS Server selected from the EMS Server drop-down menu.
- Show Active Only** Select this check box to display only active connections.
- Client ID Filter** Filter field that allows you to filter the list of connections by client ID.
- This field is broken into two different values. The first value is the total number of currently active connections on the selected server, which is filtered by the **Filter Pattern** field and by the default value specified in the **\$emsConnectionFilterOutPattern** property in the **emsmon/conf/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.rtvview.sub=$emsConnectionFilterOutPattern: '^(?!^\\[admin\\@)'`
- You can modify the filter value by editing the **\$emsConnectionFilterOutPattern** property in the ["sample.properties File"](#), which will override the default value.
- Clicking the associated Help button displays the **Info** dialog, which displays the defined filter in and filter out properties used by the **Filtered Connection Count**.
- Filtered Connection Count**



- User Filter** Filter field that allows you to filter the list of connections by user name.

This table describes the current connections on the selected server.

Connections	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 be 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 right-click in the **Bridges** table is replaced by the **Go To Source** and **Go To Target** options, and no additional functionality exists for the **Drop Down** option.

EMS Bridges, Users, Ports for Server				06-Jul-2016 13:19	Data OK
EMS Server: <input type="text" value="tcp://192.168.200.116:7222"/>		Name: EMS-SERVER		85 Connections	
Bridges					
source	target	selector	Expired		
amx.governance.internal.stats	rtv.amx.governance.internal.stats		<input type="checkbox"/>		
amx.governance.stats	rtv.amx.governance.stats		<input type="checkbox"/>		
Users			Listen Ports		
name	external	description	port	URL	
admin	<input type="checkbox"/>	Administrator	tcp://7222	tcp://192.168.200.116:7222	
EMS-SERVER	<input type="checkbox"/>	Main Server			
EMS-SERVER2	<input type="checkbox"/>	Route Server			

Title Bar (possible features are):

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

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

Fields and Data

This display includes:

- 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 describes 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.

This table describes the users on the selected server.

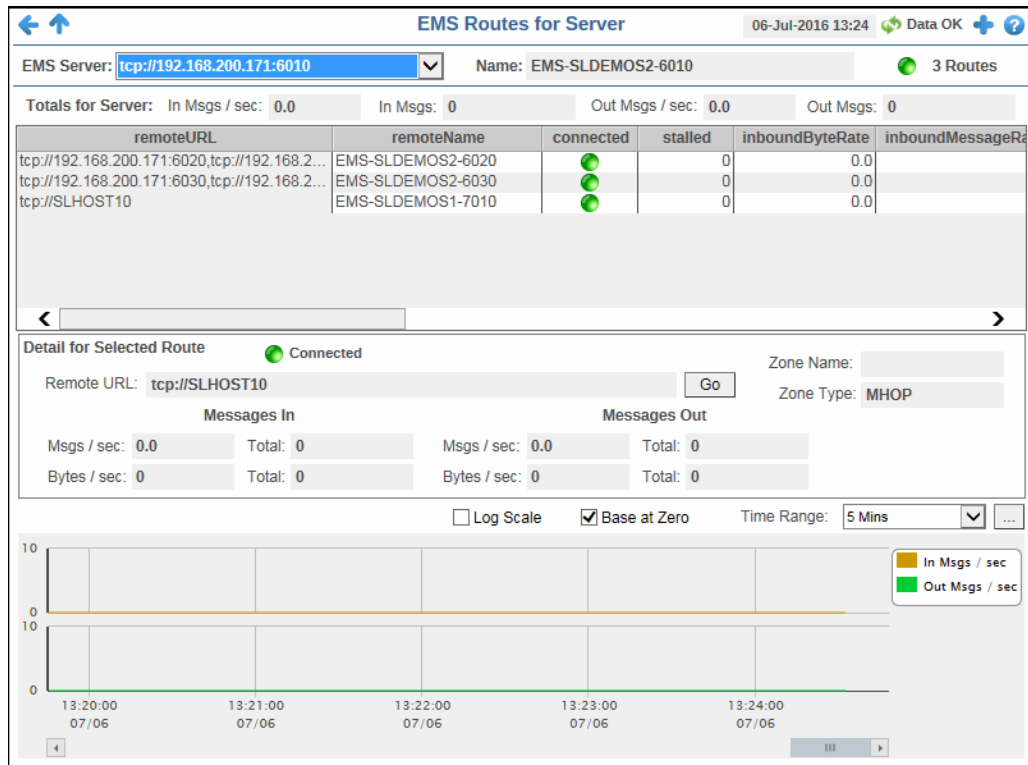
- Users**
- name** The name of the connected user.
 - external** When checked, the user is defined in an external system.
 - description** Textual description of the user.

This table describes the connections the selected server is to listen for.

- Listen Ports**
- 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.






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:



EMS Server	The EMS Server selected from this drop-down menu populates all associated Routes data in this display.
Name	The name of the EMS server selected from the EMS Server drop-down menu.
Routes	The number of server routes and the connection state.  -- One or more routes for this server are disconnected.  -- All routes for this server are connected.  -- There are no routes for this server.

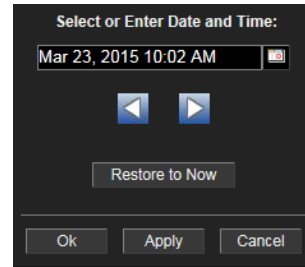
Totals For Server Shows metrics for all server routes on the selected server.

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.

Table This table shows metrics for each server route on the selected server. Select a route to view details.

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
inactive	Indicates whether the server route is currently transferring data: 1 = true 0 = false

		Indicates whether outbound messages to the route have been suspended:	
	suspended	1 = true 0 = false	
	remoteURLName	The IP address and name for the remote connection.	
		Shows metrics for the server route selected from the table.	
Detail for Selected Route		The server route connection state.	
	Connected	● -- 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 Graphs		Shows message data for the selected route.	
		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.	
	Base at Zero	When this option is checked, zero is set as the Y axis minimum for all graph traces.	
Time Range	Select a time range from the drop down menu varying from 2 Minutes to Last 7 Days , or display All Data . To specify a time range, click the  button.		



By default, the time range end point is the current time. To change the time range end point, click the



button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

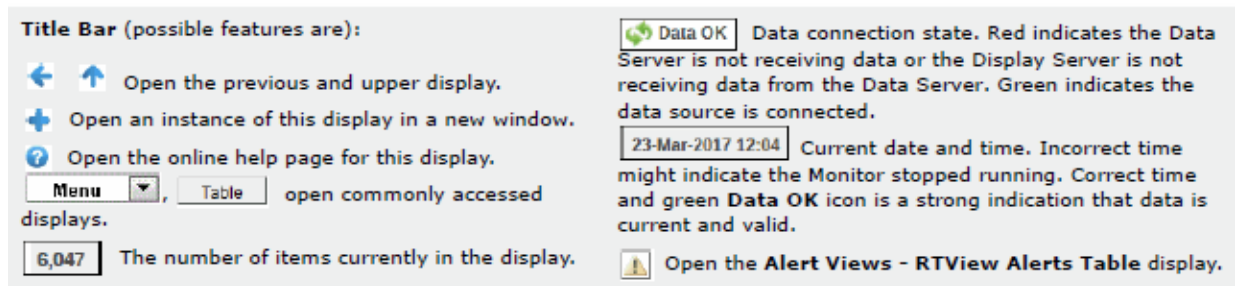
Use the navigation arrows  to move forward or backward one time period. **Note:** The time period is determined by your selection from the **Time Range** drop-down menu.

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

Producers

Track utilization metrics for producers on a single server.

EMS Producers for Server						
EMS Server: tcp://192.168.200.171:6010		Name: EMS-SLDEMOS2-6010		8 Producers		
Client ID Filter:		DestName Filter:		<input checked="" type="checkbox"/> Show Active Only		
Count: 8	Msgs / sec: 4.0	Total Msgs: 6,213,157	Bytes / sec: 800	Total Bytes: 1,222.9 MB		
ID	Client ID	Destination	Msgs / sec	Total Msgs	By	
2007		\$sys.admin	0.0	3,302,620		
2049		\$sys.admin	0.0	2,196,187		
2055		\$sys.admin	0.0	276,789		
2121		\$sys.admin	0.0	348,891		
2136		\$sys.admin	4.0	43,490		
2138		\$sys.admin	0.0	22,003		
2139		\$sys.admin	0.0	11,948		
2140		\$sys.admin	0.0	11,229		



Note: Clicking on a row in the Producers table and then clicking the Dest. button in the Title Bar takes you to the [Single Queue Summary](#) display for the selected producer.

Fields and Data

This display includes:

EMS Server	The EMS Server selected from this drop-down list displays a list of the currently connected Producers.
Name	The name of the EMS server selected from the EMS Server drop-down menu.
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.

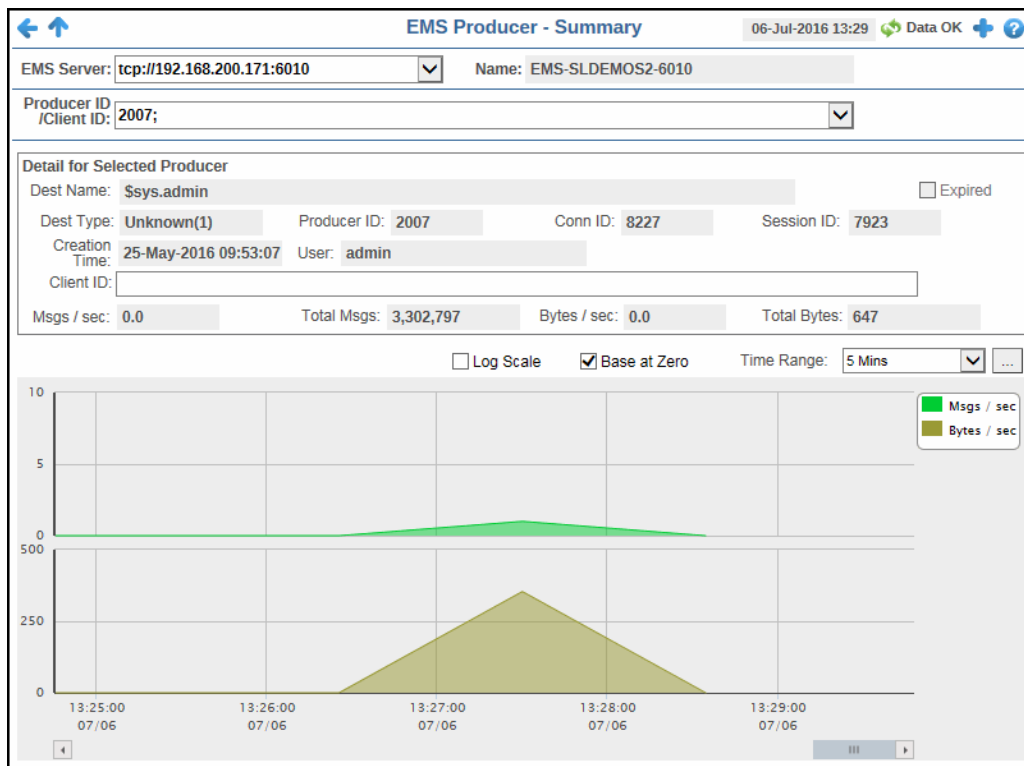
This table shows metrics for each producer on the selected server. Double-clicking on a row in the Producers table displays details for the producer in the [Producer Summary](#) drill-down display.

Table	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 / sec	The size of messages, in bytes per second, for the producer.
	Total Bytes	The 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.



Title Bar (possible features are):

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

Data OK Data connection state. Red indicates the Data Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the data source is connected.


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

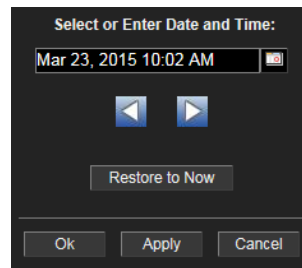
Open the **Alert Views - RTView Alerts Table** display.

Fields and Data


This display includes:



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	Shows message data for the selected producer.
	Msgs / sec -- Traces the number of messages for the producer, per second.
	Bytes / sec -- Traces the size of messages for the producer, in bytes.
Log Scale	This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option.
Base at Zero	When this option is checked, zero is set as the Y axis minimum for all graph traces.

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.



Time Range

By default, the time range end point is the current time. To change the time range end point, click the  button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

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

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

Consumers

Track utilization metrics for consumers on a single server.

ID	Client ID	Dest Name	Msgs / sec	Total Msgs	By
7		\$TMP\$.EMS-SLDEMOS2-6020.>	0.0	0	
9		\$TMP\$.EMS-SLDEMOS2-6030.>	0.0	0	
2583		\$TMP\$.EMS-SLDEMOS2-6010.53A25602AAE11EF3...	4.0	3,304,272	
2653		\$TMP\$.EMS-SLDEMOS2-6010.53A25602AAE11F2B...	0.0	2,197,813	
2667		\$TMP\$.EMS-SLDEMOS2-6010.53A25602AAE11F35...	0.0	276,789	
2785		\$TMP\$.EMS-SLDEMOS2-6010.53A25602AAE11F91...	0.0	350,505	
2808		\$TMP\$.EMS-SLDEMOS1-7010.>	0.0	0	
2809		\$TMP\$.EMS-SLDEMOS1-7020.>	0.0	0	
2810		\$TMP\$.EMS-SLDEMOS2-6010.53A25602AAE11FA5.6	4.0	45,130	
2812		\$TMP\$.EMS-SLDEMOS2-6010.53A25602AAE11FA7.4	0.0	23,655	
2813		\$TMP\$.EMS-SLDEMOS2-6010.53A25602AAE11FA8.2	0.0	13,594	
2814		\$TMP\$.EMS-SLDEMOS2-6010.53A25602AAE11FA9...	0.0	12,881	

Title Bar (possible features are):

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

- Data OK Data connection state. Red indicates the Data Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the data source is connected.
- 23-Mar-2017 12:04 Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green Data OK icon is a strong indication that data is current and valid.
- Open the Alert Views - RTView Alerts Table display.

Note: 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** Select this check box to display only active consumers.

Only

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.

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.

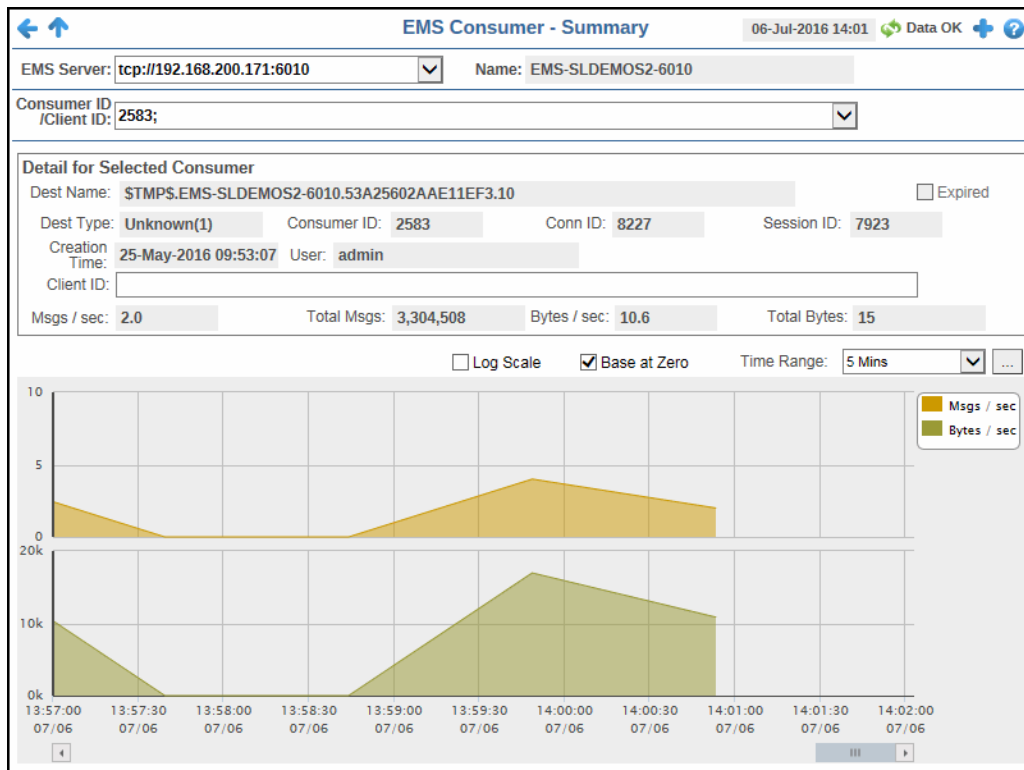
Table

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 Count	The number of messages sent to the consumer that were not yet acknowledged by the consumer's session. Note: The <code>sl.rtvview.jmsadm.queryCIDetails</code> property must be set to <code>true</code> in your <code>sample.properties</code> file to see this column.
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 <code>sl.rtvview.jmsadm.queryCIDetails</code> property must be set to <code>true</code> in your <code>sample.properties</code> file to see this column.
Total Msg Ack Count	The total number of messages that have been sent to the consumer and have been acknowledged by the consumer's session. Note: The <code>sl.rtvview.jmsadm.queryCIDetails</code> property must be set to <code>true</code> in your <code>sample.properties</code> file to see this column.
Total Msg Sent Count	The total number of messages sent to the consumer since the consumer was created. Note: The <code>sl.rtvview.jmsadm.queryCIDetails</code> property must be set to <code>true</code> in your <code>sample.properties</code> file to see this column.
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 <code>sl.rtvview.jmsadm.queryCIDetails</code> property must be set to <code>true</code> in your <code>sample.properties</code> file to see this column.
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 <code>sl.rtvview.jmsadm.queryCIDetails</code> property must be set to <code>true</code> in your <code>sample.properties</code> file to see this column.

Destination Prefetch	The actual destination prefetch value used by the server at runtime. Note: The <code>sl.rtvview.jmsadm.queryCIDetails</code> property must be set to <code>true</code> in your <code>sample.properties</code> file to see this column.
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 <code>sl.rtvview.jmsadm.queryCIDetails</code> property must be set to <code>true</code> in your <code>sample.properties</code> file to see this column.
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 <code>sl.rtvview.jmsadm.queryCIDetails</code> property must be set to <code>true</code> in your <code>sample.properties</code> file to see this column.
Is Active	When checked, the consumer is active and can receive messages from the server. Note: The <code>sl.rtvview.jmsadm.queryCIDetails</code> property must be set to <code>true</code> in your <code>sample.properties</code> file to see this column.
Is System	This check box is checked if the consumer was automatically created by the system. Note: The <code>sl.rtvview.jmsadm.queryCIDetails</code> property must be set to <code>true</code> in your <code>sample.properties</code> file to see this column.
Session Ack Mode	Lists the consumer's session acknowledge mode as a constant defined in <code>TibjmsAdmin</code> . Note: The <code>sl.rtvview.jmsadm.queryCIDetails</code> property must be set to <code>true</code> in your <code>sample.properties</code> file to see this column.
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.

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

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

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

Fields and Data

This display includes:

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.

Shows message data for the selected producer.

Trend Graphs

Msgs / sec -- Traces the number of messages for the consumer, per second.


Bytes / sec -- Traces the size of messages for the consumer, in bytes.

Log Scale

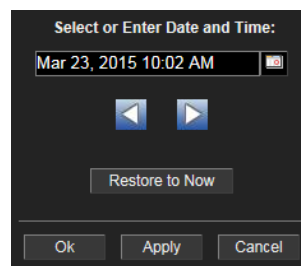
This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens 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.

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.

Time Range



By default, the time range end point is the current time. To change the time range end point, click the  button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM**

dd, YYYY HH:MM. For example, **Aug 21, 2011 12:24 PM.**







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




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

Durables

Track utilization metrics for durables on a single server.

Title Bar (possible features are):

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

-  **Data OK** Data connection state. Red indicates the Data Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the data source is connected.
-  **23-Mar-2017 12:04** Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
-  Open the **Alert Views - RTView Alerts Table** display.

Fields and Data


This display includes:

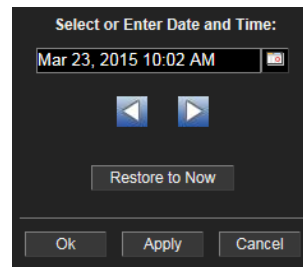
EMS Server	The EMS Server selected from this drop-down menu populates all associated Durables data in this display.																								
Name	The name of the EMS Server selected from the EMS Server drop-down menu.																								
Total Pending Msgs	The total number of pending messages for 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.																								
	<table> <tr> <td>Name</td> <td>The name of the durable.</td> </tr> <tr> <td>Topic</td> <td>The name of the topic.</td> </tr> <tr> <td>Active</td> <td>Indicates whether the durable is active.</td> </tr> <tr> <td>Client ID</td> <td>A unique string identifier assigned to each client.</td> </tr> <tr> <td>consumerID</td> <td>A unique string identifier assigned to each consumer.</td> </tr> <tr> <td></td> <td>Indicates whether the subscriber receives messages from all connections its local connection.</td> </tr> <tr> <td>NoLocalEnabled</td> <td>Enabled -- The subscriber does not receive messages sent from its local connection. Disabled -- The subscriber receives messages from all connections.</td> </tr> <tr> <td>Pending Msgs</td> <td>The total number of pending messages for the selected durable.</td> </tr> <tr> <td>Pending Size</td> <td>The total amount of pending messages, in bytes, for the selected durable.</td> </tr> <tr> <td>Selector</td> <td>Indicates that the subscriber only receives messages that match this selector.</td> </tr> <tr> <td>userName</td> <td>The name of the user of this durable subscriber.</td> </tr> <tr> <td>time_stamp</td> <td>The date and time this row of data was last updated.</td> </tr> </table>	Name	The name of the durable.	Topic	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.		Indicates whether the subscriber receives messages from all connections its local connection.	NoLocalEnabled	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.
Name	The name of the durable.																								
Topic	The name of the topic.																								
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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 durable selected from the table.																								
Users	The names of the users of this durable subscriber.																								
Topic	The name of the topic.																								
Selectors	Indicates that the subscriber only receives messages that match this selector.																								
Client ID	A unique string identifier assigned to each client.																								
Consumer ID	A unique string identifier assigned to each consumer.																								
Pending Msgs	The total number of pending messages for the selected durable.																								
Pending Msg Size	The total size of pending messages, in bytes, for the selected durable.																								
Active	Indicates whether the durable is active.																								
No Local	Indicates whether the subscriber receives messages from all connections its local connection.																								
	<table> <tr> <td>Enabled</td> <td>The subscriber does not receive messages sent from its local connection.</td> </tr> <tr> <td>Disabled</td> <td>The subscriber receives messages from all connections.</td> </tr> </table>	Enabled	The subscriber does not receive messages sent from its local connection.	Disabled	The subscriber receives messages from all connections.																				
Enabled	The subscriber does not receive messages sent from its local connection.																								
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Trend Graphs	Shows message data for the selected consumer.																								
	Pending Msgs -- Traces the number of pending messages for the durable.																								
	Log Scale This option should be used when the range of your data is very broad. When checked, the values are displayed using a																								

logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option.

Base at Zero


When this option is checked, zero is set as the Y axis minimum for all graph traces.

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.



Time Range

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.


Alert Views

These displays present detailed information about all alerts that have occurred in your system. These displays present performance data for your system. Displays in this View are:

- [“Alert Detail Table” on page 260](#)

Alert Detail Table

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

Each row in the table is a different active alert. Select one or more rows, right-click and choose **Alert** to see all actions that you can perform on the selected alert(s). Choose **Alert / Set Filter Field** to apply the selected cell data to the **Field Filter** and **Search Text** fields. Or enter filter criteria directly in the **Field Filter** and **Search Text** fields. Click **Clear** to clear the **Field Filter** and **Search Text** fields. Click Sort  to order column data.

Time	ID	Clr'd	Ack'd	Owner	Alert Name	Alert Index
11/10/14 15:58:53	12150				BwProcessExecutionTime	slxp10(slamp)-domains
11/10/14 15:10:14	11993				BwEngineMemUsedHigh	slel4-64(slmon)-domain
11/10/14 15:04:12	11969				BwServerFreeMemLow	slel4-64(slmon)
11/10/14 14:23:12	11839				HostMemoryUsedHigh	myHawkDomain-slel4-6
11/08/14 00:07:00	1007				slapm(slamp)-domains	
11/08/14 00:07:00	1002				JvmNotConnected	localhost-domainslapm
10/31/14 14:01:36	1040828				HawkAlert	SLHOST6(domain6)-13
10/28/14 16:38:01	1035056				HawkAlert	slapm(slamp)-2
10/27/14 12:34:55	1031840				BwEngineStopped	slvmrh2(slamp)-domain
10/27/14 12:34:55	1031839				BwEngineStopped	slvmrh2(slamp)-domain
10/24/14 00:16:36	1015259				HawkAlert	SLHOST6(domain6)-12
10/16/14 08:18:51	984247				HostMemoryUsedHigh	myHawkDomain-silhpux
10/03/14 15:50:05	943834				HawkAlert	SLHOST6(domain6)-11
09/12/14 11:16:21	892842				BwEngineStopped	slvmware(slmon)-doma
09/12/14 11:16:21	892841				BwEngineStopped	slvmware(slmon)-doma
09/12/14 11:16:21	892840				BwEngineStopped	slvmware(slmon)-doma
09/04/14 19:54:36	883519				HostMemoryUsedHigh	myHawkDomain-slvmlr

Title Bar (possible features are):

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

- Data OK** Data connection state. Red indicates the Data Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the data source is connected.
- 23-Mar-2017 12:04** Current date and time. Incorrect time might indicate the Monitor stopped running. Correct time and green **Data OK** icon is a strong indication that data is current and valid.
- Open the Alert Views - RTView Alerts Table display.

Row Color Code:

Tables with colored rows indicate the following:

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



Fields and Data

This display includes:

Alert Name Filter

Select from a list of alert types or select All Alert Types. Filters limit display content and drop down menu selections to only those items that pass through the selected filter's criteria. Therefore if no items match the filter, you may see nothing in a given display and may not have any options available in the drop-down menu(s).

NOTE: Filter selection is disabled on drill down summary displays.

Show Critical Alerts Only	If selected, only currently critical alerts are shown in the table. Otherwise, all active alerts are shown in the table.
Show Cleared Alerts	If selected, cleared alerts are shown in the table.
Alert Text Filter	Enter all or part of the Alert Text to view specific alerts. For example, High selects and displays all alerts that include High in the Alert Text. NOTE: Wild card characters are supported.
Owner Filter	Select the alert Owner to show alerts for in the table.
	<p>All Shows alerts for all Owners in the table: Not Owned and Owned By Me alerts.</p> <p>Not Owned Shows only alerts without Owners in the table.</p> <p>Owned By Me Shows only alerts for the current user in the table.</p>
Show Acknowledged Alerts	If selected, acknowledged alerts are shown in the table.
Total	Total number of alerts.
Critical	Number of critical alerts.
Warning	Total number of alerts that are currently in a warning state.
Alert Settings Conn OK	<p>The Alert Server connection state:</p> <p> Disconnected.</p> <p> Connected.</p>

Alerts Table

This table lists all active alerts for the current filters.

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

Selected Alerts Lists the alerts selected in the table.

Acknowledge One Alert Select one alert from the Current Alerts table and click to acknowledge.

Acknowledge Multiple Alerts Select one or more alerts from the Current Alerts table and click to acknowledge.

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

Set Owner and Comments

The dialog box titled "Set Owner and Comments" contains the following elements:

- ID: 283221
- Source: [Empty field]
- Enter Owner: admin
- Enter Comment: [Large empty text area]
- Buttons: Set Owner on One Alert, Add Comment on One Alert, Clear Comments on One Alert, Close

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

See Details

The dialog box titled "Alert Detail" contains the following elements:

- Alert Time: 06/28/12 10:30:42
- ID: 283221
- Name: BwProcessExecution
- Index: slapm(slapm)-domain
- Owner: [Empty field]
- Alert Text: High Alert Limit exceeded, current value: [Text area]
- Comments: [Large empty text area]
- Checkboxes: Acknowledged, Cleared

Administration

These displays enable you to set alert thresholds and observe how alerts are managed, and modify your Service Data Model. Displays in this View are:

- [Alert Administration](#)
- [Alert Administration Audit](#)
- [Metrics Administration](#)
- [RTView Cache Tables](#)
- [RTView Agent Admin](#)

Alert Administration

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

The table describes the global settings for all alerts on the system. To filter the alerts listed in the table, enter a string in the **Alert Filter** field and press **<enter>** or click elsewhere in the display. Filters are case sensitive and no wildcard characters are needed for partial strings. For example, if you enter **Server** in the **Alert Filter** field, it filters the table to show only alerts with **Server** in the name. Choose **Clear** to clear the filter.

Global Thresholds

To set a global alert, select an alert from the **Active Alert Table**. The name of the selected alert populates the **Settings for Selected Alert Name** field. Edit the **Settings for Selected Alert** and click **Save Settings** when finished.

The manner in which global alerts are applied depends on the 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.

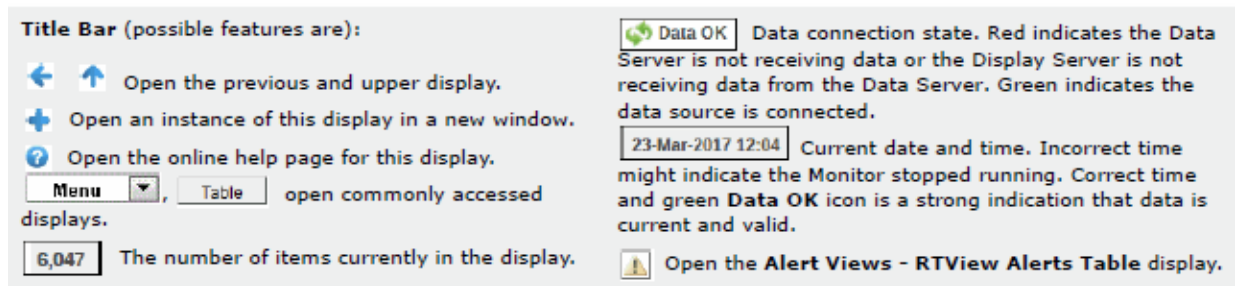
To apply an individual alert you Index the Monitored Instance or resource. The Index Types available are determined by the Solution Package installed. For example, the EMS Monitor package lets you set an alert for a specific *topic* on a specific *server* (such as the PerServerTopic Index option), rather than for all topics on all servers.

The screenshot shows the 'Alert Administration' window. At the top, there is a title bar with a back arrow, the text 'Alert Administration', and a timestamp '04-Nov-2015 15:36' along with 'Data OK' and a refresh icon. Below the title bar, there is an 'Alert Filter:' field with a 'Clear' button, and two status indicators: 'Alert Engine Enabled' (with a green dot) and 'Alert Settings Conn OK' (with a green dot).

The main part of the window is a table with the following columns: Alert, Warning Level, Alarm Level, Duration, Alert Enabled, and Override Count. The table lists various alerts such as 'AcwInstanceCpuHigh', 'AcwInstanceDiskReadBytesHigh', etc. The 'Alert Enabled' column contains checkboxes, some of which are checked.

At the bottom of the window, there is a 'Settings for Selected Alert' panel. It contains fields for 'Name' (with a dropdown menu), 'Warning Level', 'Duration (Secs.)', 'Description', 'Alarm Level', and 'Enabled' (checkbox). A 'Save Settings' button is located at the bottom right of this panel.

Alert	Warning Level	Alarm Level	Duration	Alert Enabled	Override Count
AcwInstanceCpuHigh	40	50	60	<input type="checkbox"/>	-1
AcwInstanceDiskReadBytesHigh	10000	20000	30	<input type="checkbox"/>	-1
AcwInstanceDiskReadOpsHigh	100	200	30	<input type="checkbox"/>	-1
AcwInstanceDiskWriteBytesHigh	1000000	2000000	30	<input type="checkbox"/>	-1
AcwInstanceDiskWriteOpsHigh	100	300	30	<input type="checkbox"/>	-1
AcwInstanceNetworkReadBytesHigh	1000000	20000	30	<input type="checkbox"/>	-1
AcwInstanceNetworkWriteBytesHigh	10000	20000	30	<input type="checkbox"/>	-1
AmxServiceHitRateHigh	160	200	60	<input checked="" type="checkbox"/>	-1
AmxServiceNodeFaultRateHigh	200	400	30	<input type="checkbox"/>	-1
AmxServiceNodeHitRateHigh	75	100	60	<input checked="" type="checkbox"/>	-1
AmxServiceNodeMovingAvgHitRateHigh	200	400	30	<input type="checkbox"/>	-1
AmxServiceNodeMovingAvgResponseTimeHigh	200	400	30	<input type="checkbox"/>	-1
AmxServiceNodeResponseTimeHigh	5	6	30	<input type="checkbox"/>	-1
AmxServiceResponseTimeHigh	5	6	60	<input type="checkbox"/>	-1
BirdExpired	NaN	NaN	0	<input type="checkbox"/>	-1
BirdTooHigh	1600	2001	0	<input type="checkbox"/>	-1



Fields and Data

This display includes:

- Alert Filter** Enter the (case-sensitive) string to filter the table by the **Alert** table column value. **NOTE:** Partial strings can be used without wildcard characters. Press **<enter>** or click elsewhere in the display to apply the filter.
- Clear** Clears the **Alert Filter** entry.
- Alert Engine Enabled**
 - Alerting is disabled.
 - Alerting is enabled (by default).
- Disable** Suspends all alerting.
- Alert Settings Conn OK** The Alert Server connection state:
 - Disconnected.
 - Connected.

Active Alert Table

This table describes the global settings for all alerts on the system. Select an alert. The name of the selected alert populates the **Settings for Selected Alert Name** field (in the lower panel). Edit **Settings for Selected Alert** fields and click **Save Settings**.

NOTE: To filter the alerts shown in the table by Solution Package, use the **\$rtvAlertPackageMask** substitution.

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. 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.

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	<p>Set the Global warning threshold for the selected alert. When the specified value is exceeded a warning is executed. To set the warning to occur sooner, reduce the Warning Level value. To set the warning to occur later, increase the Warning Level value.</p> <p>NOTE: For low value-based alerts (such as 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.</p>
Alarm Level	<p>Set the Global alarm threshold for the selected alert. When the specified value is exceeded an alarm is executed. To set the alarm to occur sooner, reduce the Alarm Level value. To set the warning to occur later, increase the Alarm Level value.</p> <p>NOTE: For low value-based alerts (such as 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.</p>
Duration	<p>Set the amount of time (in seconds) that the value must be above the specified Warning Level or Alarm Level threshold before an alert is executed. 0 is for immediate execution. This setting is global.</p>
Enabled	<p>Check to enable alert globally.</p>
Save Settings	<p>Click to apply alert settings.</p>
Override Settings	<p>Click to open the Tabular Alert Administration display to set override alerts on the selected alert.</p>

Note: For more information on EMS Monitor alerts, see [{xref}Appendix {paranumonly \[Appendix\]}](#), "Alert Definitions."

Tabular Alert Administration

Set override alerts (override global alert settings). This display opens when you select an alert in the **Alert Administration** display and then select **Override Settings**.

For step-by-step instructions setting thresholds for individual alerts, see **Setting Override Alerts..**

Fields and Data

This display includes:

Alert Settings Conn OK

The connection state.

● No servers are found.

● One or more servers are delivering data.

Override Settings For Alert:(name)

This table lists and describes alerts that have override settings for the selected alert. Select a row to edit alert thresholds. The selected item appears in the Index field. Edit settings in the Alert Settings fields, then click Save Settings.

Select the type of alert index to show in the Values table. Options in this drop-down menu are populated by the type of alert selected, which are determined by the Package installed. For example, with the EMS Monitor package the following Index Types are available:

- PerServer: Alert settings are applied to a specific server.
- PerQueue: Alert settings are applied to the queue on each server that has the queue defined.
- PerServerQueue: Alert settings are applied to a single queue on a specific server.
- PerTopic: Alert settings are applied to the topic on each server that has the topic defined.
- PerServerTopic: Alert settings are applied to a single topic on a specific server.

Index Type

Index

The value of the index column.

Override Settings

When checked, the override settings are applied.

Alert Enabled

When checked, the alert is enabled.

Index Type

Select the index type. The index type specifies how to apply alert settings. For example, to a queue (topic or JVM, and so forth) across all servers, or to a queue on a single server. NOTE: Options in this drop-down menu are populated by the type of alert selected from the Alert Administration display. Index Types available depend on the Package installed.

Index

The selected index column to be edited. This field is populated by the selection

made in the **Unassigned Indexes** table.

Unassigned Indexes

This table lists all possible indexes corresponding to the Index Type chosen in the drop-down list. Select a row to apply individual alert thresholds. The selected item appears in the **Index** field. Edit settings in the **Alert Settings** fields, then click **Add**.

Add

Click to add changes made in **Alert Settings**, then click **OK** to confirm.

Remove

Click to remove an alert selected in the **Index Alert Settings** table, then click **OK** to confirm.

Save Settings

Click to save changes made to alert settings.

Alert Settings

Select a topic, server or queue from the **Unassigned Indexes** table and edit the following settings.

Warning Level Set the warning threshold for the selected alert. When the specified value is exceeded a warning is executed. To set the warning to occur sooner, reduce the Warning Level value. To set the warning to occur later, increase the Warning Level value.

NOTE: For low value-based alerts (such as **EmsQueuesConsumerCountLow**), to set the warning to occur sooner, increase the Warning Level value. To set the warning to occur later, reduce the Warning Level value.

Click Save Settings to save settings.

Alarm Level Set the alarm threshold for the selected alert. When the specified value is exceeded an alarm is executed. To set the alarm to occur sooner, reduce the Alarm Level value. To set the warning to occur later, increase the Alarm Level value.

NOTE: For low value-based alerts (such as **EmsQueuesConsumerCountLow**), to set the alarm to occur sooner, increase the Alarm Level value. To set the alarm to occur later, reduce the Alarm Level value. Click **Save Settings** to save settings.

Alert Enabled

Check to enable the alert, then click **Save Settings**.

Override Settings

Check to enable override global setting, then click **Save Settings**.

Back to Alerts Returns to the **Administration - Alert Administration** display.

Setting Override Alerts

Perform the following steps to set an override alert. Index Types available depend on the Solution Package installed. In this example, we use the EMS Monitor Package to illustrate.

Note: To turn on an alert, both **Alert Enabled** and **Levels Enabled** must be selected.

To turn on/off, change threshold settings, enable/disable or remove an alert on a single resource:

1. In the **Alert Administration** display, select a tabular alert in the **Active Alert Table** and click **Override Settings**. The **Tabular Alert Administration** display opens.

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	<input type="checkbox"/>	0
EmsQueuesProducerCountLow	15	5	30	<input type="checkbox"/>	0
EmsServerAsyncDBSizeHigh	50	100	30	<input type="checkbox"/>	0
EmsServerConnectionCountHigh	60	80	30	<input checked="" type="checkbox"/>	1
EmsServerInMsgRateHigh	60	80	30	<input type="checkbox"/>	0
EmsServerMemUsedHigh	60	80	30	<input type="checkbox"/>	0

Alert Administration Audit

View alert management details such as alert threshold modifications.

Each table row is a single modification made to an alert. To view modifications for a single alert in a group, sort the **ALERTNAME** column using the button.

Alert Administration Audit Trail 07-Mar-2019 16:02 Data OK

Audit Conn OK

TIME_STAMP	USER	ACTION	ALERTNAME	INDEX...	ALERTIND...	WARNINGLEV...	ALARMLE...	DI
03/07/19 06:00:52	RTView.GmsRtViewAlertDs	ADDED	SolEventModuleClientAlert	Default	Default	NaN	NaN	
03/07/19 06:00:52	RTView.GmsRtViewAlertDs	ADDED	SolEventModuleVpnAlert	Default	Default	NaN	NaN	
03/07/19 06:00:52	RTView.GmsRtViewAlertDs	ADDED	SolEventModuleBrokerAlert	Default	Default	NaN	NaN	
03/07/19 06:00:51	RTView.GmsRtViewAlertDs	ADDED	SolMsgBrokerSparseMsgSpoo	Default	Default	3	NaN	
04/24/18 19:01:32	RTView.GmsRtViewAlertDs	ADDED	JvmThreadCountHigh	Default	Default	50	75	
04/24/18 19:01:32	RTView.GmsRtViewAlertDs	ADDED	TomcatAppActiveSessionsHigh	Default	Default	85	95	
04/24/18 19:01:32	RTView.GmsRtViewAlertDs	ADDED	TomcatActiveSessionsHigh	Default	Default	85	95	
04/24/18 19:01:32	RTView.GmsRtViewAlertDs	ADDED	JvmMemoryUsedAfterGCHigh	Default	Default	1	80	
04/24/18 19:01:32	RTView.GmsRtViewAlertDs	ADDED	TomcatAppAccessRateHigh	Default	Default	50	100	
04/24/18 19:01:32	RTView.GmsRtViewAlertDs	ADDED	TomcatAccessRateHigh	Default	Default	50	100	
04/24/18 19:01:32	RTView.GmsRtViewAlertDs	ADDED	JvmNotConnected	Default	Default	NaN	NaN	
04/24/18 19:01:32	RTView.GmsRtViewAlertDs	ADDED	JvmGcDutyCycleHigh	Default	Default	50	75	
04/24/18 19:01:32	RTView.GmsRtViewAlertDs	ADDED	JvmMemoryUsedHigh	Default	Default	50	75	
04/24/18 19:01:32	RTView.GmsRtViewAlertDs	ADDED	JvmStaleData	Default	Default	NaN	NaN	
04/24/18 19:01:32	RTView.GmsRtViewAlertDs	ADDED	JvmCpuPercentHigh	Default	Default	50	75	
04/24/18 19:01:31	RTView.GmsRtViewAlertDs	ADDED	HostSwapUsedHigh	Default	Default	75	90	
04/24/18 19:01:31	RTView.GmsRtViewAlertDs	ADDED	HostMemoryUsedHigh	Default	Default	75	90	
04/24/18 19:01:31	RTView.GmsRtViewAlertDs	ADDED	HostCpuLoadAvg15High	Default	Default	50	75	
04/24/18 19:01:31	RTView.GmsRtViewAlertDs	ADDED	HostCpuLoadAvg5High	Default	Default	50	75	
04/24/18 19:01:31	RTView.GmsRtViewAlertDs	ADDED	HostCpuLoadAvg1High	Default	Default	50	75	
04/24/18 19:01:31	RTView.GmsRtViewAlertDs	ADDED	HostProcessCountLow	Default	Default	15	5	
04/24/18 19:01:31	RTView.GmsRtViewAlertDs	ADDED	HostNetworkTxRateHigh	Default	Default	50	75	
04/24/18 19:01:31	RTView.GmsRtViewAlertDs	ADDED	HostNetworkRxRateHigh	Default	Default	50	75	
04/24/18 19:01:31	RTView.GmsRtViewAlertDs	ADDED	HostStorageUsedHigh	Default	Default	80	90	
04/24/18 19:01:31	RTView.GmsRtViewAlertDs	ADDED	HostVirtualMemoryUsedHigh	Default	Default	75	90	
04/24/18 19:01:31	RTView.GmsRtViewAlertDs	ADDED	HostStaleData	Default	Default	NaN	NaN	
04/24/18 19:01:31	RTView.GmsRtViewAlertDs	ADDED	HostCpuPercentHigh	Default	Default	50	75	
04/24/18 19:01:31	RTView.GmsRtViewAlertDs	ADDED	MysqlDelayedWritesHigh	Default	Default	1	2	
04/24/18 19:01:31	RTView.GmsRtViewAlertDs	ADDED	MysqlSlowThreadsHigh	Default	Default	1	2	
04/24/18 19:01:31	RTView.GmsRtViewAlertDs	ADDED	MysqlQcacheLowMemPrunes	Default	Default	1	2	
04/24/18 19:01:31	RTView.GmsRtViewAlertDs	ADDED	MysqlLocksWaitHigh	Default	Default	1	2	
04/24/18 19:01:31	RTView.GmsRtViewAlertDs	ADDED	MysqlSlowQueriesHigh	Default	Default	1	2	

Title Bar (possible features are):

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

Data OK Data connection state. Red indicates the Data Server is not receiving data or the Display Server is not receiving data from the Data Server. Green indicates the data source is connected.

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

Open the Alert Views - RTView Alerts Table display.

The Alert Server connection state:

- Audit Conn OK** ● 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.

ALERTINDEX The IP address and port number for the source (application, server, and so forth) associated with the alert.

WARNINGLEVEL The warning threshold value for the alert at the time this modification was made, as indicated in the **TIME_STAMP** column. The warning level is a threshold that, when exceeded, a warning is executed.

ALARMLEVEL The alarm threshold value for the alert at the time this modification was made, as indicated in the **TIME_STAMP** column. The alarm level is a threshold that, when exceeded, an alarm is executed.

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

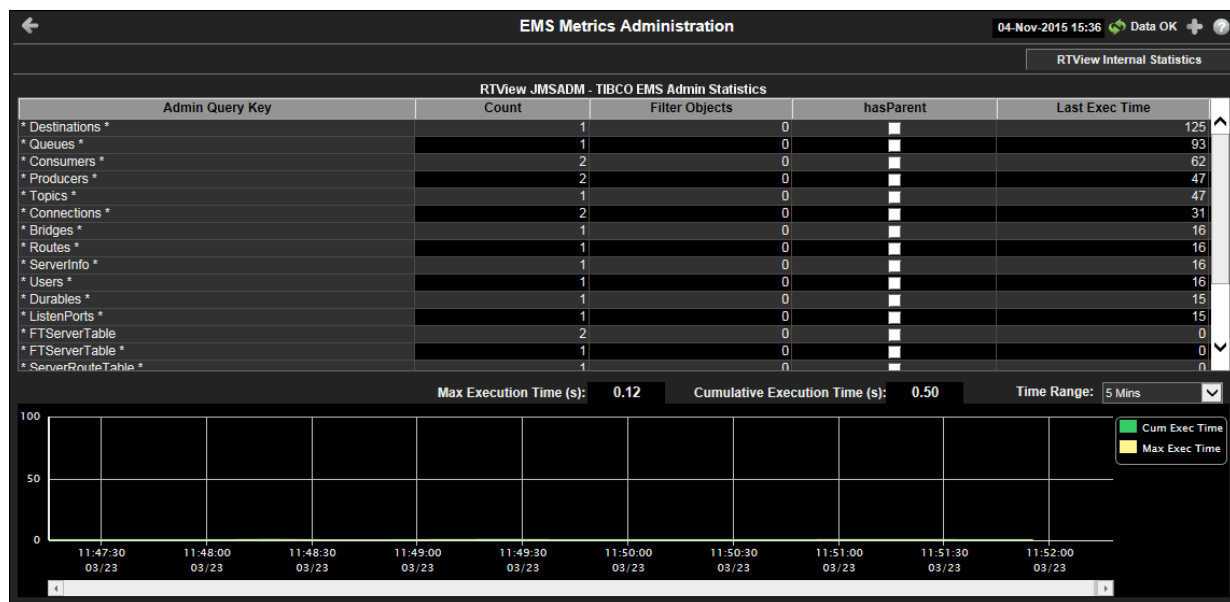
Metrics Administration

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

Debugging Notes


The **Filter Objects** and **hasParent** columns were added for debugging problems related to adding and removing filtered listeners. These two columns are very specific to internal RTView structures. For example, if you make a data attachment to **Topics**, where **Name="My Topic"**, an unfiltered data object would be created internally for the Topic metric, and a filtered data object would be created internally for the **Name="My Topic"** row filter. The filtered data object would be setup as a child of the **Topic** metric data object. Subsequently, the **Topic** metric would have one filtered data object, and the filtered data object would have **hasParent=true**.

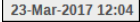
Also, the following JMSADM data objects (listed in the **Admin Query Key Column** and where **Last Exec Time** is **0**) are for internally created and maintained RTView tables that reside in the data source: **FTServerTable**, **ServerRouteTable**, **ServerTable** and **__admin***. These are not TIBCO metrics that are queried. Therefore, their **Last Exec Time** remains **0**, even though they are updated.




Title Bar: Indicators and functionality might include the following:


  Open the previous and upper display.

 Navigate to displays commonly accessed from this display.

 23-Mar-2017 12:04 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

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

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

 Open an instance of this display in a new window.

 Open the online help page for this display.

Fields and Data

This display includes:

RTView Internal Statistics

This button opens the **RTView MBeans for Status and Timing Info** display (in a separate window), which is used primarily by SL Corporation's Technical Support team.

RTView JMSADM - TIBCO EMS Admin Statistics

This table lists all JMSADM data objects. Each row in the table is a JMSADM data object. Use this data to determine the last time a TIBCO metric was queried.

Admin Query Key

The dsString used for the data attachment to this data object.

Count

The number of listeners for this data object. For example, graphical objects and function arguments.

Filter Objects

The number of filtered data objects in this data object.

hasParent

True if the data object is a filtered data object.

Last Exec Time

The last time a query was executed for the metric associated with this data object.

Traces the cumulative and maximum execution times, in seconds, for all Admin Query Keys in the table.

Trend Graph

Cum Exec Time -- Traces the Cumulative Execution Time for all Admin Query Keys for the specified time range.

Max Exec Time -- Traces the Maximum Execution Time for all Admin Query Keys for the specified time range.


Max Execution Time

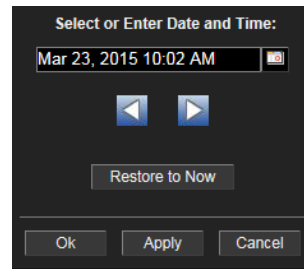
The maximum execution time, in seconds, for all Admin Query Keys in the table.


Cumulative Execution Time

The cumulative execution time, in seconds, for all Admin Query Keys 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.



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.

RTView Cache Tables

View data that RTView is capturing and maintaining. Drill down and view details of RTView Cache Tables. Use this data for debugging. This display is typically used for troubleshooting with Technical Support.

Click a cache table from the upper table to view cached data.

history_condensed	History table with primary compaction configured.
Rows	Number of rows currently in the table.
Columns	Number of columns currently in the table.
Memory	Amount of space, in bytes, used by the table.

RTView Agent Admin

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

The screenshot shows the 'RTView Agent Metrics Administration' window with a title bar containing a back arrow, the title, the date and time '10-Nov-2014 16:31', and a 'Data OK' status icon. Below the title bar is a table titled '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-BWVMON-Agent	30018	423,741	8	4.0	10-Nov-2014 16:31:43
slsl4-64	SL-HOSTMON-Agent	30005	68,536	0	0.0	10-Nov-2014 16:31:37
slsl4-64	SL-BWVMON-Agent	30006	91,694	0	0.0	10-Nov-2014 16:31:35
slsl4-64	SL-RTVMGR-Agent	30003	41,913	4	1.9	10-Nov-2014 16:31:43
slhost6	SL-HOSTMON-Agent	30026	23,418	0	0.0	10-Nov-2014 16:31:40
slhost6	SL-RTVMGR-Agent	30027	26,933	4	2.0	10-Nov-2014 16:31:42
slhost6	SL-BWVMON-Agent	30032	26,321	14	2.3	10-Nov-2014 16:31:44
slhpux11	SL-BWVMON-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-BWVMON-Agent	30004	7,874	0	0.0	10-Nov-2014 16:31:38
slvmrh2	SL-RTVMGR-Agent	30001	45,352	0	0.0	10-Nov-2014 16:31:40
slvmrh2	SL-HOSTMON-Agent	30009	46,787	1	0.2	10-Nov-2014 16:31:44
slvmware	SL-BWVMON-Agent	30013	6,085	0	0.0	10-Nov-2014 16:31:31
slvmware	SL-RTVMGR-Agent	30016	43,399	2	1.0	10-Nov-2014 16:31:43
slvmware	SL-HOSTMON-Agent	30015	33,434	0	0.0	10-Nov-2014 16:31:31

Title Bar (possible features are):

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

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

Data Received from Remote Agents Table

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.

RTView Servers View

These displays enable you to monitor performance of all RTView Servers.

- [Data Server Metrics](#) : Shows metrics for RTView Data Servers.
- [Display Server Metrics](#) : Shows metrics for RTView Display Servers.
- [Historian Servers](#) : Shows metrics for RTView Historian Servers.
- [Tomcat Server Summary](#): Shows metrics for Tomcat application sessions, including Tomcat hosting and connection details.
- [Tomcat Modules Summary](#): Shows metrics for Tomcat application modules and utilization details.
- [JVM CPU/Mem Summary](#): Shows Java Virtual Machine memory and CPU usage, JVM system information, application performance metrics, and input arguments for a single connection.
- [JVM Mem Pool Trends](#) : Shows Java Virtual Machine heap and non-heap memory usage for a single connection.
- [JVM Mem GC Trends](#) : Shows Java Virtual Machine garbage collection memory usage for a single connection.
- [JVM System Properties](#) : Shows Java Virtual Machine input arguments and system properties for a single connection.
- [Version Info](#): Provides detailed version information for all of the connected RTView applications.

Data Server Metrics

Track data transfer metrics for RTView Data Servers, client count, and throughput trends. Also stop and start serving data from the Data Server.



Title Bar: Indicators and functionality might include the following:

← ↑ Open the previous and upper display.

Table Navigate to displays commonly accessed from this display.

23-Mar-2017 12:04 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

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

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

+ Open an instance of this display in a new window.


? Open the online help page for this display.

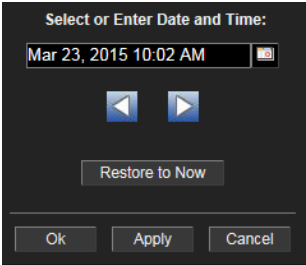
Note: Clicking **JVM** in the Title Bar takes you to the [JVM CPU/Mem Summary](#) display.




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.
DataServer	The name of the data server.
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 Connection state.
	● -- The Data Server is disconnected.
	● -- The Data Server is connected.

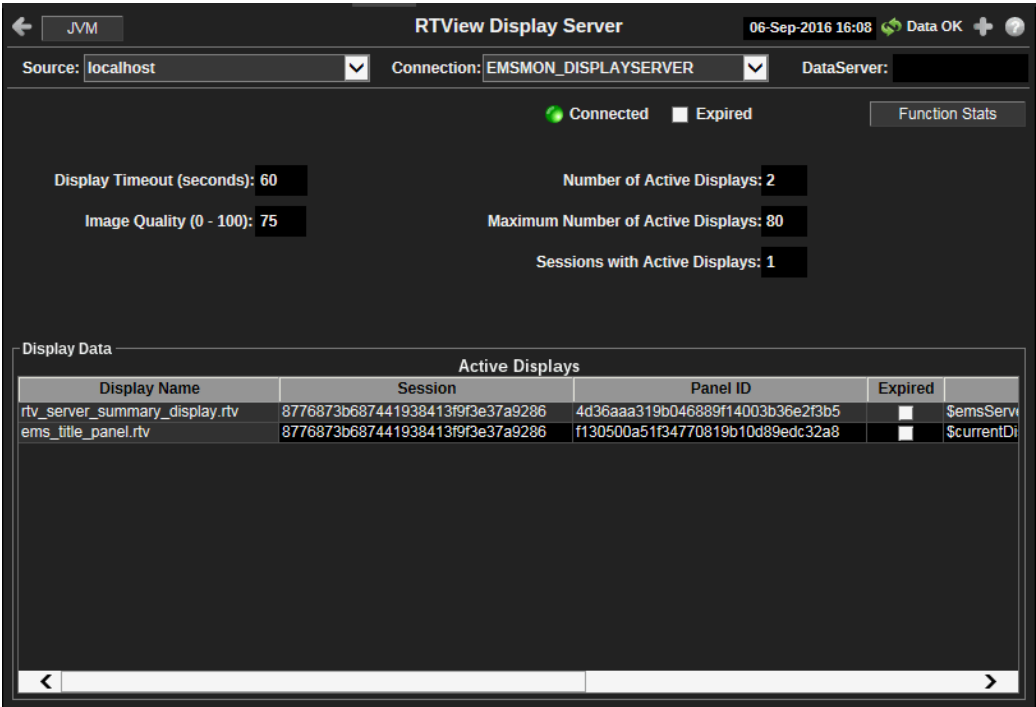
Expired	This server has been marked as expired after no activity. The Data Server state.
Serving Data	<p>● -- The Data Server is not currently serving data.</p> <p>● -- The Data Server is currently serving data.</p>
Function Stats	Click to view performance metrics for internal RTView functions (for example, average execution times and the number of times a function is called) in the RTView Function Statistics table.
Clients	This table describes all clients on the selected server.
	<p>Client ID The unique client identifier.</p> <p>Address The client IP address.</p> <p>Host The client host name.</p> <p>Process Name The name of the process.</p> <p>PID The process id.</p> <p>Last Data Sent The amount of data, in bytes, last sent to the client.</p> <p>Delta The amount of data, in bytes, sent since the last update</p> <p>Total The total amount of data, in bytes, sent to the client.</p> <p>The amount of time for this client session. Format: dd HH:MM:SS</p> <p>Duration <days> <hours>:<minutes>:<seconds> For example: 10d 08:41:38</p> <p>time_stamp The date and time this row of data was last updated.</p>
Client Count / Data Throughput Trends	Shows throughput metrics for all clients on the selected server.
	<p>Number of Clients -- Traces the number of clients being served by the Data Server.</p> <p>Data Sent -- Traces the total amount of data, in Kilobytes, sent to all clients.</p>
	<p>Log Scale This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option.</p>
	<p>Base at Zero When this option is checked, zero is set as the Y axis minimum for all graph traces.</p>
	<p>Time Range Select a time range from the drop down menu varying from 2 Minutes to Last 7 Days, or display All Data. To specify a time range, click the  button.</p>



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.

Display Server Metrics

Track display utilization metrics for RTView Display Servers.



Title Bar: Indicators and functionality might include the following:


-   Open the previous and upper display.
-  The data connection state. Red indicates the data source is disconnected (for example, the Data
-  Navigate to displays commonly accessed

from this display.

23-Mar-2017 12:04 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.

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



 Open an instance of this display in a new window.

 Open the online help page for this display.

Note: Clicking **JVM** in the Title Bar takes you to the [JVM CPU/Mem Summary](#) display.

Fields and Data

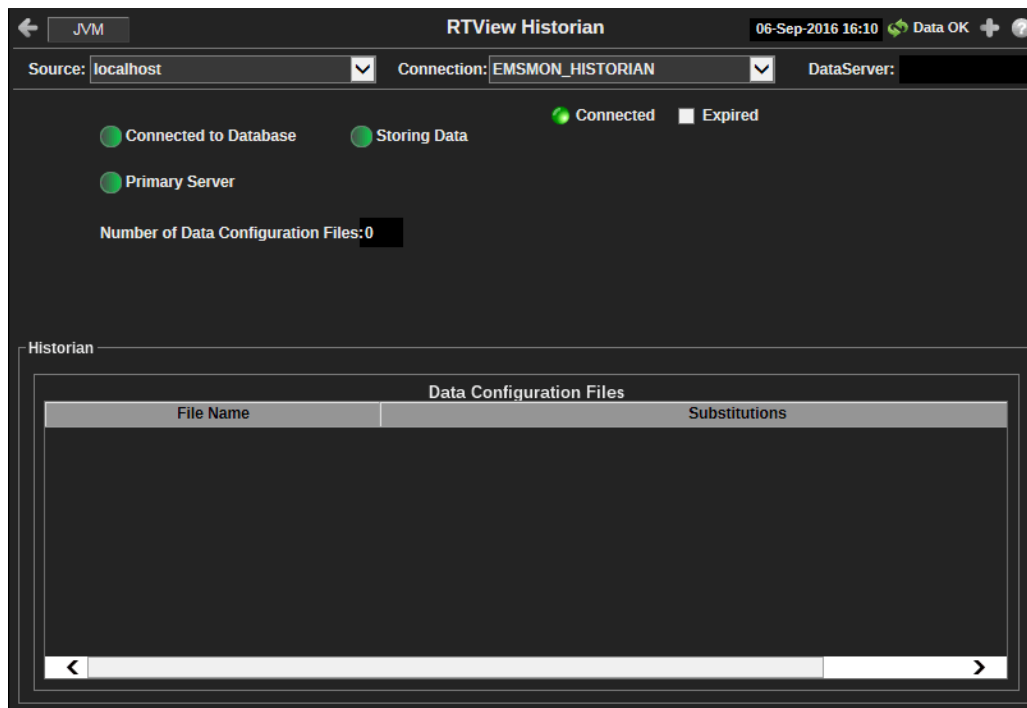
This display includes:

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.
DataServer	Displays the associated data server.
Connected	The Display Server connection state:  Disconnected.  Connected.
Expired	This server has been marked as expired after no activity.
Function Stats	Click to view performance metrics for internal RTView functions (for example, average execution times and the number of times a function is called) in the RTView Function Statistics table.
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.
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.
Expired	When checked, this display has been marked as expired after no recent activity.
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.
time_stamp	The date and time this row of data was last updated.

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.



Title Bar: Indicators and functionality might include the following:

← ↑ Open the previous and upper display.

Table Navigate to displays commonly accessed from this display.

23-Mar-2017 12:04 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

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

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









➕ Open an instance of this display in a new window.

🔗 Open the online help page for this display.

Note: Clicking **JVM** in the Title Bar takes you to the [JVM CPU/Mem Summary](#) 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.	
DataServer	The name of the associated data server.	
Connected	The Historian Server connection state.  -- The Historian Server is disconnected.  -- The Historian Server is connected.	
Expired	This server has been marked as expired after no activity.	
Connected to Database	The database connection state.  -- The Historian Server is disconnected from the database.  -- The Historian Server is connected to the database.	
Storing Data	The Historian Server status:  -- The Historian Server is currently not archiving data.  -- The Historian Server is currently archiving data.	
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 this Historian is a secondary server. The Historian Server member state:  -- The Historian Server is a primary group member.  -- The Historian Server is a secondary group member.	
Number of Data Configuration Files	The number of configuration files that are used by the history cache.	
Historian / Data Configuration Files	File Name	The name of the history cache configuration file.
	Substitutions	Lists the substitutions specified in the history cache configuration file.
	Connection	Lists the data server to which the history cache configuration file is connected.

Tomcat Server Summary

Track the performance of Tomcat application sessions and get Tomcat hosting and connection details. Use this data to verify response times of your Web applications.



Title Bar: Indicators and functionality might include the following:

← ↑ Open the previous and upper display.

Table Navigate to displays commonly accessed from this display.

23-Mar-2017 12:04 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

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

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

⊕ Open an instance of this display in a new window.

❓ Open the online help page for this display.

Note: Clicking **All Tomcats** in the Title Bar takes you to the [All Tomcat Servers Table](#) display. Clicking **All Apps** in the Title Bar takes you to the [Tomcat Applications Activity Heatmap](#) display. Clicking **JVM** takes you to the [JVM CPU/Mem Summary](#) display.

Fields and Data

This display includes:

Source Select the host where the Tomcat Server is running.

Connection Select a Tomcat server from this dropdown.

The Connection state.

Connected ● -- The Tomcat Server is disconnected.

● -- The Tomcat Server is 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 is installed.

Auto Deploy When checked, indicates that Tomcat option, automatic application deployment,

is enabled.

Note: This Tomcat option is set using the **autoDeploy** property in the **server.xml** file, located in the Tomcat **conf** directory. **autoDeploy=true** enables the option.

When checked, indicates that the option to deploy the application on Tomcat startup is enabled.

Deploy On 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 deployed.

Connectors

This table shows Tomcat application 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 Statistics

Active Sessions The number of clients currently in session with the servlet.

Page Access / sec The number of times pages are accessed, per second.

Cache Hits / sec The number of times the cache is accessed, per second.

Requests / sec The number of requests received, per second.

Bytes Rcvd / sec The number of bytes received, per second.

Bytes Sent / sec The number of bytes sent, per second.

Process Time The amount of time, in milliseconds, for the servlet to process client requests.

Totals

Sessions The total number of client sessions since the server was started.

Accesses The total number of page accesses since the server was started.

Requests The total number of requests since the server was started.

Bytes Rcvd (KB) The number of Kilobytes received per second, since the server was started.

Bytes Sent (KB) The total number of bytes sent, in Kilobytes, since the server was started.

Session / Data / Latency Trends

Shows metrics for the selected server.

Active Sessions -- Traces the number of currently active client sessions.

Requests /sec -- Traces then umber of requests received, per second.


Process Time -- Traces the average amount of time, in milliseconds, to process requests.

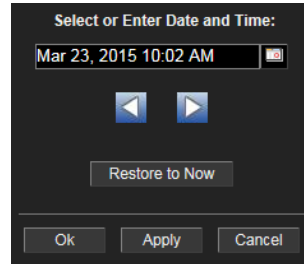
Log Scale This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more

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.

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.



Time Range

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.

All Tomcat Servers Table

View Tomcat Server details per connection such as the total number of sessions, bytes sent/received, and processing time. Each row in the table is a different Tomcat Server. The row color for inactive connections is dark red.

Use this display to see summary information for your Tomcat servers, including session counts, access and request rates, cache hit rates, and data transmission metrics.

All Tomcat Servers													
Connection	Source	Sessions Active	Sessions Total	Sessions Expired	Accesses per sec	Accesses Total	Bytes Rcvd per sec	Bytes Rcvd Total	Bytes Sent per sec	Bytes Sent Total	Cache Hit Rate	Requests per sec	Requests Total
TOMCAT	localhost	110	232	122	1.4	93,705	15,897.4	264,938,565	26,632.2	1,392,585,...	1.0	24.2	389,503
TOMCAT	WIN3	0	0	0	11.5	2,862,611	25,528.0	11,920,94...	122,992.7	36,648,88...	9.3	29.1	11,956,178

Title Bar: Indicators and functionality might include the following:

Open the previous and upper display.

Navigate to displays commonly accessed from this display.

23-Mar-2017 12:04 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

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

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

Open an instance of this display in a new window.

Open the online help page for this display.

Fields and Data

This display includes:

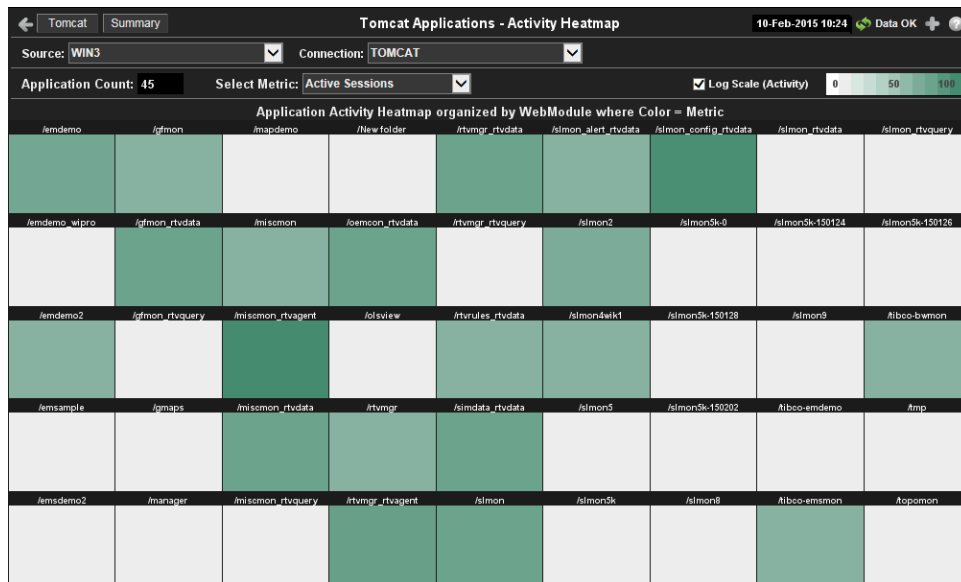
Tomcat Count	The number of Tomcat connections in the table.
Connection	The name of the Tomcat connection.
Source	The host where the Tomcat Server is running.
Sessions Active	The number of currently active client sessions.
Sessions Total	The total number of client sessions since the server was started.
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.
name	The host name.
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>

Tomcat Applications Activity 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 the health of all your web applications at-a-glance. 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 to filter data shown in the display. Use the check-boxes to include or exclude labels in the heatmap. Move your mouse over a rectangle to see additional information. Drill-down and investigate by clicking a rectangle in the heatmap to view details for the selected Web module in the Tomcat Modules Summary display.



Title Bar: Indicators and functionality might include the following:

← ↑ Open the previous and upper display.

Table Navigate to displays commonly accessed from this display.

23-Mar-2017 12:04 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

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

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

+ Open an instance of this display in a new window.

? Open the online help page for this display.

Note: Clicking **Tomcat** in the Title Bar takes you to the [Tomcat Server Summary](#) display. Clicking **Summary** in the Title Bar takes you to the [Tomcat Modules Summary](#) display.


Fields and Data

This display includes:

Source Select the host where the Tomcat Server is running.

Connection Select a Tomcat Server from the drop-down menu.

Application Count The number of Tomcat applications in the heatmap.

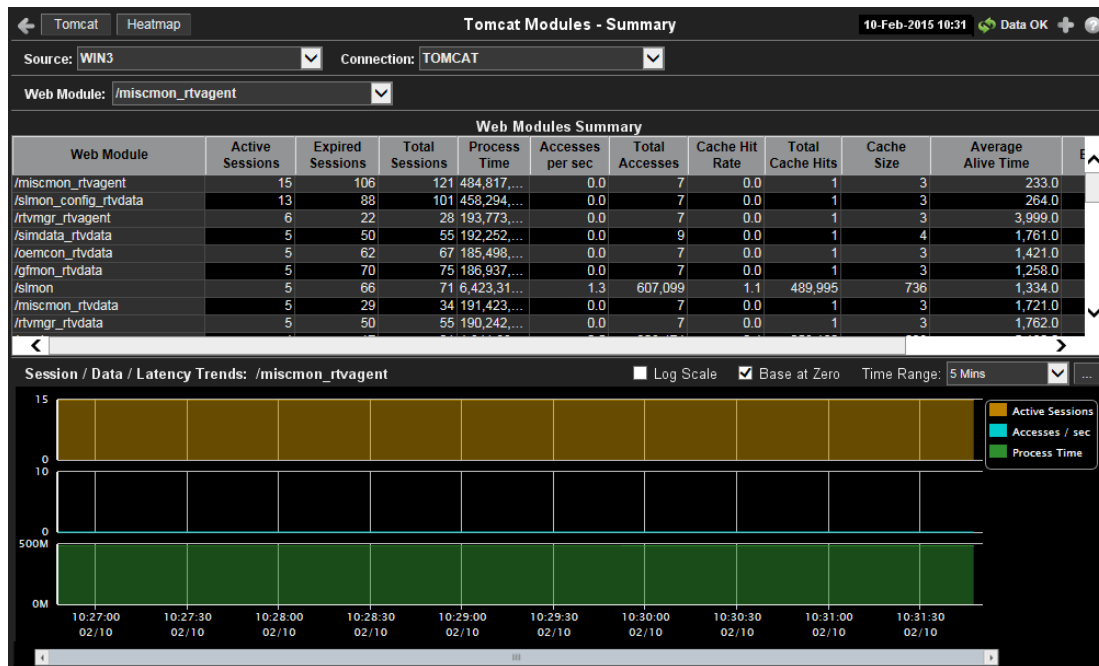
Select Metric Select the metric to display in the heatmap. Each metric (**Active Sessions**, **Current Access Rate**, and **Total Access Count**) has a color gradient bar that maps relative values to colors. The color gradient bar  shows the range of the value/color mapping. The numerical values in the gradient bar range from 0 to the maximum count of the selected metric in the heatmap. The middle value in the gradient bar indicates the middle value of the range.

Log Scale (Activity)

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.

Tomcat Modules Summary

Track the performance of Tomcat application modules and get utilization details. Use this data to verify response times of your Web application modules.



Title Bar: Indicators and functionality might include the following:

← ↑ Open the previous and upper display.

Table Navigate to displays commonly accessed from this display.

23-Mar-2017 12:04 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

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

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

+ Open an instance of this display in a new window.

? Open the online help page for this display.

Note: Clicking **Tomcat** in the Title Bar takes you to the **Tomcat Server Summary** display. Clicking **Heatmap** in the Title Bar takes you to the **Tomcat Modules Summary** display.

Fields and Data

This display includes:


Source Select the host where the Tomcat Server is running.

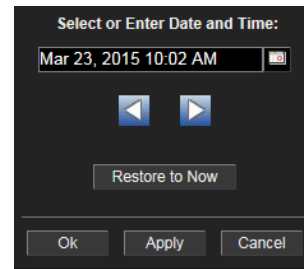
Connection Select a Tomcat Server from the drop-down menu. This menu is populated by the selected Source.

Web Module Select a Web module from the drop-down menu.


Web Modules This table describes the selected Web module.

Summary

Web Module	The name of the Web module.
Active Sessions	The number of currently active client sessions.
Expired Sessions	The total number of client sessions that expired since the application was started.
Total Sessions	The total number of client sessions since the application was started.
Process Time	The average amount of time, in milliseconds, to process requests.
Accesses per sec	The number of times pages are accessed, per second.
Total Accesses	The total number of times pages have been accessed since the application was started.
Cache Hit Rate	The number of times the cache is accessed, per second.
Total Cache Hits	The total number of times the cache has been accessed since the application was started.
Cache Size	The size of the cache.
Average Alive Time	The average time the web module is up.
Expired	When checked, this connection is expired due to inactivity. The date and time this row of data was last updated. Format:
time_stamp	MM/DD/YY HH:MM:SS <month>/ <day>/<year> <hours>:<minutes>:<seconds> Shows metrics for the selected server. Active Sessions -- Traces the number of currently active client sessions. Accesses /sec -- Traces the number of times pages are accessed, per second. Process Time -- Traces the average amount of time, in milliseconds, to process requests.
Session / Data / Latency Trends: /emsmgr	
Log Scale	This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option.
Base at Zero	When this option is checked, zero is set as the Y axis minimum for all graph traces.
Time Range	Select a time range from the drop down menu varying from 2 Minutes to Last 7 Days , or display All Data . To specify a time range, click the  button.



By default, the time range end point is the current time. To

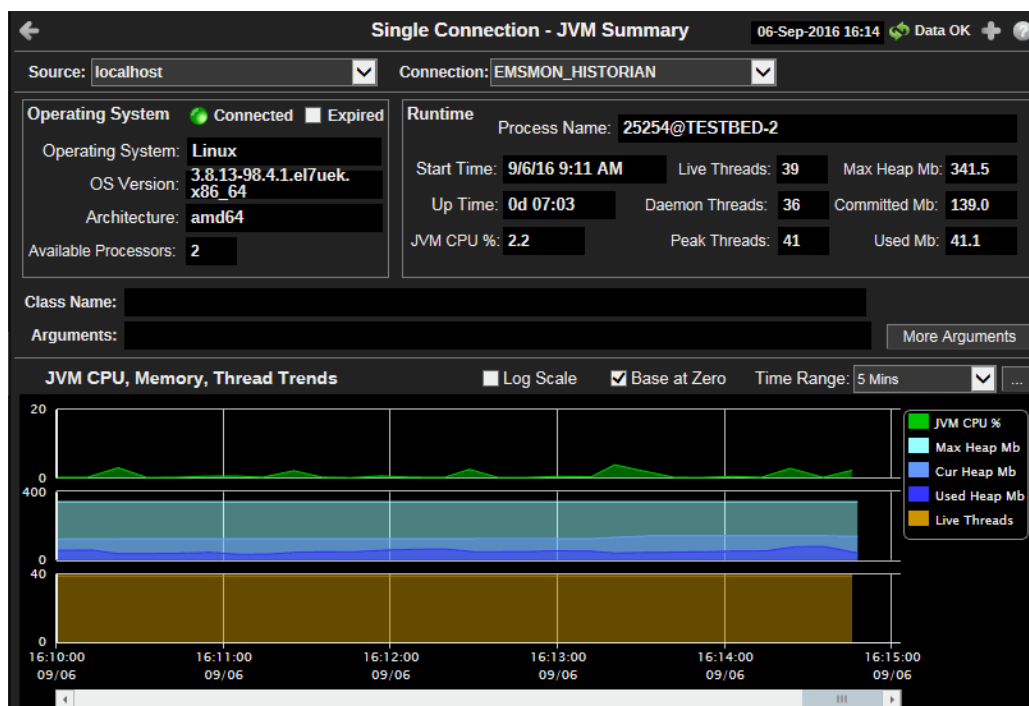
change the time range end point, click the  button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.

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



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


JVM CPU/Mem Summary

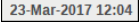
Track Java Virtual Machine memory and CPU usage, get JVM system information, application performance metrics, and input arguments for a single connection. Verify whether the memory usage has reached a plateau. Or, if usage is getting close to the limit, determine whether to allocate more memory.




Title Bar: Indicators and functionality might include the following:


  Open the previous and upper display.

 Navigate to displays commonly accessed from this display.

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

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



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


 Open an instance of this display in a new window.

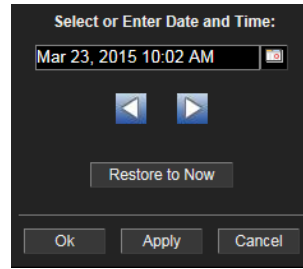
 Open the online help page for this display.


Fields and Data



This display includes:

Source	Select the type of connection to the RTView Server.
Connection	Select an RTView Server from the drop-down menu. Names can be modified in the RTView Server configuration properties file.
Operating System	Displays data pertaining to the operating system running on the host on which the JVM resides.
	The connection state.
Connected	 -- Disconnected.  -- Connected.
Expired	When checked, this server is expired due to inactivity.
Operating System	The name of the operating system running on the host on which the JVM resides.
OS Version	The operating system version.
Architecture	The ISA used by the processor.
Available Processors	The total number of processors available to the JVM.
Runtime	
Process Name	The name of the process.
Start Time	The date and time that the application started running.
	The amount of time the application has been running, in the following format:
Up Time	0d 00:00 <days>d <hours>:<minutes>:<seconds> For example: 10d 08:41:38
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 Java virtual machine started or the peak was reset.
	The maximum amount of memory used for memory management by the application in the time range specified. This value may change or be undefined.
Max Heap Mb	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 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 used for JVM.
Arguments	The arguments used to start the application.
More Arguments	Additional arguments used to start the application.
	Shows JVM metrics for the selected server.
JVM CPU, Memory, Thread Trends	JVM CPU % -- Traces the amount of memory, in percent, used by the JVM in the time range specified.
	Max Heap Mb -- Traces the maximum amount of memory used for memory management by the application in the time range specified. This value may change or be undefined.
	Note: A memory allocation can fail if the JVM attempts to set the Used memory allocation to a value greater than the Committed memory allocation, even if the amount for Used memory is less than or equal to the Maximum memory allocation (for example, when the system is low on virtual memory).
	Cur Heap Mb -- Traces the current amount of memory, in megabytes, used for memory management by the application in the time range specified.
	Used Heap Mb -- Traces the memory currently used by the application.
	Live Threads -- Traces the total number of currently active threads in the time range specified.
Log Scale	This option should be used when the range of your data is very broad. When checked, the values are displayed using a logarithmic scale rather than using the actual values so that data on the extreme ends of the scale can be viewed more effectively. For example, if you have data that ranges from the tens to the thousands, the data in the range of the tens will be neglected visually if you do not check this option.
Base at Zero	When this option is checked, zero is set as the Y axis minimum for all graph traces.
Time Range	Select a time range from the drop down menu varying from 2 Minutes to Last 7 Days , or display All Data . To specify a time range, click the  button.



By default, the time range end point is the current time. To change the time range end point, click the  button and select a date and time from the calendar or enter the date and time in the text field using the following format: **MMM dd, YYYY HH:MM**. For example, **Aug 21, 2011 12:24 PM**.


Use the navigation arrows   to move forward or backward one time period. **Note:** The time period is determined by your selection from the **Time Range** drop-down menu. Click **Restore to Now** to reset the time range end point to the current time.

JVM Mem Pool Trends

Track Java Virtual Machine heap and non-heap memory usage for a single connection.



Title Bar: Indicators and functionality might include the following:


-   Open the previous and upper display.
-  The data connection state. Red indicates the data source is disconnected (for example, the Data
-  Navigate to displays commonly accessed

from this display.

23-Mar-2017 12:04 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

Server is not receiving data, or the Display Server is not receiving data from the Data Server). Green indicates the data source is connected.



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


 Open an instance of this display in a new window.

 Open the online help page for this display.

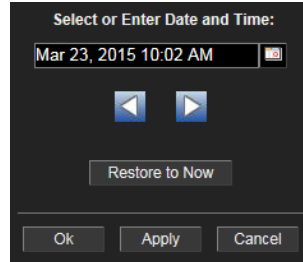
Fields and Data


This display includes:

- Source** Select the type of connection to the RTView Server.
- Connection** Select an RTView Server from the drop-down menu. Names can be modified in the RTView Server configuration properties file.
- Connected** The data connection state.
-  -- Disconnected.
 -  -- Connected.
- Base at Zero** When this option is checked, zero is set as the Y axis minimum for all graph traces.

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.

Time Range



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.

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.

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).

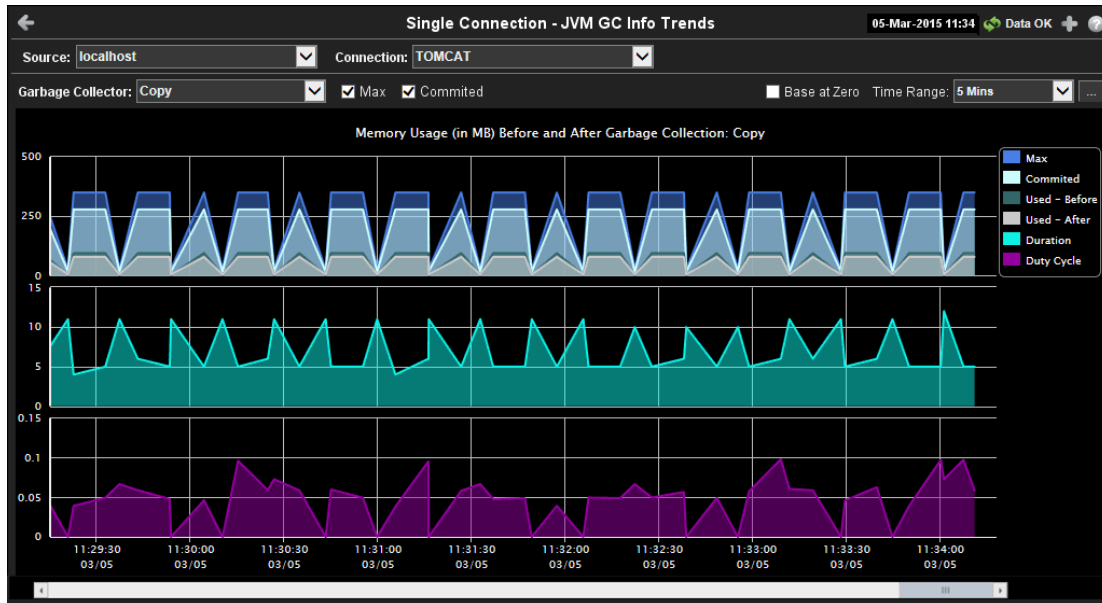
	Committed	The amount of memory, in megabytes, guaranteed to be available for use by the JVM. The amount of committed memory can be a fixed or variable size. If set to be a variable size, the amount of committed memory can change over time, as the JVM may release memory to the system. This means that 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.
	Trend Graph	<p>Survivor Space -- Traces the amount of memory used by the JVM survivor pool in the time range specified.</p> <p>The JVM survivor pool holds objects that survive the eden space garbage collection.</p> <p>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.</p> <p>Eden Space -- Traces the amount of memory used by the JVM eden pool in the time range specified.</p> <p>Eden refers to the JVM eden pool, which is used to initially allocate memory for most objects.</p>
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.
	Trend Graph	<p>Code Cache -- Traces the amount of non-heap memory used in the JVM for compilation and storage of native code.</p> <p>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 Java virtual machines that use class data sharing, this generation is divided into read-only and read-write areas.</p>
Operations	Run Garbage Collector	Performs garbage collection on the selected server.

Reset Peak Usage

Clears peak usage on the selected server.

JVM Mem GC Trends

Track Java Virtual Machine garbage collection memory usage for a single connection.



Title Bar: Indicators and functionality might include the following:

Open the previous and upper display.

Navigate to displays commonly accessed from this display.

23-Mar-2017 12:04 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

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

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

Open an instance of this display in a new window.

Open the online help page for this display.


Fields and Data

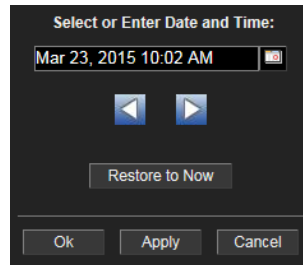
This display includes:

- Source** Select the type of connection to the RTView Server.
- Connection** Select an RTView Server from the drop-down menu. Names can be modified in the RTView Server configuration properties file.
- Garbage Collector** Select a garbage collection method: **Copy** or **MarkSweepCompact**.
- Max** Shows the maximum amount of memory used for JVM garbage collection in the time range specified.
- Committed** Shows the amount of memory guaranteed to be available for use by JVM non-

heap memory management. The amount of committed memory can be a fixed or variable size. If set to be a variable size, it can change over time, as the JVM may release memory to the system. This means that the amount allocated for **Committed** memory could be less than the amount initially allocated. **Committed** memory will always be greater than or equal to the amount allocated for **Used** memory.


Base at Zero When this option is checked, zero is set as the Y axis minimum for all graph traces.

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.



Time Range

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.

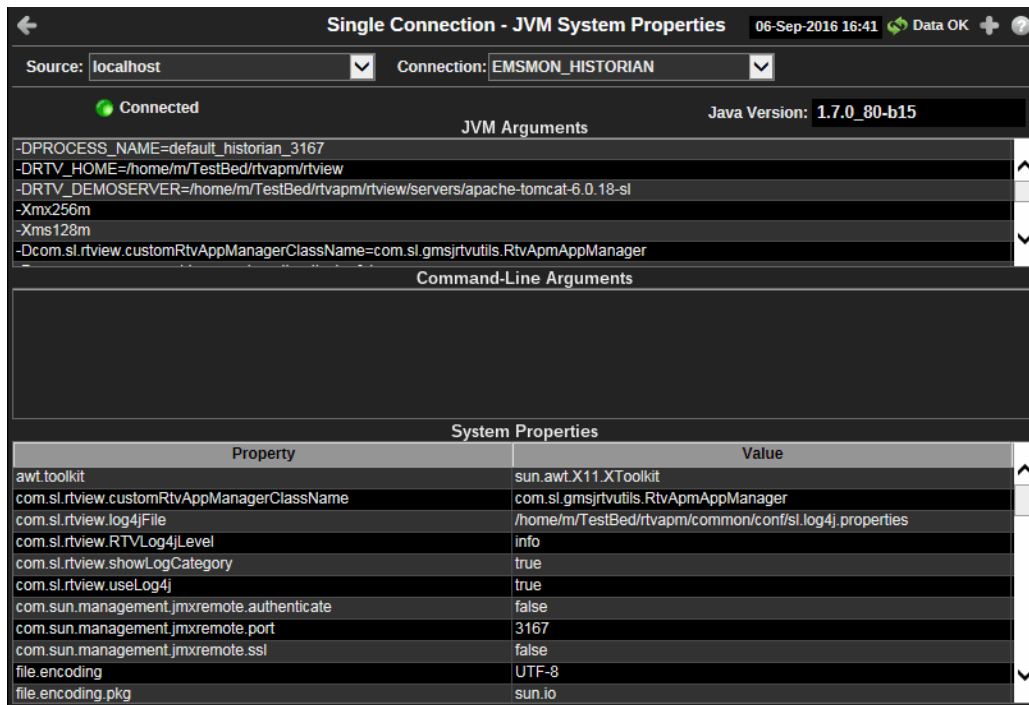
Click **Restore to Now** to reset the time range end point to the current time.

Memory Usage (in MB) Before and After Garbage Collection

Max	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.

JVM System Properties

Track Java Virtual Machine input arguments and system properties for a single connection.



Title Bar: Indicators and functionality might include the following:

Open the previous and upper display.

Navigate to displays commonly accessed from this display.

23-Mar-2017 12:04 The current date and time. When the time is incorrect, this might indicate that RTView stopped running. When the time is correct and the **Data OK** indicator is green, this is a strong indication that the platform is receiving current and valid data.

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

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

Open an instance of this display in a new window.

Open the online help page for this display.

Fields and Data

This display includes:

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.

The data connection state:

Connected Disconnected.

Connected.

Java Version The Java version running on the selected server.

JVM The JVM arguments in the **RuntimeMXBean InputArguments** attribute.

Arguments

Command Line Arguments

Arguments used to start the application.

System Properties

This table lists and describes system property settings.

Property Name of the property.

Value Current value of the property.

Version Info

This display provides detailed version information for all of the connected RTView applications. You can view specific applications by filtering data using the **Source**, **Connection**, **Filter Field**, and **Filter Value** fields at the top of the display. This display provides valuable information about the version of each jar that is used in each connected RTView application that can be used to help Technical Support when issues arise. Rows in the table where the **JarConfiguration** does not match the **ApplicationConfiguration** are highlighted in teal.

Note: RTView applications running versions previous to this enhancement will only have one row in the table and will display "version info not supported in this version" in the **ApplicationConfiguration** column.

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

RTView Application Versions
07-Mar-2019 15:27 Data OK

Source: All Sources ▼

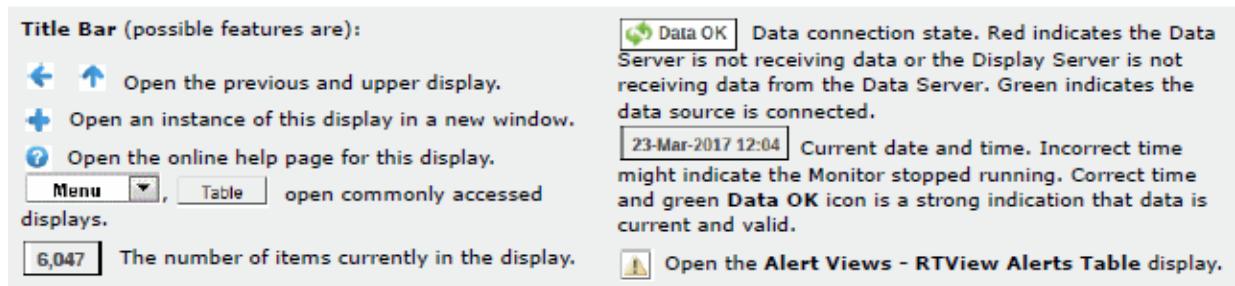
Connection: All Connections ▼

Filter Field: ▼ Clear

Filter Value: ▼ RegEx Not Equal

Detailed Version for All Connected RTView Applications
Rows where the JarConfiguration does not match ApplicationConfiguration are highlighted in teal

Source	Connection	ApplicationName	JarName	ApplicationConfiguration	
localhost	RTVMGR_DATASERVER	RTView Data Server	gmsjagentds.jar	SOL 5.0.0.0_20190307_070.30730-alpha_116	SOL 5.0.0.
localhost	RTVMGR_DATASERVER	RTView Data Server	gmsjalertds.jar	SOL 5.0.0.0_20190307_070.30730-alpha_116	SOL 5.0.0.
localhost	RTVMGR_DATASERVER	RTView Data Server	gmsjcacheds.jar	SOL 5.0.0.0_20190307_070.30730-alpha_116	SOL 5.0.0.
localhost	RTVMGR_DATASERVER	RTView Data Server	gmsjcmdbds.jar	SOL 5.0.0.0_20190307_070.30730-alpha_116	SOL 5.0.0.
localhost	RTVMGR_DATASERVER	RTView Data Server	gmsjext.jar	SOL 5.0.0.0_20190307_070.30730-alpha_116	SOL 5.0.0.
localhost	RTVMGR_DATASERVER	RTView Data Server	gmsjflash.jar	SOL 5.0.0.0_20190307_070.30730-alpha_116	SOL 5.0.0.
localhost	RTVMGR_DATASERVER	RTView Data Server	gmsjhttpds.jar	SOL 5.0.0.0_20190307_070.30730-alpha_116	SOL 5.0.0.
localhost	RTVMGR_DATASERVER	RTView Data Server	gmsjhttprestds.jar	SOL 5.0.0.0_20190307_070.30730-alpha_116	SOL 5.0.0.
localhost	RTVMGR_DATASERVER	RTView Data Server	gmsjmvds.jar	SOL 5.0.0.0_20190307_070.30730-alpha_116	SOL 5.0.0.
localhost	RTVMGR_DATASERVER	RTView Data Server	gmsjlog4jds.jar	SOL 5.0.0.0_20190307_070.30730-alpha_116	SOL 5.0.0.
localhost	RTVMGR_DATASERVER	RTView Data Server	gmsjmodels.jar	SOL 5.0.0.0_20190307_070.30730-alpha_116	SOL 5.0.0.
localhost	RTVMGR_DATASERVER	RTView Data Server	gmsjpipeds.jar	SOL 5.0.0.0_20190307_070.30730-alpha_116	SOL 5.0.0.
localhost	RTVMGR_DATASERVER	RTView Data Server	gmsjrrdds.jar	SOL 5.0.0.0_20190307_070.30730-alpha_116	SOL 5.0.0.
localhost	RTVMGR_DATASERVER	RTView Data Server	gmsjrtvhistorian.jar	SOL 5.0.0.0_20190307_070.30730-alpha_116	SOL 5.0.0.
localhost	RTVMGR_DATASERVER	RTView Data Server	gmsjrtvquery.jar	SOL 5.0.0.0_20190307_070.30730-alpha_116	SOL 5.0.0.
localhost	RTVMGR_DATASERVER	RTView Data Server	gmsjrtvreport.jar	SOL 5.0.0.0_20190307_070.30730-alpha_116	SOL 5.0.0.
localhost	RTVMGR_DATASERVER	RTView Data Server	gmsjrtvutils.jar	SOL 5.0.0.0_20190307_070.30730-alpha_116	SOL 5.0.0.
localhost	RTVMGR_DATASERVER	RTView Data Server	gmsjsplunkds.jar	SOL 5.0.0.0_20190307_070.30730-alpha_116	SOL 5.0.0.
localhost	RTVMGR_DATASERVER	RTView Data Server	gmsjsqlds.jar	SOL 5.0.0.0_20190307_070.30730-alpha_116	SOL 5.0.0.
localhost	RTVMGR_DATASERVER	RTView Data Server	rtvapm_common.jar	SOL 5.0.0.0_20190307_070.30730-alpha_116	SOL 5.0.0.
localhost	RTVMGR_DATASERVER	RTView Data Server	rtvapm_dockermon.jar	SOL 5.0.0.0_20190307_070.30730-alpha_116	SOL 5.0.0.
localhost	RTVMGR_DATASERVER	RTView Data Server	rtvapm_hostbase.jar	SOL 5.0.0.0_20190307_070.30730-alpha_116	SOL 5.0.0.
localhost	RTVMGR_DATASERVER	RTView Data Server	rtvapm_mysqlmon.jar	SOL 5.0.0.0_20190307_070.30730-alpha_116	SOL 5.0.0.
localhost	RTVMGR_DATASERVER	RTView Data Server	rtvapm_rtmgr.jar	SOL 5.0.0.0_20190307_070.30730-alpha_116	SOL 5.0.0.
localhost	RTVMGR_DISPLAYSERVER	RTView Display Server	gmsjagentds.jar	SOL 5.0.0.0_20190307_070.30730-alpha_116	SOL 5.0.0.
localhost	RTVMGR_DISPLAYSERVER	RTView Display Server	gmsjalertds.jar	SOL 5.0.0.0_20190307_070.30730-alpha_116	SOL 5.0.0.
localhost	RTVMGR_DISPLAYSERVER	RTView Display Server	gmsjcacheds.jar	SOL 5.0.0.0_20190307_070.30730-alpha_116	SOL 5.0.0.
localhost	RTVMGR_DISPLAYSERVER	RTView Display Server	gmsjcmdbds.jar	SOL 5.0.0.0_20190307_070.30730-alpha_116	SOL 5.0.0.



Fields and Data

This display includes:

Source	Select a filter value for the Source column.
Connection	Select a filter value for the Connection column. Select a table column from the drop-down menu to perform a search in: ApplicationName, JarName, ApplicationConfiguration, JarConfiguration, JarVersionNumber, JarVersionDate, JarReleaseDate, and JarMicroVersion.
Filter Field	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 this check box to use the Filter Value as a regular expression when filtering. When selected, the Not Equal check box displays. 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.
Not Equal	This field is only enabled when the RegEx check box is checked.
Source	The name of the source of the RTVMGR.
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.
JarVersionNumber	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 RTVMGR data server connection.

CHAPTER 7 Third-Party Reports

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](#)
- [Configuring Spotfire Reports](#)
- [Reports](#)

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:

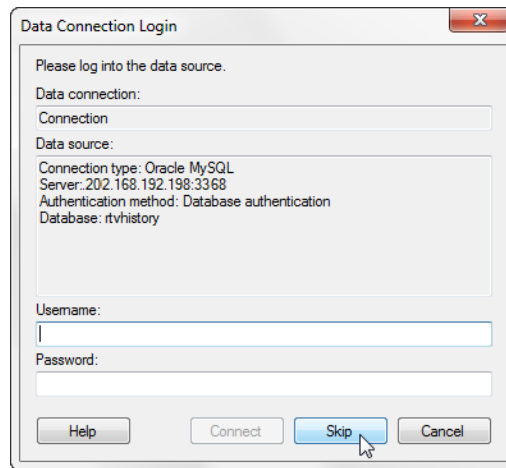
- [“MySQL Report Configuration” on page 303](#)
- [“Oracle Report Configuration” on page 309.](#)

MySQL Report Configuration

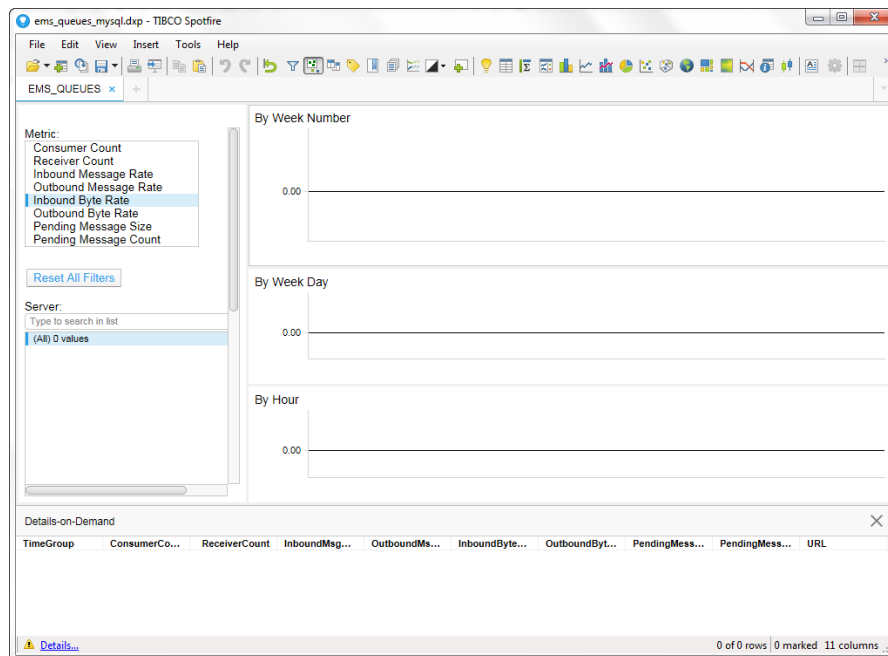
You can generate the following reports using Oracle MySQL: **EMS Server Message Metrics Report** (using **ems_serverinfo_mysql.dxp** and **ems_serverinfo_mysql.txt**) and **EMS Queue Message Metrics Report** (using **ems_queues_mysql.dxp** and **ems_queues_mysql.txt**).

1. Open the **ems_queues_mysql.dxp** Spotfire Analysis file in the **TIB-rtview-ems/projects/reports/Spotfire** directory that was created during the EMS Monitor installation.

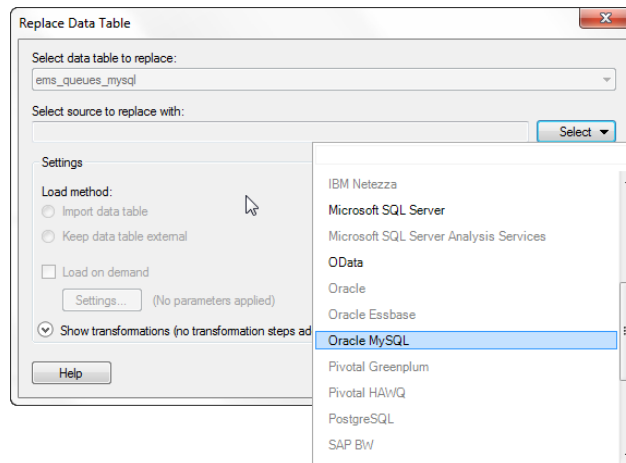
The **Data Connection Login** window displays.



2. Click the **Skip** button (there is no need to log in at this point).
The **TIBCO Spotfire** dashboard displays.



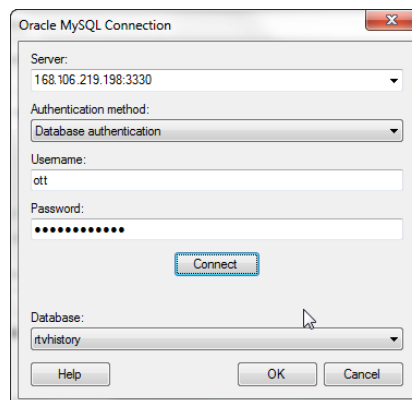
3. Click **File > Replace Data Table**.
The **Replace Data Table** window displays.



Note: When connecting the **ems_queues_mysql** dashboard to your MySQL data, Spotfire's **Replace Data Table** functionality may run very slowly, or even time-out, if the dataset is too large.

4. Click the **Select** button (associated with the **Select source to replace with** field) and select **Oracle MySQL**.

The **Oracle MySQL Connection** window displays.

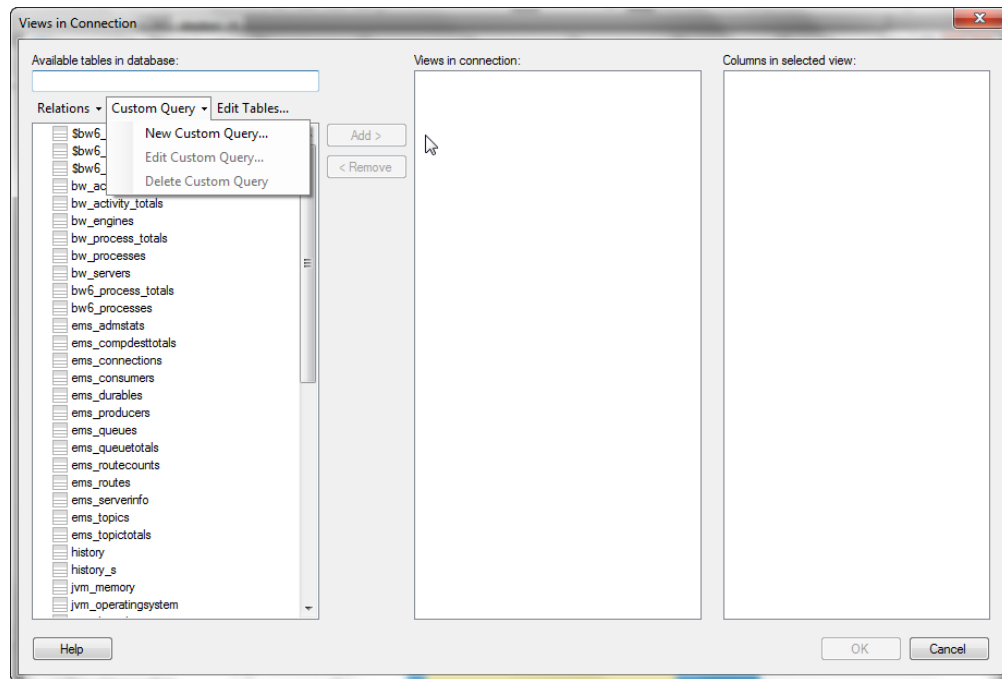


5. Enter the **Server**, **Username**, **Password**, select **Database authentication** as the **Authentication Method**, and click the **Connect** button.

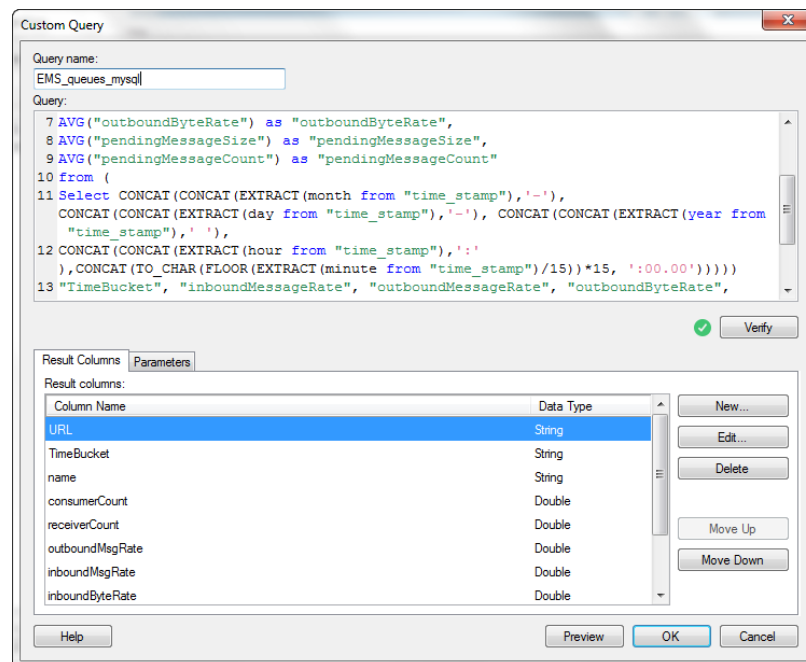
The **Database** drop down should be populated.

6. Select **rtvhistory** from the **Database** drop down and click the **OK** button.

The **Views in Connection** window displays.



7. Select the **Custom Query** drop down list and select **New Custom Query**. The **Custom Query** window displays.



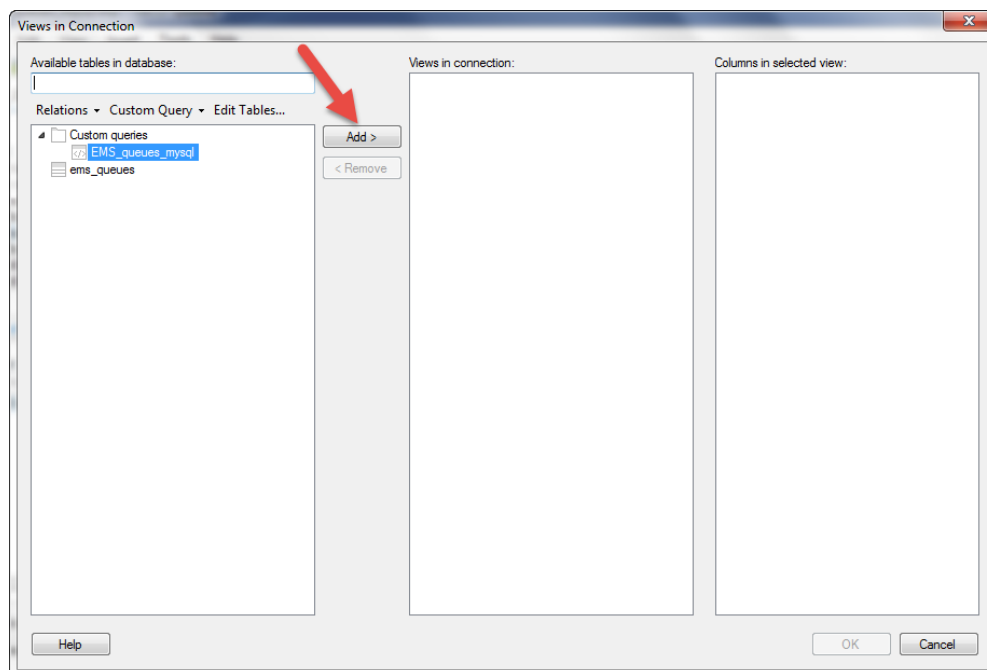
8. Enter the desired name (whatever name is meaningful for you) into the **Query_name** field, open the text file in your installation directory associated with your table (for example, if you are selected **ems_queues_mysql.dxp** initially, then open **ems_queues_mysql.txt**), copy and paste the SQL 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.

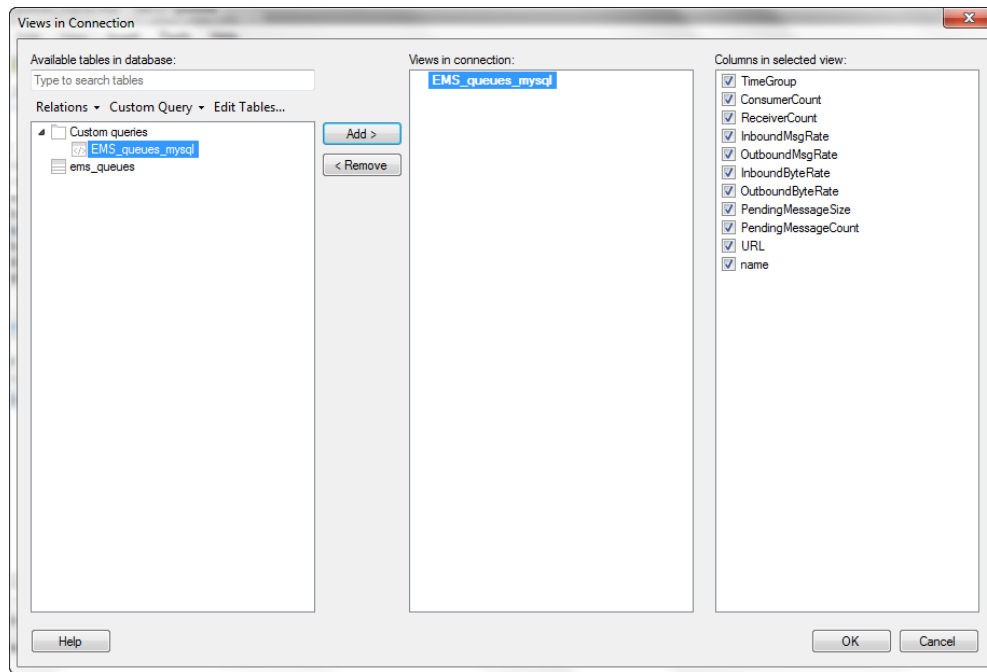
9. Click the **OK** button on the **Custom Query** window.

The new query (for example, **EMS_queues_mysql**) should display in the list of **Custom queries** on the **Views in Connection** window.

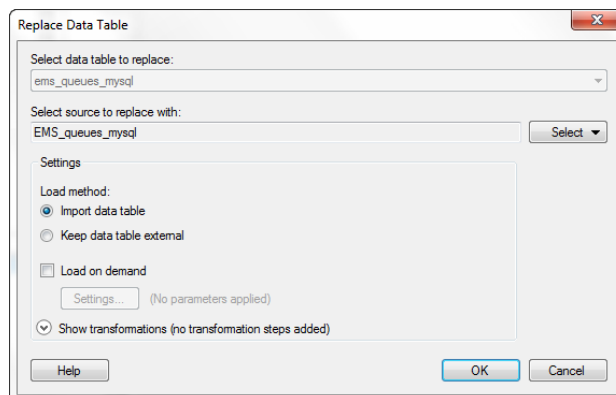


10. Select your new custom query and click the **Add** button.

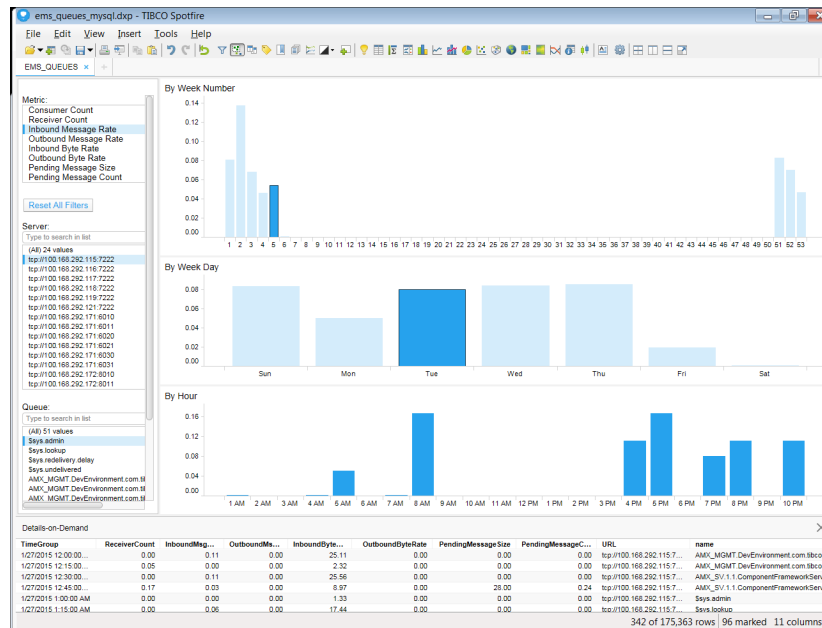
Your new custom query should display in the **Views in connection** region and the query’s associated columns should display in the **Columns in selected view** region.



- 11.** Click the **OK** button on the **Views in Connection** window.
The **Replace Data Table** window displays.



- 12.** Select the **Import data table** radio button and click the **OK** button.
Your data should display in TIBCO Spotfire.



- 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**).

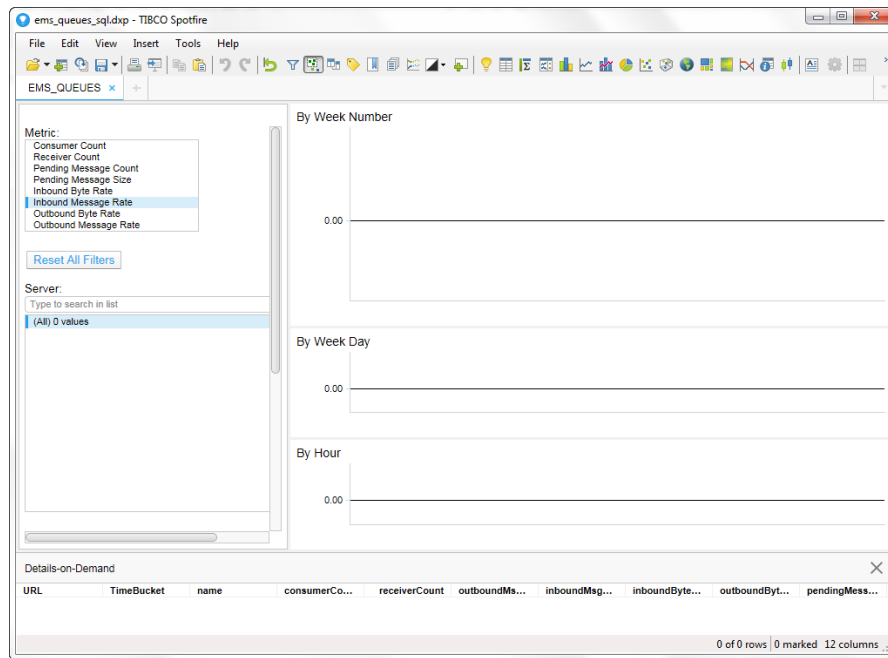
- Open the **ems_queues_sql.dxp** Spotfire Analysis file in the **TIB_rtview-ems/projects/reports/Spotfire** directory that was created during the EMS Monitor installation.

The **Data Connection Login** window displays.

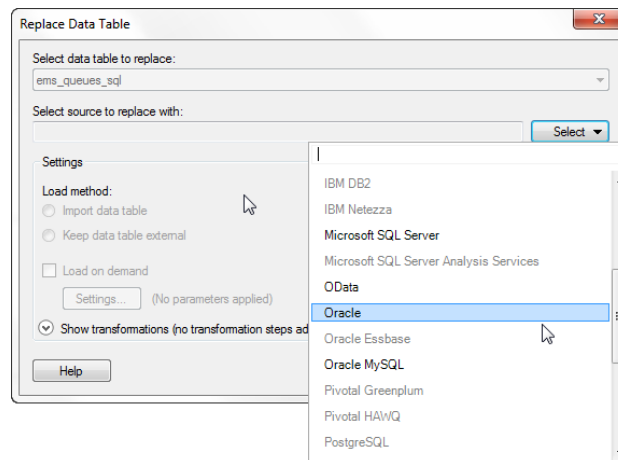
The 'Data Connection Login' dialog box contains the following information:

- Please log into the data source.
- Data connection: Connection
- Data source: Connection type: Oracle MySQL; Server: 202.168.192.198:3368; Authentication method: Database authentication; Database: rtvhistory
- Username: []
- Password: []
- Buttons: Help, Connect, Skip, Cancel

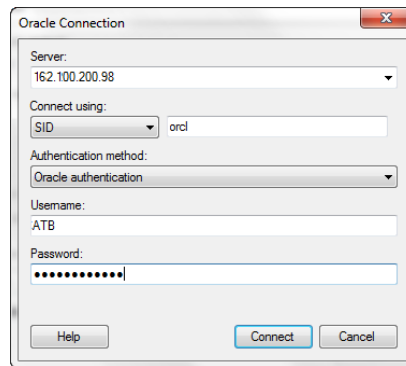
- Click the **Skip** button (there is no need to log in at this point). The **TIBCO Spotfire** dashboard displays.



3. Click **File > Replace Data Table**.
The **Replace Data Table** window displays.

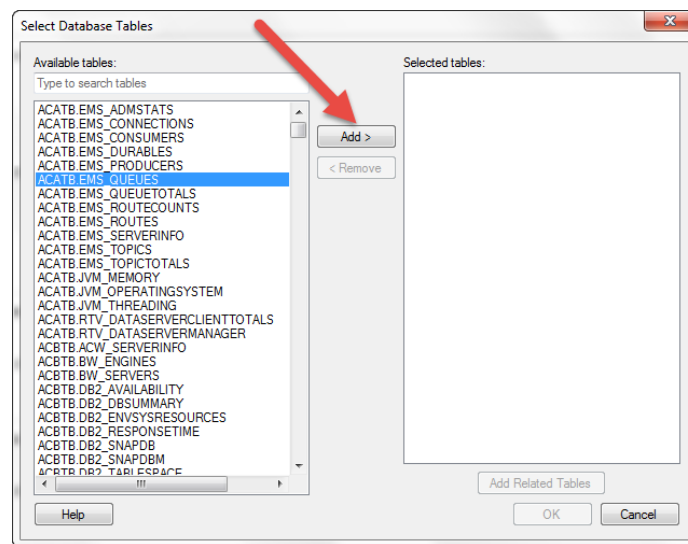


4. Click the **Select** button (associated with the **Select source to replace with** field) and select **Oracle**.
The **Oracle Connection** window displays.



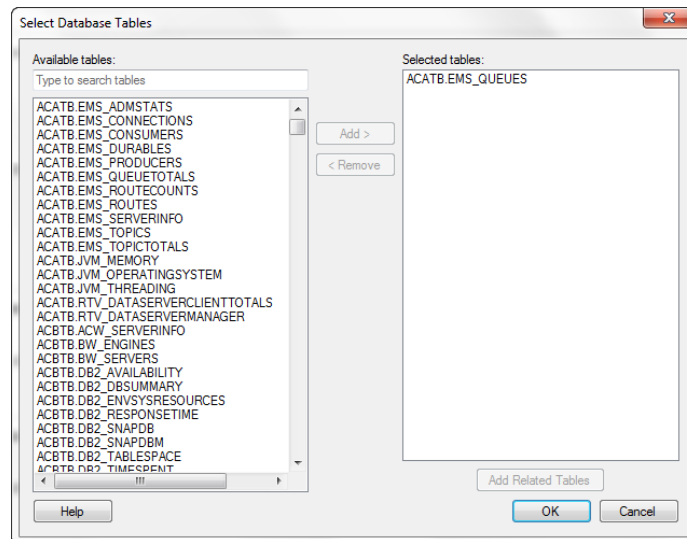
5. Enter the **Server**, select **SID** in the **Connect using** drop down (and enter **orcl** in the associated field if not defaulted), select **Oracle authentication** as the **Authentication Method**, enter the **Username** and **Password**, and click the **Connect** button.

The **Select Database Tables** window displays.



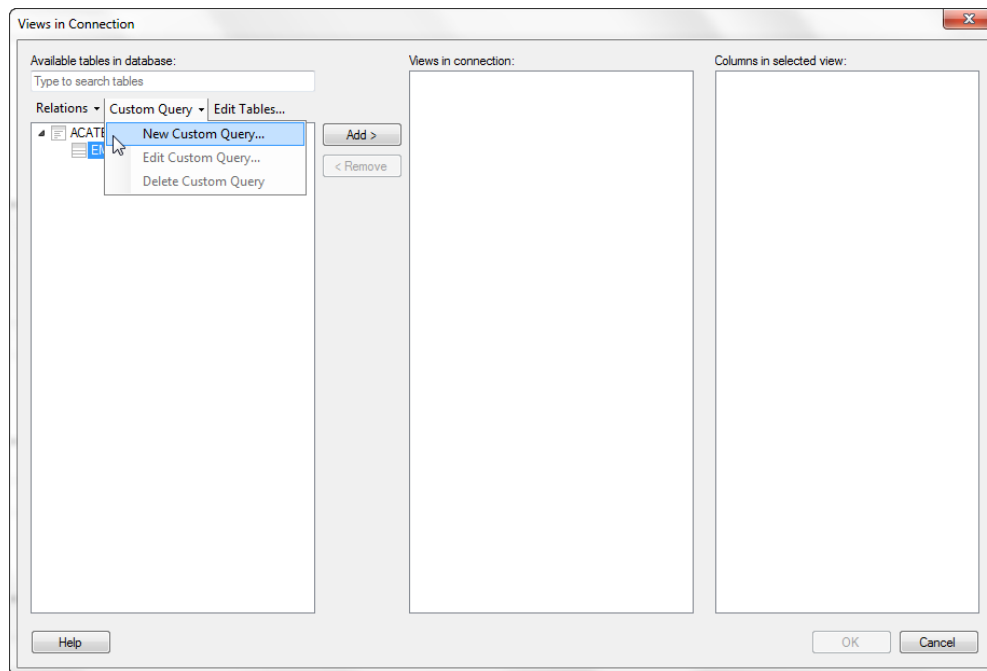
6. Select **ACATB.EMS_QUEUES** from the **Available Tables** select list and click the **Add** button.

The table displays in the **Selected tables** region.

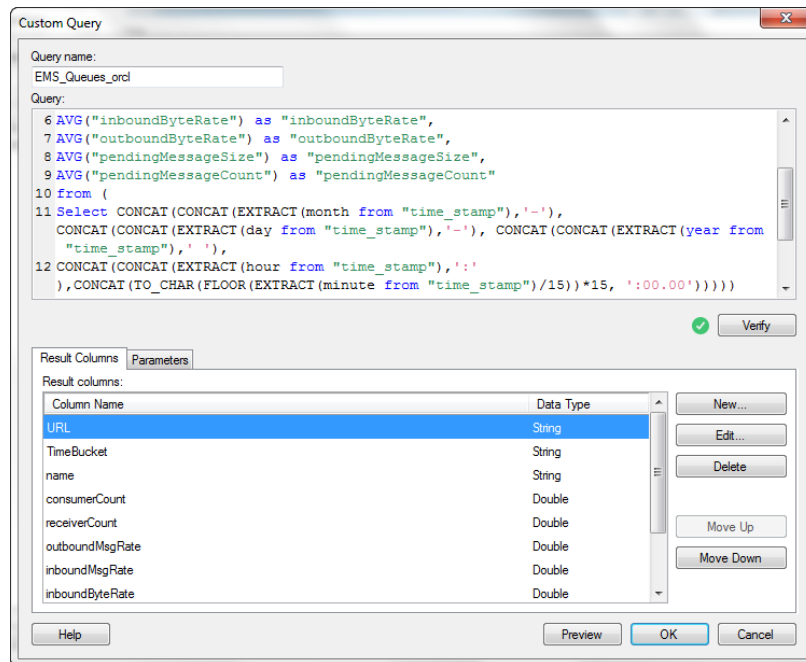


7. Click the **OK** button.

The **Views in Connection** window displays with the selected table listed in the **Available tables in the database** region.



8. Select the **EMS_QUEUES** table from the list and click **Custom Query > New Query**. The **Custom Query** window displays.



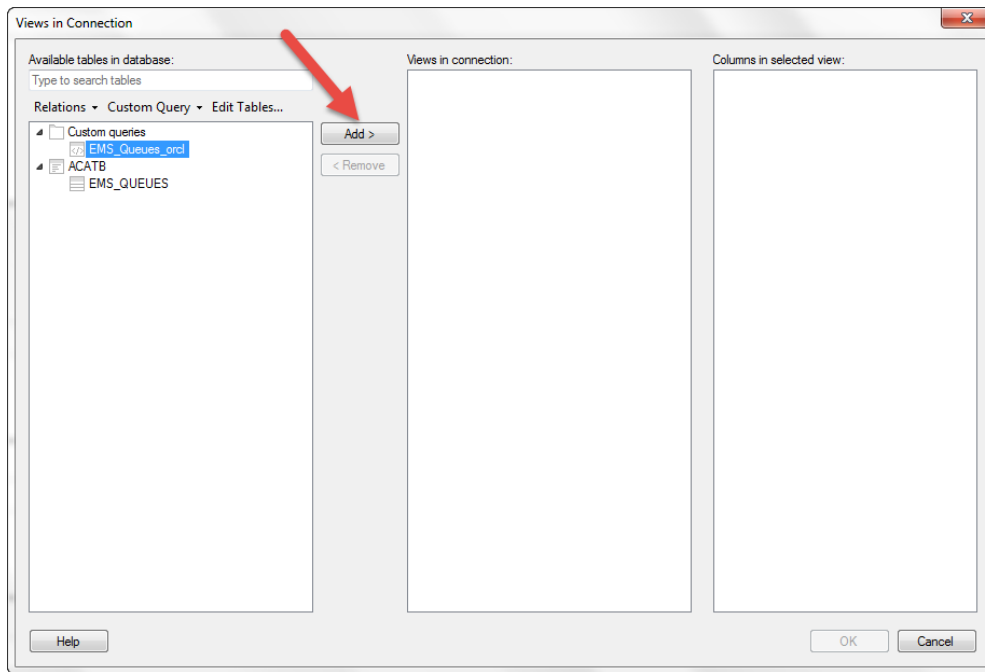
- Enter the desired name (whatever name is meaningful for you) into the **Query_name** field, open the text file in your installation directory associated with your table (for example, if you selected **ems_queues_sql.dxp** initially, then open **ems_queues_sql.txt**), copy and paste the SQL code in 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.

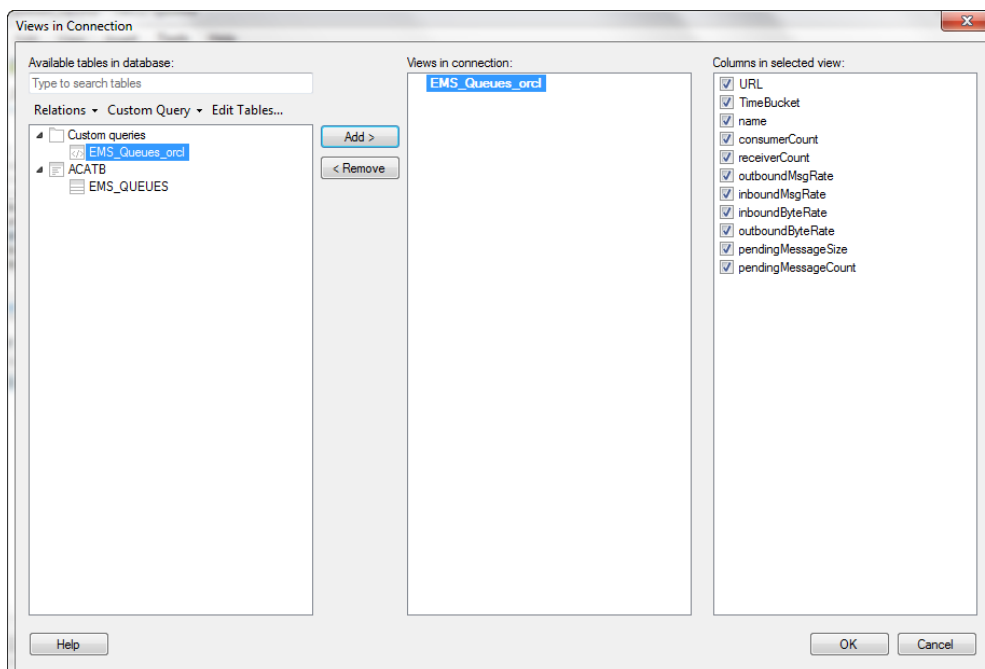
- Click the **OK** button.

The new query displays under **Custom queries** in the **Available tables in database** list on the **Views in Connection** window.



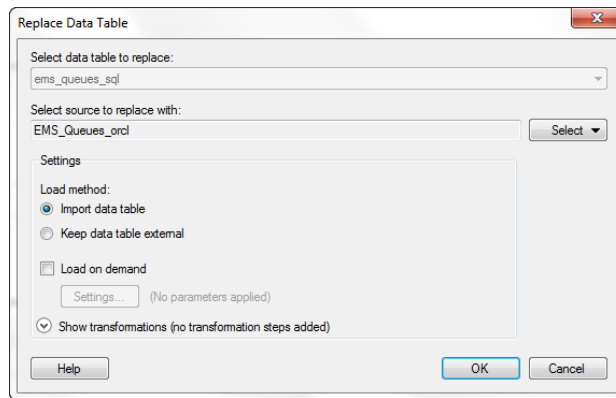
11. Select your newly added query/view and click the **Add** button.

The new query displays in the **Views in connection** list and the associated columns display in the **Columns in selected view** region.

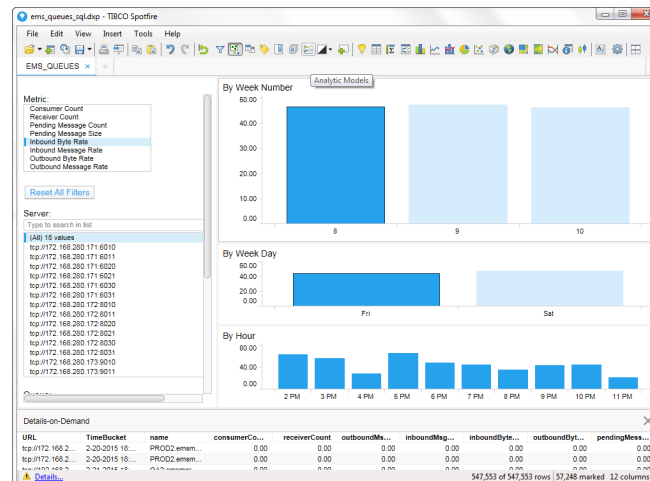


12. Click the **OK** button.

The **Replace Data Table** window displays.



- 13.** Select **Import data table** as the **Load Method** and click **OK**.
Your report should display in the TIBCO Spotfire dashboard.



- 14.** Repeat the above steps using the **ems_serverinfo_sql.dxp** Spotfire Analysis file and the **ems_serverinfo_sql.txt** files to create the **EMS Server Message Metrics** Report.

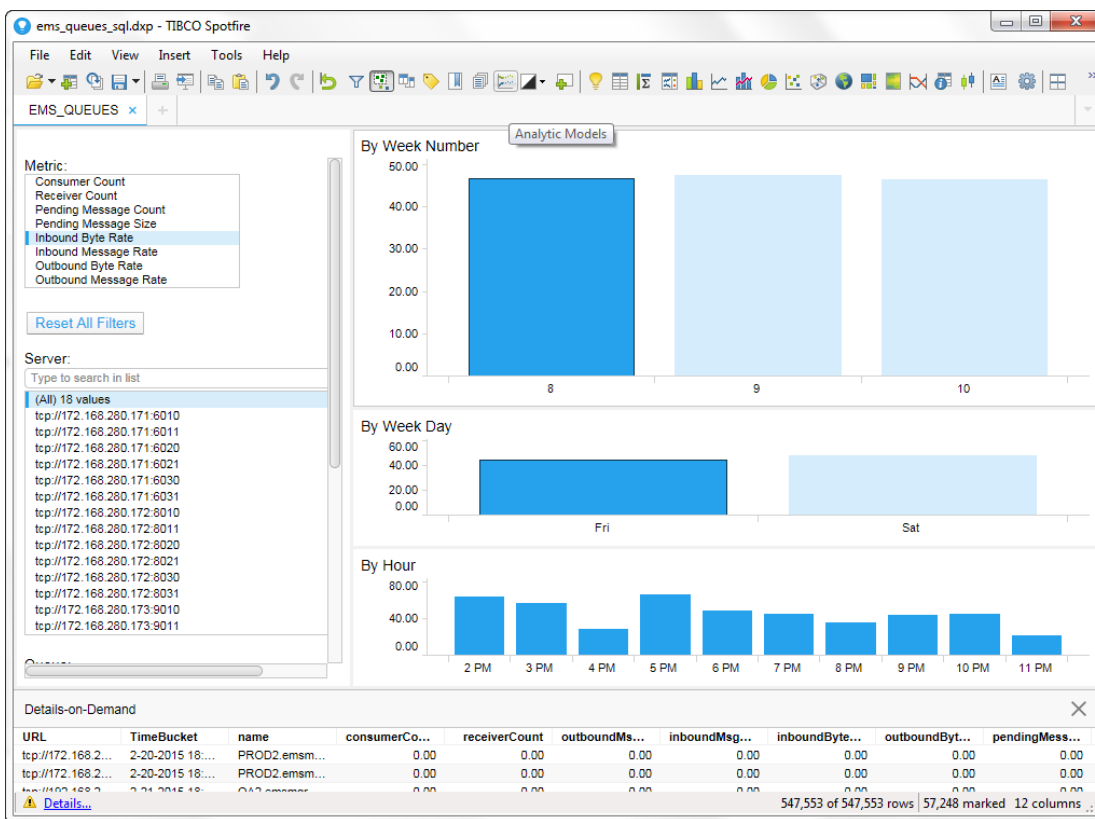
Reports

The following reports are available:

- “[EMS Queue Message Metrics Report](#)” on page 315
- “[EMS Server Message Metrics Report](#)” on page 317

EMS Queue Message Metrics Report

The **EMS Queue Message Metrics Report** allows you to details for various metrics for one or more selected servers.



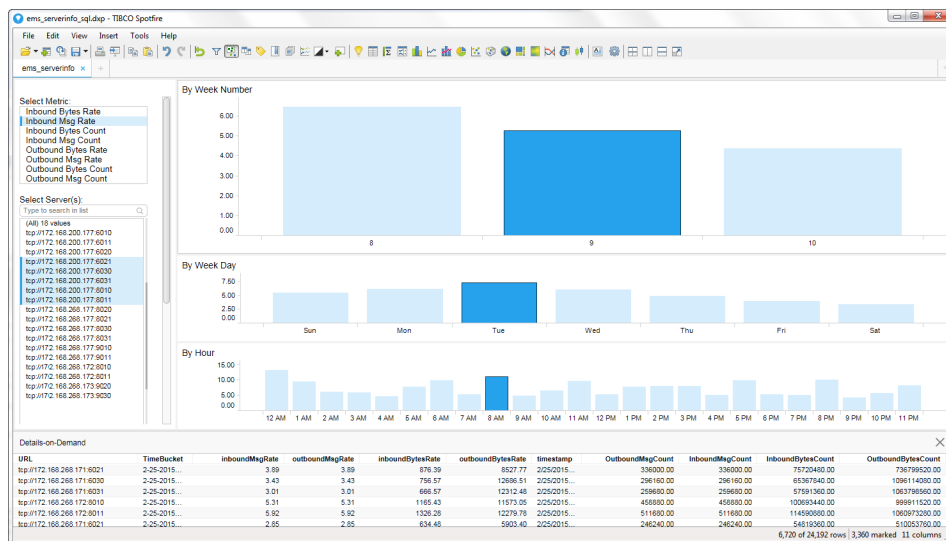
Metrics and Data
This report includes:

- 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 Msg Rate** The rate of outbound messages per second.
- Reset All Filters** Resets any defined filters from the report.
- Server** Select the server or servers for which you want to view data in the report. You can use the **Search** field to find a particular server. Selecting a server or servers from this list automatically updates the list of available queues in the **Queues** select list.

- Queue** Select the queue or queues for which you want to view data in the report. You can use the **Search** field to find a particular queue.
- By Week Number** Displays the averages (for the Rate metrics) or sums (for the Count metrics) for the selected server(s) for each week. You can hover over each week to view the exact counts or rates for that week. Clicking on a particular week displays data for each day for that particular week in the **By Week Day** region.
- By Week Day** Displays the averages (for the Rate metrics) or sums (for the Count metrics) for each day in the selected week. Hovering over a particular day displays the exact sum or average for that day. Clicking on a particular day populates data for each hour in the **By Hour** region.
- By Hour** Displays the averages (for the Rate metrics) or sums (for the Count metrics) for each hour in the selected day. Hovering over a particular hour displays the exact sum or average for that hour. Clicking on a particular hour updates the **TimeBucket** information in the **Details-on-Demand** region.
- Details-on-Demand** Shows all metrics (**Consumer Count, Receiver Count, Pending Message Count, Pending Size Count, Inbound Byte Rate, Inbound Msg Rate, Outbound Byte Rate, and Outbound Msg Rate**) for each selected server at a specific time (**TimeBucket** (24 hour clock) and **timestamp**) based on the object selected in the dashboard (**By Week Number, By Week Day, and By Hour**).

EMS Server Message Metrics Report

This report displays the sum or average of the selected metric for a server or servers by week number, by week day, and by hour of a particular day. You can hover over the various objects in the report to view more detailed information, or look in the **Details-on-Demand** region to view data details for a specific time bucket.



Metrics and Data

This report includes:

- 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 server or servers for which you want to view data in the report.
By Week Number	Displays the averages (for the Rate metrics) or sums (for the Count metrics) for the selected server(s) for each week. You can hover over each week to view the exact counts or rates for that week. Clicking on a particular week displays data for each day for that particular week in the By Week Day region.
By Week Day	Displays the averages (for the Rate metrics) or sums (for the Count metrics) for each day in the selected week. Hovering over a particular day displays the exact sum or average for that day. Clicking on a particular day populates data for each hour in the By Hour region.
By Hour	Displays the averages (for the Rate metrics) or sums (for the Count metrics) for each hour in the selected day. Hovering over a particular hour displays the exact sum or average for that hour. Clicking on a particular hour updates the TimeBucket information in the Details-on-Demand region.
Details-on-Demand	Shows all metrics (Inbound Bytes Rate, Inbound Msg Rate, Inbound Bytes Count, Inbound Msg Count, Outbound Bytes Rate, Outbound Msg Rate, Outbound Bytes Count, Outbound Msg Count) 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).

APPENDIX A Monitor Scripts

This section describes Monitor scripts and the **rtvservers.dat** configuration file. This section includes:

- [Scripts](#)
- [rtvservers.dat](#)

Scripts

This section describes scripts that are available for the Monitor.

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 BASH or a BASH-compliant shell. 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**. Also on UNIX systems, it is a requirement that the installation directory path not contain spaces.

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: The project directory. Format: my_alert_actions (Append .sh on UNIX)
rtv_setup.bat/sh	Initializes a command prompt or terminal window. Location: <installation directory>/bin 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. Location: rtvapm This script must be executed in the directory in which it resides. Format: rtvapm_init (Append .sh on UNIX)

start_cmd.bat	<p>Starts an initialized Command Prompt window on Windows.</p> <p>Location: <installation directory>/bin</p> <p>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.</p>
start_rtv.bat/sh	<p>Starts processes in an RTView configuration as specified in the rtvservers.dat configuration file.</p> <p>Location: rtvapm/common/bin</p> <p>This script must be executed in the project directory (the directory containing the rtvservers.dat file). This script requires rtvapm_init.bat/sh be executed first.</p> <p>An RTView 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 configurations, a single RTView configuration or a single process in an RTView configuration.</p> <p>Before starting an RTView server, this script detects port conflicts caused by another server. If the conflict is caused by another RTView server, it returns a message identifying that server by its rtvapm. For example:</p> <pre> ...start_rtv.bat: another dataserver running with JMX port 3268 under C:\rtview\RTViewDataServer\rtvapm </pre> <p>If the port conflict is caused by a non-RTView process, it returns a message similar to this, for example:</p> <pre> ...start_rtv.bat: JMX port 3268 in use by PID 1234 </pre> <p>In both cases the script includes this advice:</p> <pre> Warning: server not started, port conflict </pre>
	<p>To avoid port conflicts, run your start script with the -portprefix: command line argument to change the first two (2) digits of all your server ports.</p> <p>To persist these port changes, change the port prefix in the RTView Configuration Application or use the -saveportprefix command line argument.</p> <p>Additional arguments can be included on the command line in which case they are passed to every server specified by the command.</p> <p>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.</p> <p>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.</p>
	<p>-console (or -c) - Start the processes with a command window (which is useful for testing).</p>

	<p>When used without arguments, this script returns usage information and a list of available configurations. For example, start_rtv returns:</p> <pre>Usage: start_rtv config or 'all' [server or 'all'] [args...]</pre> <p>Available configs:</p> <pre>default dataserver historian displayserver database sender dataserver</pre>
	<p>all</p> <p>Starts all RTView configurations that are specified in the rtvservers.dat file.</p> <p>all applies the action to all RTView 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.</p> <p>Example:</p> <pre>start_rtv all (Append .sh on UNIX)</pre>
	<p>[Configuration Name]</p> <p>Starts a single RTView configuration specified in the rtvservers.dat file:</p> <pre>start_rtv [Configuration Name] (Append .sh on UNIX)</pre> <p>Configuration Name is the RTView configuration name specified in the rtvservers.dat file. The action applies to all servers or clients specified in the configuration.</p> <p>Example:</p> <pre>start_rtv web_deployment (Append .sh on UNIX)</pre>
	<p>[Server Name]</p> <p>Starts a single process in an RTView configuration specified in the rtvservers.dat file:</p> <pre>start_rtv [Configuration Name] [Server Name] (Append .sh on UNIX)</pre> <p>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.</p> <p>Example:</p> <pre>start_rtv web_deployment dataserver</pre>

	(Append .sh on UNIX)
	<p>Use With Secured JMX Ports</p> <p>This script works with RTView servers whose JMX ports are secured with either a username and password, or with SSL. You provide the scripts with the necessary credential information and the scripts manage authentication with the server. There are two ways that you can provide credential information to the scripts: via command-line arguments and via properties placed in any property file that is used by the server.</p> <p>Securing with username and password</p> <ul style="list-style-type: none"> To secure with a username and password via command-line, use the arguments as follows: -jmxuser:... -jmxpass:... To secure with a username and password in a property file, use the properties as follows: sl.rtvview.jmxremote.username=... sl.rtvview.jmxremote.password=.... <p>Securing with SSL</p> <p>To secure with SSL, you provide the client KeyStore and TrustStore locations and their corresponding passwords.</p> <ul style="list-style-type: none"> To secure with SSL via command-line, use the arguments as follows: -sslkeystore:... -sslkeystorepass:... -ssltruststore:... -ssltruststorepass:... To secure with SSL in a property file, use the properties as follows: sl.rtvview.ssl.client.keyStore=... sl.rtvview.ssl.client.keyStorePassword=... sl.rtvview.ssl.client.trustStore=... sl.rtvview.ssl.client.trustStorePassword=.... <p>Password Encryption</p> <p>To encrypt the passwords in your properties files, use the command-line tool "encode_string", for example: encode_string encoder2 password</p> <p>This will give you an encrypted value for "password" that you can use in your properties.</p>
start_server.bat/sh	<p>Starts the RTView DataServer.</p> <p>Location: <installation directory></p> <p>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.</p> <p>Format: start_server (Append .sh on UNIX)</p>
start_servers.bat/sh	Starts the RTViewCentral servers.

	<p>Location: <installation directory>/bin</p> <p>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.</p> <p>Format: start_servers (Append .sh on UNIX)</p>
start_tomcat.bat/sh	<p>Starts Apache Tomcat.</p> <p>Location: <installation directory>/bin</p> <p>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.</p> <p>Format: start_tomcat (Append .sh on UNIX)</p>
status_rtv.bat/sh	<p>Returns the status of all RTView configurations that are specified in the rtvservers.dat configuration file.</p> <p>Location: rtvapm/common/bin</p> <p>This script must be executed in the project directory (the directory containing the rtvservers.dat file). This script requires rtvapm_init.bat/sh be executed first.</p> <p>This action uses defined JMX ports. An RTView 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 configurations, a single RTView configuration or a single process in an RTView configuration.</p> <p>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.</p> <p>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.</p>
	<p>all</p> <p>Returns the status of all RTView 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.</p> <p>Example: status_rtv all (Append .sh on UNIX)</p>
	<p>[Configuration Name]</p> <p>Returns the status of a single RTView configuration specified in the rtvservers.dat file:</p>

	<p>status_rtv [Configuration Name] (Append .sh on UNIX)</p> <p>Configuration Name is the RTView configuration name specified in the rtvservers.dat file. The action applies to all servers or clients specified in the configuration.</p> <p>Example:</p> <p>status_rtv web_deployment (Append .sh on UNIX)</p>
	<p>[Server Name]</p> <p>Returns the status of a single process in an RTView configuration specified in the rtvservers.dat file:</p> <p>status_rtv [Configuration Name] [Server Name] (Append .sh on UNIX)</p> <p>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.</p> <p>Example:</p> <p>status_rtv web_deployment dataserver (Append .sh on UNIX)</p>
	<p>Use With Secured JMX Ports</p> <p>This script works with RTView servers whose JMX ports are secured with either a username and password, or with SSL. You provide the scripts with the necessary credential information and the scripts manage authentication with the server. There are two ways that you can provide credential information to the scripts: via command-line arguments and via properties placed in any property file that is used by the server.</p> <p>Securing with username and password</p> <ul style="list-style-type: none"> To secure with a username and password via command-line, use the arguments as follows: -jmxuser:... -jmxpass:... To secure with a username and password in a property file, use the properties as follows: sl.rtview.jmxremote.username=... sl.rtview.jmxremote.password=.... <p>Securing with SSL</p> <p>To secure with SSL, you provide the client KeyStore and TrustStore locations and their corresponding passwords.</p> <ul style="list-style-type: none"> To secure with SSL via command-line, use the arguments as follows: -sslkeystore:... -sslkeystorepass:... -ssltruststore:... -ssltruststorepass:... To secure with SSL in a property file, use the properties as follows: sl.rtview.ssl.client.keyStore=... sl.rtview.ssl.client.keyStorePassword=... sl.rtview.ssl.client.trustStore=... sl.rtview.ssl.client.trustStorePassword=....

	<p>Password Encryption</p> <p>To encrypt the passwords in your properties files, use the command-line tool "encode_string", for example:</p> <p>encode_string encoder2 password</p> <p>This will give you an encrypted value for "password" that you can use in your properties.</p>
status_server.bat/sh	<p>Returns the status of the RTView DataServer.</p> <p>Location: <installation directory></p> <p>This script must be executed in the project directory (the directory containing the rtvservers.dat file).</p> <p>Format: status_server (Append .sh on UNIX)</p>
status_servers.bat/sh	<p>Returns the status of the RTViewCentral servers (as well as the Solace PubSub+ Monitor in RTViewSolaceMonitor).</p> <p>Location: <installation directory>/bin</p> <p>This script must be executed in the project directory (the directory containing the rtvservers.dat file).</p> <p>Format: status_servers (Append .sh on UNIX)</p>
stop_rtv.bat/sh	<p>Stops processes in an RTView configuration as specified in the rtvservers.dat configuration file.</p> <p>Location: rtvapm/common/bin</p> <p>This script must be executed in the project directory (the directory containing the rtvservers.dat file). This script requires rtvapm_init.bat/sh be executed first.</p> <p>This action uses defined JMX ports. An RTView 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 configurations, a single RTView configuration or a single process in an RTView configuration.</p> <p>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.</p> <p>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.</p> <p>Location: project directory</p> <p>This script must be executed in the project directory (the directory containing the rtvservers.dat file).</p>
	<p>all</p> <p>Stops all RTView configurations that are specified in the rtvservers.dat file. all applies the action to all RTView</p>

	<p>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.</p> <p>Example: stop_rtv all (Append .sh on UNIX)</p>
	<p>[Configuration Name] Stops a single RTView configuration specified in the rtvservers.dat file: stop_rtv [Configuration Name] (Append .sh on UNIX)</p> <p>Configuration Name is the RTView configuration name specified in the rtvservers.dat file. The action applies to all servers or clients specified in the configuration.</p> <p>Example: stop_rtv web_deployment (Append .sh on UNIX)</p>
	<p>[Server Name] Stops a single process in an RTView configuration specified in the rtvservers.dat file: stop_rtv [Configuration Name] [Server Name] (Append .sh on UNIX)</p> <p>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.</p> <p>Example: stop_rtv web_deployment dataserver (Append .sh on UNIX)</p>
	<p>Use With Secured JMX Ports This script works with RTView servers whose JMX ports are secured with either a username and password, or with SSL. You provide the scripts with the necessary credential information and the scripts manage authentication with the server. There are two ways that you can provide credential information to the scripts: via command-line arguments and via properties placed in any property file that is used by the server.</p> <p>Securing with username and password</p> <ul style="list-style-type: none"> To secure with a username and password via command-line, use the arguments as follows: -jmxuser:... -jmxpass:... To secure with a username and password in a property file, use the properties as follows: sl.rtview.jmxremote.username=... sl.rtview.jmxremote.password=.... <p>Securing with SSL To secure with SSL, you provide the client KeyStore and</p>

	<p>TrustStore locations and their corresponding passwords.</p> <ul style="list-style-type: none"> To secure with SSL via command-line, use the arguments as follows: -sslkeystore:... -sslkeystorepass:... -ssltruststore:... -ssltruststorepass:... To secure with SSL in a property file, use the properties as follows: sl.rtvview.ssl.client.keyStore=... sl.rtvview.ssl.client.keyStorePassword=... sl.rtvview.ssl.client.trustStore=... sl.rtvview.ssl.client.trustStorePassword=.... <p>Password Encryption To encrypt the passwords in your properties files, use the command-line tool "encode_string", for example: encode_string encoder2 password This will give you an encrypted value for "password" that you can use in your properties.</p>
stop_server.bat/sh	<p>Stops the RTView DataServer. Location: <installation directory> This script must be executed in the directory in which it resides. Format: stop_server (Append .sh on UNIX)</p>
stop_servers.bat/sh	<p>Stops the RTViewCentral servers. 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. Format: stop_servers (Append .sh on UNIX)</p>
stop_tomcat.bat/sh	<p>Stops Apache Tomcat. Location: <installation directory>/bin This script must be executed in the directory in which it resides. Format: start_tomcat (Append .sh on UNIX)</p>
update_wars.bat/sh	<p>Creates/updates the primary Monitor servlets. Location: <installation directory>/projects/rtview-server This script must be executed in the directory in which it resides. This script requires rtvapm_init.bat/sh be executed first.</p>

	<p>Format:</p> <p>update_wars.sh [appname [host [portprefix]]]</p> <p>For example:</p> <p>update_wars.sh my-appname my-hostname 99</p> <p>The name, host, and portprefix are declared in variables at the top of the script for easy editing, and can be passed into the scripts on the command-line.</p> <p>-secure</p> <p>Use the "-secure" argument to update the rtvquery war with security enabled.</p> <p>You can use ? or help to get a usage message. For example:</p> <p>update_wars.sh help</p> <p>You can edit other variables at the top of the scripts to set properties for high-availability (HA).</p> <p>Set HA_HOST to the hostname of the backup data server.</p> <p>Set HA_DISPLAYHOST to the hostname of the backup display server.</p> <p>Set HA_FAILBACK to true to automatically reconnect to the primary display server.</p>
--	---

rtvservers.dat

This section describes the **rtvservers.dat** configuration file which is used to manage your TIBCO® RTView® for TIBCO Enterprise Message Service™ deployment and RTView processes. This section includes:

- [Single Configuration File](#)
- [Multiple Configuration File](#)

The **rtvservers.dat** text file contains one or more RTView configurations. An RTView 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 processes specified in the **rtvservers.dat** file.
- [stop_rtv](#) Stops the RTView processes specified in the **rtvservers.dat** file.
- [status_rtv](#) Returns status information for RTView processes specified in the **rtvservers.dat** file.

Single Configuration File

The following **rtvservers.dat** file, located in your project directory, contains a single RTView 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 Settings Directory Location> <Property Filter Identifying the Server> <Command>

<Configuration Name>	The name of the RTView configuration (default in this example).
<Project Settings Directory Location>	The RTView project settings directory location, relative to the location of the rtvservers.dat file (. , the current directory, in this example).
<Property Filter Identifying the Server>	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: <ul style="list-style-type: none"> • 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 TIBCO® RTView® for TIBCO Enterprise Message Service™ deployment.

For example, the following **rtvservers.dat** file contains two configurations, **bwmon** and **emsmon**. Note that the project settings directory locations differ (**./bwmon** and **./emsmon**, respectively).

```
bwmon ./bwmon dataserver rundata
bwmon ./bwmon historian runhist -ds
bwmon ./bwmon displayserver rundisp -ds

emsmon ./emsmon dataserver rundata
emsmon ./emsmon historian runhist -ds
emsmon ./emsmon displayserver rundisp -ds
```

Because the project settings directory locations differ, you can use type **start_rtv all** to start both configurations. To start only the **bwmon** configuration, type: **start_rtv bwmon**. To start

a single server in the **bwmon** configuration, type **start_rtv <Configuration Name> <Server Name>**. For example: **start_rtv bemon displayserver**.

APPENDIX B Alert Definitions

This section describes alerts for EMS Monitor and their default settings.

Alert Name	WARN. LEVEL	ALARMLEVEL	DURATION	ENABLED
<p>EmsConsumerStalled</p> <p>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.</p> <p>Note: This alert does not allow overrides.</p> <p>Index Type(s): PerConsumer:ID/PerServerConsumer:URL;ID</p> <p>Metric: elapsedSinceLasAckInSec</p>	85	95	30	FALSE
<p>EmsConsumerStuck</p> <p>Indicates a consumer is stuck because there are existing messages that can be consumed (<code>currentMsSentCount > 0</code>), but none of the messages have been consumed within the defined warning and alert thresholds (<code>elapsedSinceLasAckInSec > threshold</code>). Alert and warning thresholds are in seconds.</p> <p>Index Type(s): PerConsumer:ID/PerServerConsumer:URL;ID</p> <p>Metric: currentMsgSentCount, elapsedSinceLasAckInSec</p>	85	95	30	FALSE
<p>EmsQueueConsumerIdleTimeHigh</p> <p>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).</p> <p>Index Type(s): PerQueue;PerServerQueue</p> <p>Metric: ConsumerIdleTime</p>	60	80	30	FALSE
<p>EmsQueueInboundDeltaHigh</p> <p>The number of new incoming messages for the EMS Queue has reached its maximum.</p> <p>Index Type(s): PerQueue;PerServerQueue</p> <p>Metric: DeltainboundTotalMessages</p>	60	80	30	FALSE
<p>EmsQueueMsgLatencyHigh</p> <p>The time, in seconds, needed to process all pending messages based on the current outbound message rate exceeded its threshold. This alert does not take into account queues with outbound message rate equals to zero.</p> <p>Index Type(s): PerServerQueue:URL;name</p>	60	80	30	FALSE

Metric: messageLatency				
EmsQueueProviderIdleTimeHigh 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	60	80	30	FALSE
EmsQueuesConsumerCountHigh The number of consumers of a queue exceeded the specified high threshold. Index Type(s): PerServerQueue:URL;name/PerQueue:name Metric: consumerCount	60	80	30	FALSE
EmsQueuesConsumerCountLow The number of consumers of a queue is below the specified threshold. Index Type(s): PerServerQueue:URL;name/PerQueue:name Metric: consumerCount	15	5	30	FALSE
EmsQueuesInMsgRateHigh The rate of inbound messages on the queue exceeded the specified threshold. Index Type(s): PerServerQueue:URL;name/PerQueue:name Metric: inboundMessageRate	60	80	30	FALSE
EmsQueuesOutMsgRateHigh The number of outbound messages on the queue exceeded the specified threshold. Index Type(s): PerServerQueue:URL;name Metric: outboundMessageRate	60	80	30	FALSE
EmsQueuesPendingMsgsHigh The number of pending messages on the queue exceeded the specified threshold. Index Type(s): PerServerQueue:name;PerServerQueue:URL;name Metric: pendingMessageCount	60	80	30	FALSE
EmsQueuesPendingMsgSizeHigh The size, in KB, of the pending messages on the queue exceeded the specified threshold. Index Type(s): PerServerQueue:name;PerServerQueue:URL;name Metric: pendingMessageSize	60	80	30	FALSE
EmsQueuesProducerCountHigh The number of producers to a queue exceeded the specified high threshold. Index Type(s): PerQueue:name/PerServerQueue:URL;name Metric: producerCount	60	80	30	TRUE
EmsQueuesProducerCountLow	15	5	30	TRUE

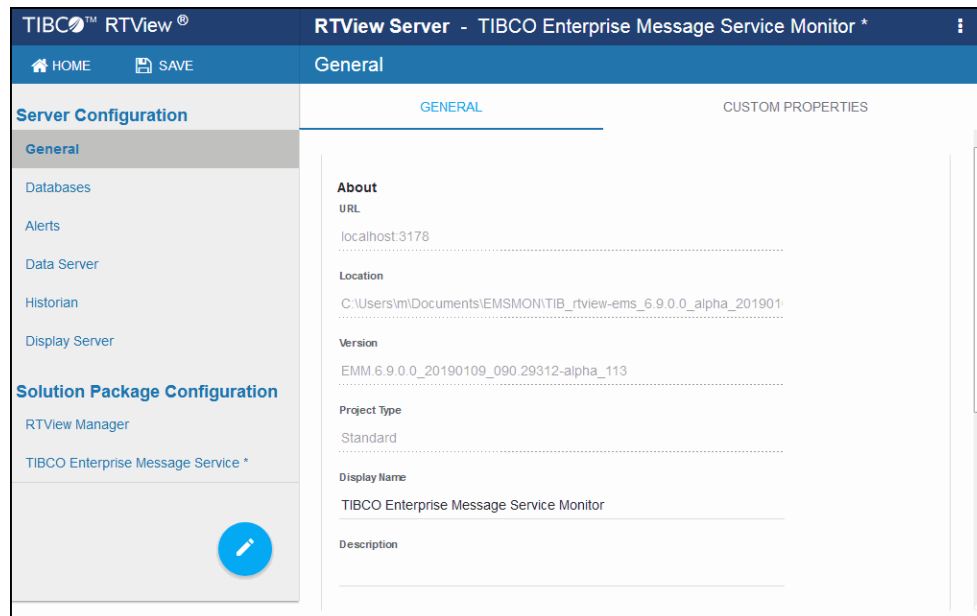
<p>The number of producers to a queue is below the specified threshold.</p> <p>Index Type(s): PerQueue:name/PerServerQueue:URL;name</p> <p>Metric: producerCount</p>				
<p>EmsServerAsyncDBSizeHigh</p> <p>The size of the Async database, in bytes, for the EMS Server reached its maximum.</p> <p>Index Type(s): PerServer:URL</p> <p>Metric: asyncDBSize</p>	50	100	30	FALSE
<p>EmsServerInboundDeltaHigh</p> <p>The number of new incoming messages for the EMS Server has reached its maximum</p> <p>Index Type(s): PerServer</p> <p>Metric: DeltainboundMessageCount</p>	60	80	30	FALSE
<p>EmsServerSyncDBSizeHigh</p> <p>The size of the Sync database, in bytes, for the EMS Server reached its maximum.</p> <p>Index Type(s): PerServer:URL</p> <p>Metric: syncDBSize</p>	50	100	30	FALSE
<p>EmsServerConnectionCountHigh</p> <p>Alert is triggered when the number of connections to the server reaches the specified threshold.</p> <p>Index Type(s): PerServer:URL</p> <p>Metric: connectionCount</p>	60	80	30	FALSE
<p>EmsServerInMsgRateHigh</p> <p>The number of inbound messages on the server exceeded the specified threshold.</p> <p>Index Type(s): PerServer:URL</p> <p>Metric: inboundMessageRate</p>	2	80	30	FALSE
<p>EmsServerMemUsedHigh</p> <p>The percent memory used on the server exceeded the specified threshold.</p> <p>Index Type(s): PerServer:URL</p> <p>Metric: messageMemoryPct</p>	60	80	30	FALSE
<p>EmsServerNotStarted</p> <p>The server state is empty. The server is not started.</p> <p>Index Type(s): PerServer:URL</p> <p>Metric: NotStarted</p>	NaN	NaN	30	FALSE
<p>EmsServerOutMsgRateHigh</p> <p>The number of outbound messages on the server exceeded the specified threshold.</p> <p>Index Type(s): PerServer:URL</p> <p>Metric: outboundMessageRate</p>	60	80	30	FALSE
<p>EmsServerPendingMsgsHigh</p> <p>The number of pending messages in the server queue exceeded the specified threshold.</p> <p>Index Type(s): PerServer:URL</p>	60	80	30	FALSE

Metric: pendingMessageCount				
EmsServerPendingMsgSizeHigh The size, in KB, of the pending messages stored on this EMS Server reached its maximum. Index Type(s): PerServer:URL Metric: pendingMessageSize	60	80	30	FALSE
EmsServerRouteState One or more routes on the server are not active. Index Type(s): PerServer:URL Metric: Alert State	NaN	NaN	30	FALSE
EmsServerStaleData The server stopped receiving data. Index Type(s): PerServer:URL Metric: Expired	NaN	NaN	30	FALSE
EmsTopicConsumerIdleTimeHigh 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	60	80	30	FALSE
EmsTopicInboundDeltaHigh The number of new incoming messages for the EMS Topic has reached its maximum. Index Type(s): PerTopic;PerServerTopic Metric: DeltainboundTotalMessages	60	80	30	FALSE
EmsTopicMsgLatencyHigh 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	60	80	30	FALSE
EmsTopicProviderIdleTimeHigh 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	60	80	30	FALSE
EmsTopicsConsumerCountHigh The number of consumers for the topic exceeded the specified threshold. Index Type(s): PerServerTopic:URL;name Metric: consumerCount	60	80	30	FALSE
EmsTopicsConsumerCountLow The number of consumers for the topic is below the specified threshold. Index Type(s): PerServerTopic	60	80	30	FALSE

Metric: consumerCount				
EmsTopicsInMsgRateHigh The number of inbound messages for the topic exceeded the specified threshold. Index Type(s): PerServerTopic Metric: inboundMessageRate	60	80	30	FALSE
EmsTopicsOutMsgRateHigh The rate of outbound messages for the topic exceeded the specified threshold. Index Type(s): PerServerTopic Metric: outboundMessageRate	60	80	30	TRUE
EmsTopicsPendingMsgsHigh The number of pending messages on the queue for the topic exceeded the specified threshold. Index Type(s): PerTopic Metric: pendingMessageCount	50	75	30	FALSE
EmsTopicsProducerCountHigh The number of active producers for this topic exceeded the specified high threshold. Index Type(s): PerTopic/PerServerTopic Metric: producerCount	60	80	30	TRUE
EmsTopicsProducerCountLow The number of producers for the topic is below the specified threshold. Index Type(s): PerTopic/PerServerTopic Metric: producerCount	60	80	30	TRUE
EmsTopicsSubscriberCountHigh The number of subscribers for the topic exceeded the specified threshold. Index Type(s): PerServerTopic Metric: subscriberCount	50	75	30	FALSE
JvmCpuPercentHigh The percent JVM CPU usage exceeded the specified threshold. Index Type(s): PerJVM Metric: CpuPercent	30	40	30	FALSE
JvmGcDutyCycleHigh 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	50	75	30	FALSE
JvmMemoryUsedHigh The percent JVM memory used exceeded the specified threshold. Index Type(s): PerJVM Metric: MemoryUsedPercent	50	75	30	FALSE
JvmNotConnected The JVM is not connected.	NaN	NaN	30	FALSE

Index Type(s): PerJVM Metric: Connected				
JvmStaleData The JVM stopped receiving data. Index Type(s): PerJVM Metric: Expired	NaN	NaN	30	FALSE

APPENDIX c RTView Configuration Application



The RTView Configuration Application is a tool that you can use to help configure the Monitor by defining various properties and connections via an easy-to-use interface. The RTView Configuration Application consists of three different sections: the top-level **Projects** page, the **Server Configuration** view, and the **Solution Package Configuration** view. This section will provide high-level definitions for each option within each view. More detailed descriptions on how this tool can be used to set up the Monitor can be found in the [Configuration](#) chapter, as well as in the [Quick Start](#) chapter.

This section contains the following:

- [Accessing the RTView Configuration Application](#)
- [Projects Page](#)
- [Server Configuration View](#)
- [Solution Package Configuration View](#)

Accessing the RTView Configuration Application

There are two ways you can access the RTView Configuration Application:

- [Via URL](#)
- [Via a Button in the Monitor](#) (if "Login" is enabled)

Via URL

You can access the RTView Configuration Application via URL by performing the following steps:


1. Download and extract the EMSMON compressed .zip file..
2. Set the **JAVA_HOME** environment variable.
3. Run **start_server** from the **TIB_rtview-ems** directory to start all servers.
4. Open a browser and enter **http://localhost:3170/rtview-emsmon-rtvadmin**. See [Quick Start](#) for additional details.

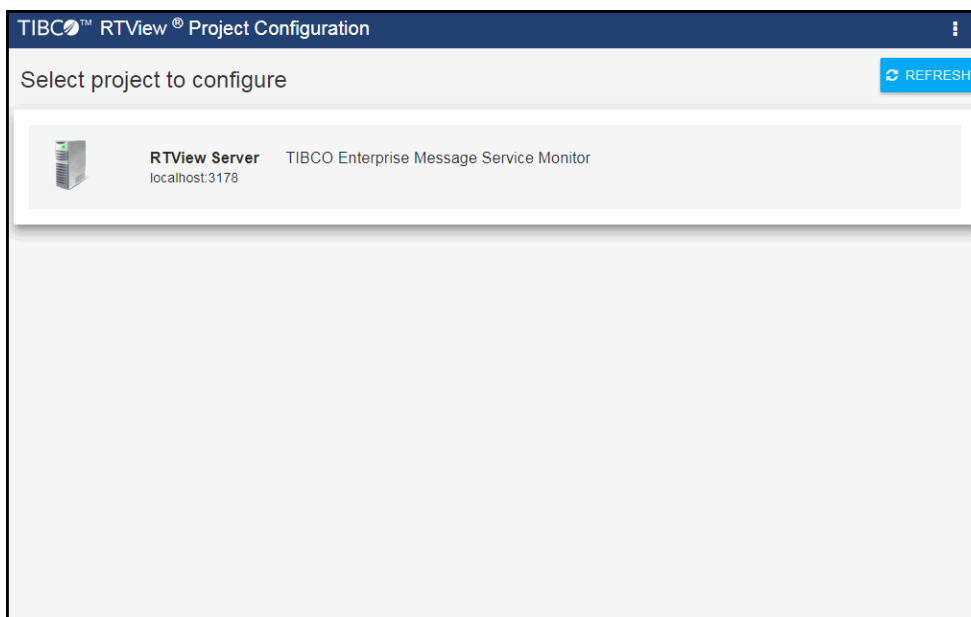
Note: Once you have finished making changes in the RTView Configuration Application, you must restart your data server for your changes to take place in the Monitor.

Via a Button in the Monitor

Note: "Login" must be enabled and you must log in with administrator privileges in order for the RTView Configuration Application button to display in the Monitor. See [Enabling Login in the Monitor](#) for more information. The RTView Configuration Application button will only display in the Display Server version of the user interface. The button will not display in the HTML User Interface.

You can access the RTView Configuration Application via a button in the Monitor by performing the following steps:

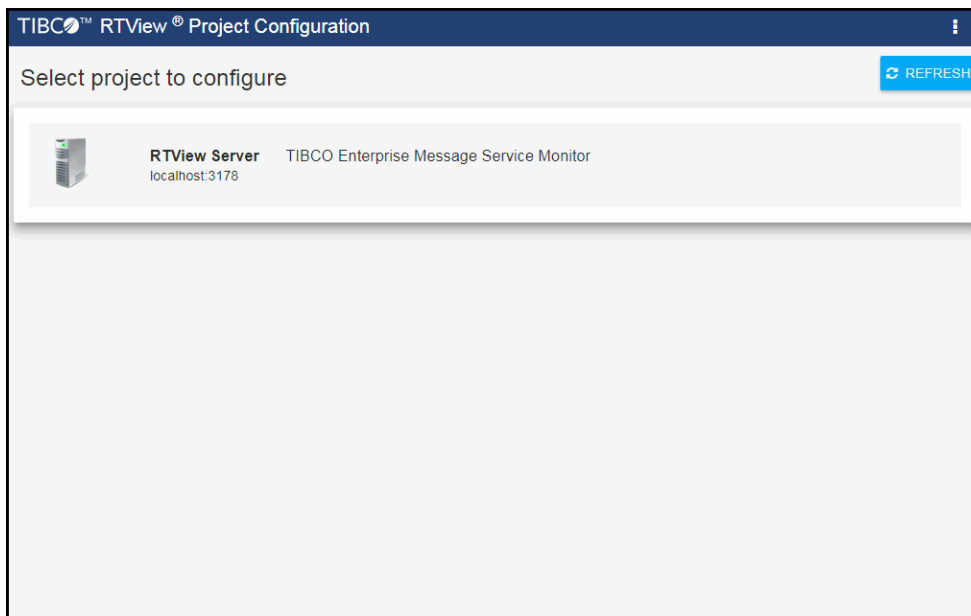
1. Download and extract the EMSMON compressed .zip file.
2. Set the **JAVA_HOME** environment variable.
3. Run **start_server** from the **TIB_rtview-ems** directory to start all servers.
4. Open a browser and enter **http://localhost:3170/rtview-emsmon-classic**. The Monitor displays.
5. Click the  in the Monitor to open the RTView Configuration Application.



See [Quick Start](#) for additional details.

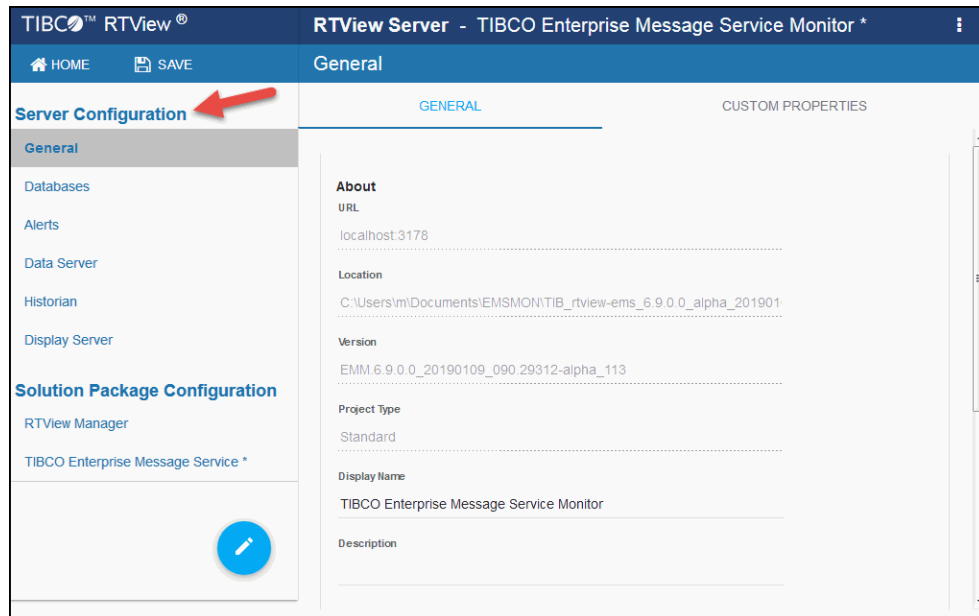
Note: Once you have finished making changes in the RTView Configuration Application, you must restart your data server for your changes to take place in the Monitor.

Projects Page



The Projects Page lists the project(s) in your project directory. Click the project to access the Configuration Views.

Server Configuration View

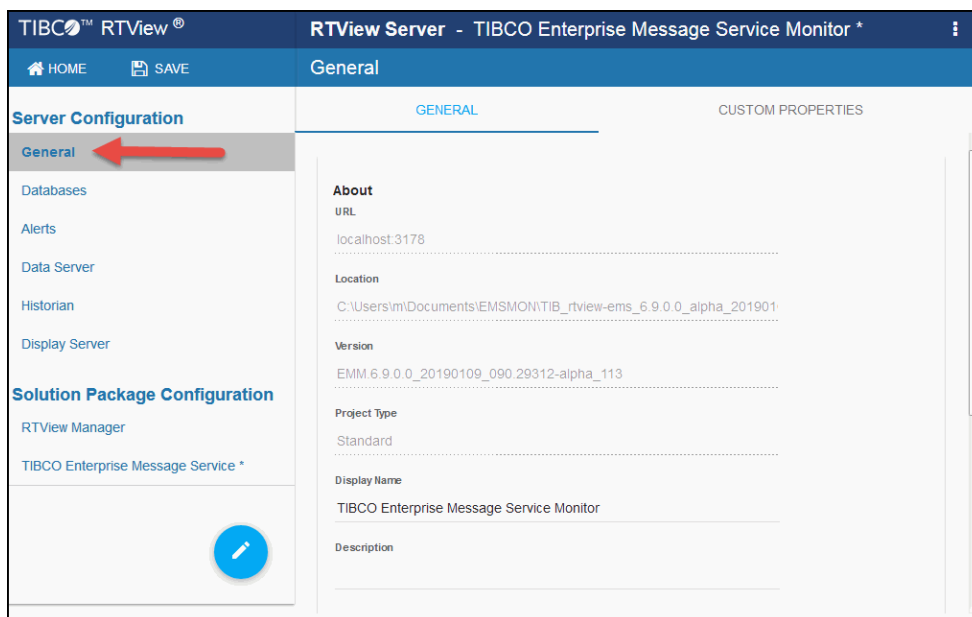


The **Server Configuration** View provides options that allow you to modify the default settings for the project including the project name and default port, define the alert threshold database connection and alert notification settings, define custom properties, define data server properties, define display server properties, and define the historian database connection and other historian properties. This section contains the following:

- [General](#)
- [Databases](#)
- [Alerts](#)
- [Data Server](#)
- [Historian](#)
- [Display Server](#)

Tip: Gray text shows the default setting for the field which you can edit. To return to the default setting, delete the text you entered.

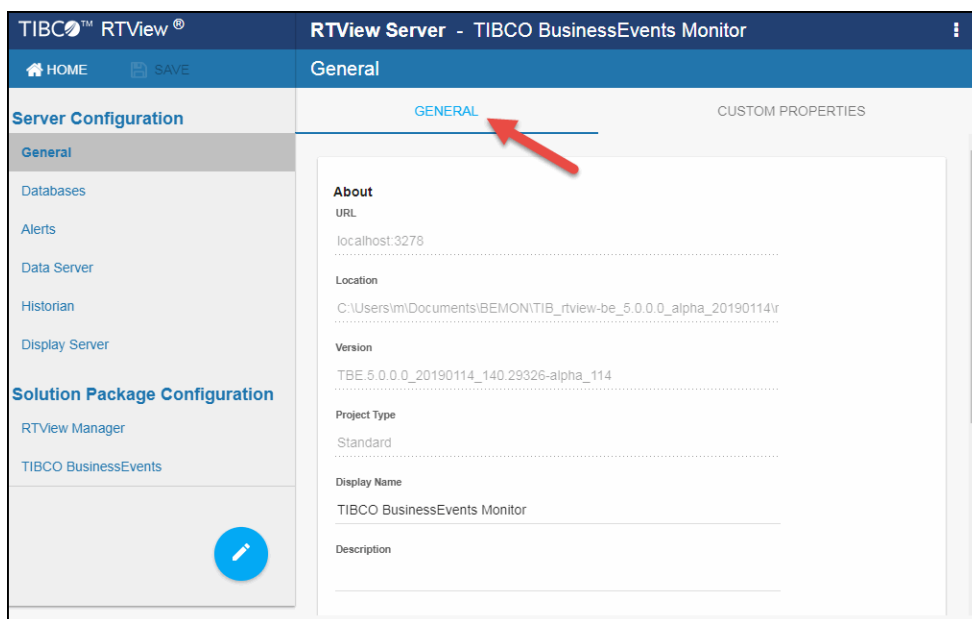
General



The **General** option consists of two different tabs that allow you to define the values for the project, specify the port, and define any custom properties you might need to create. The available tabs are:

- [General Tab](#)
- [Custom Properties Tab](#)

General Tab



This tab contains the following regions:

About

URL: Displays the URL used to connect to the server. This field cannot be edited.

Location: Displays the project directory location (path). This field cannot be edited.

Version: Displays the current version of TIBCO Enterprise Message Service installed. This field cannot be edited.

Project Type: Displays the type of project (Standard, Sender, or ConfigClient). This field cannot be edited.

Display Name: Displays the default name for the project and 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.

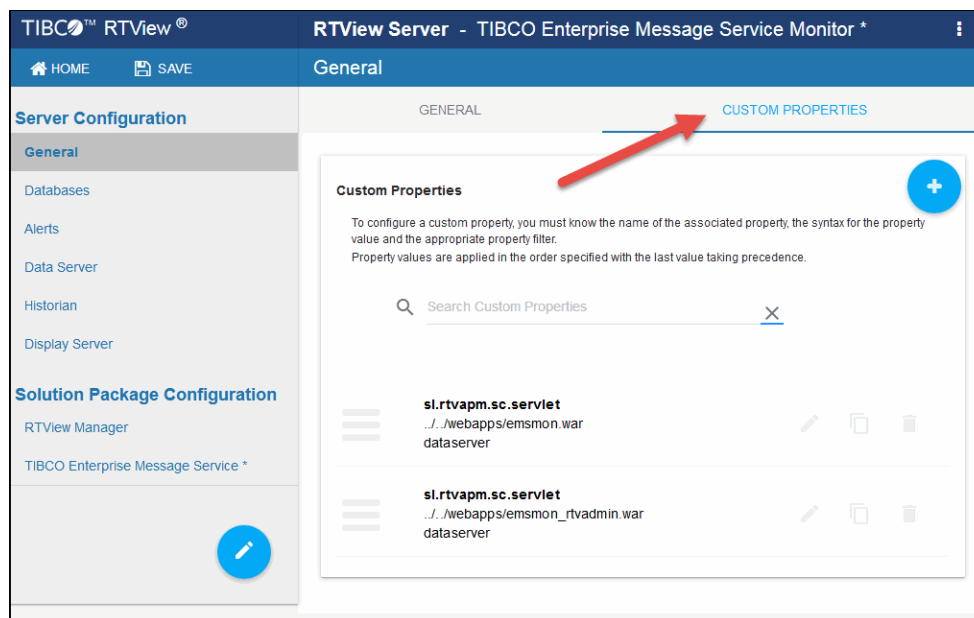
Identifier

Project ID: Displays a default unique identifier for the project, which you can modify.

Ports

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.

Custom Properties Tab



The **Custom Properties** tab allows you to create custom properties. Property values are applied in the order specified with the last value taking precedence. To create properties you need the name of the associated property, the syntax for the property value, and the appropriate property filter. Click the **+** icon to open the **Add Property** dialog, which has the following fields:

Name: (Required) The name of the associated property.

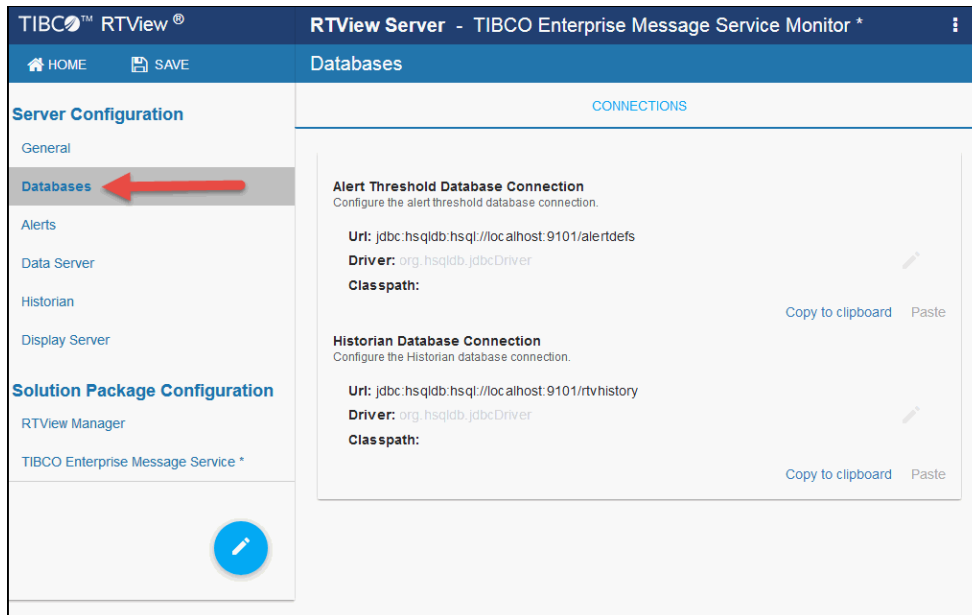
Value: (Optional) The value for the associated property (using the correct syntax).

Filter: (Optional) The filter for the associated property.

Comment: (Optional) Enter useful details about the property and its behavior for yourself and other users.

See [Configure Alert Notification](#) for an example of when you can use **Custom Properties**.

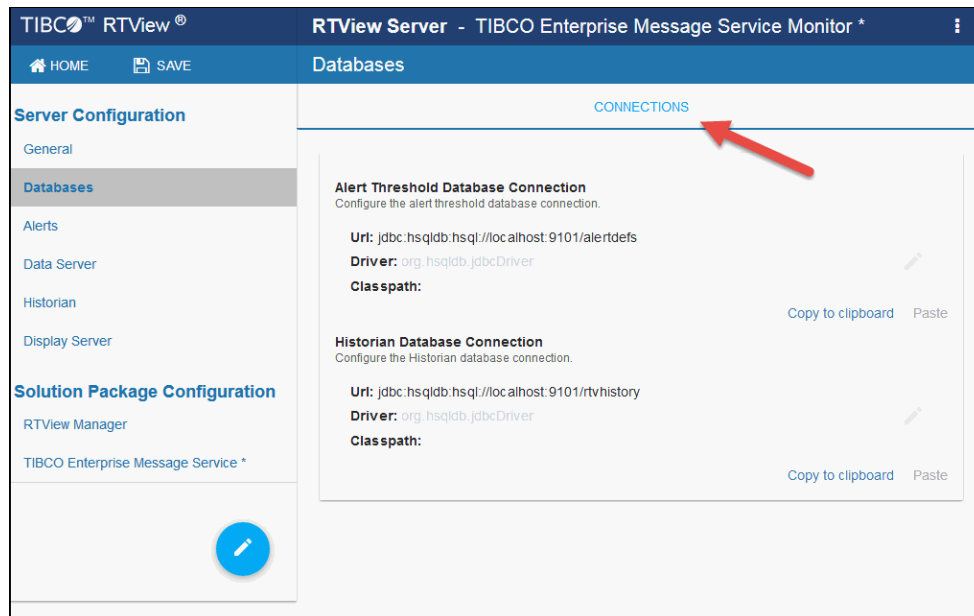
Databases



The **Databases** option consists of the **Connections** tab that allows you to define Alert Threshold Database and Historian Database connections.

- [Connections Tab](#)

Connections Tab



This tab contains the following regions:

Alert Threshold Database Connection


If you want to use local alert threshold database connection, add the connection information where:

URL: The complete URL for the database connection.

Driver: The full name for the driver.

Classpath: The complete classpath for the jar location.

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  icon to view the password text.

Run Queries Concurrently: When selected, database queries are run concurrently.


Historian Database Connection

URL: The complete URL for the database connection.

Driver: The full name for the driver.

Classpath: The complete classpath for the jar location.

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  icon to view the password text.

Run Queries Concurrently: When selected, database queries are run concurrently.

Alerts

The Alerts option consists of the Alerts tab and the History tab, which allow you to define the alert and history properties. Alert and Historian database connections are set up using the [Databases](#) option. The following tabs are available:

- [Alerts Tab](#)
- [History Tab](#)

Alerts Tab


This tab contains the following regions:

Notifications

- **Enable Alert Notifications:** Selecting this toggle enables alert notifications to be sent.
- **Notification Platform:** Select the platform type (**UNIX** or **Windows**).

Alert Event Options

- **Notify on New Alerts:** A notification is executed every time a new alert is created.
- **Notify on First Severity Change:** A notification is executed the first time the **Severity** changes for each alert.
- **Notify on Cleared Alerts:** A notification is executed every time an alert is cleared.
- **Periodically Renotify on Unacknowledged Alerts:** Enter the **Renotification Interval** (number of seconds). A notification is executed for each unacknowledged alert per the interval you specify here. If the Renotification Interval is greater than **0** and no actions are defined, the **New Alerts** action will be used for renotifications.

Selecting the  button next to each of the Alert Event Options displays the following options:



Run a Script

This alert notification action executes the following script in the **TIB_rtvview-ems/projects/rtvview-server** directory:

- **my_alert_actions.bat/sh** – New and First Severity Change
- **my_alert_actions.cleared.bat/sh** – Cleared
- **my_alert_actions.renotify.bat/sh** – Periodically Renotify

This action can only be added once per notification type. In addition to selecting this action in the Configuration Application, you must also modify the appropriate script to execute the actions for your notification. This script has access to the following fields from the alert: **Alert Name**, **Alert Index**, **ID**, **Alert Text** and **Severity**.



Execute Java Code

This alert notification action allows you to implement your alert notification actions using Java code. It executes the **my_alert_notification.\$domainName.\$alertNotifyType.\$alertNotifyCol** command in your Custom Command Handler and passes the row from the alert table that corresponds to the alert.

This action can only be added once per notification type. In addition to selecting this action the Configuration Application you must also modify the custom command handler to execute the actions for your notification. A sample custom command handler is included under **projects/custom**. It prints the alert notification to the console. You will modify this command handler to implement your own notification actions.

Make the following entries:

- **Custom Command Handler Class Name:** Enter the fully qualified name of the Custom Command Handler class. This defaults to the sample Custom Command Handler in the **TIB_rtvview-ems/projects/custom** directory.
- **Custom Command Handler Jar:** Enter the path and name of the jar containing the Custom Command Handler class. The path may be absolute or relative to the location of data server. This defaults to the sample Custom Command Handler in the **TIB_rtvview-ems/projects/custom** directory.

Note that if you can only have one custom command handler per Data Server, so changing these settings for one notification event will change them for the rest of the notification events.



Send Email

This alert notification action sends an email. This action can be added multiple times per notification type. No additional setup is required beyond filling in the **Send Email** dialog in the Configuration Application.

Make the following entries:

- **SMTP Host:** The SMTP host address. This is required. Consult your administrator.
- **SMTP Port:** The SMTP port number. This is required. Consult your administrator.
- **From:** The email address to which to send the email. This is required.
- **To:** The email address to which to send the email. This is required and may contain multiple entries.
- **Subject:** The subject for the email. This is required. You can include the value from any column in the alert table in your subject. Click the **Show More** link at the bottom of the dialog to see the alert column values you can use in the **Subject**.
- **Body:** The body of the email. This is optional. Click the **Show More** link at the bottom of the dialog to see the alert column values you can use in the **Subject**.
- **User:** The user name for the account from which you are sending the email. This is optional.
- **Password:** The password for the account from which you are sending the email. This is optional.



Send SNMP Trap

This alert notification action sends an SNMP Trap as described in

rtvapm/common/lib/SL-RTVIEW-EM-MIB.txt. This action can be added multiple times per notification type. No additional setup is required beyond filling in the **Send Email** dialog in the Configuration Application

Make the following entries:

- **Trap Type:** Select the SNMP version of the trap. This is required.
- **Destination Address:** The system name or IP address of the receiving system. This is required.
- **Destination Port:** The UDP port on the receiving system. This is required.
- **Community Name:** (This field is visible when **Trap Type v2/v3** is selected.) The SNMP v2 Community Name string. This is required.

This alert notification action executes a specified command. This action can be added multiple times per notification type. Make the following entry:



Run Command String

Command String: Enter the command string for any command supported by RTView Classic. To enter a command string, you must know the correct syntax for the command. Contact Technical Support for assistance on syntax. You can include the value from any column in the alert table using the syntax in the Show More link at the bottom of the dialog.

This alert notification action alert allows you to execute different actions for different alerts based on information in the alert. For example, you can configure EMS alerts to send emails to your EMS team and Solace alerts to send emails to your Solace team. This action can be added multiple times per notification type.

To create a condition, make the following entries:



Conditional Filter

- **Alert Field:** Select an alert field: **Alert Name, Alert Index, Category, CI Name, Owner, Package, Primary Service** or **Severity**. This is required. Note that **CI Name** and **Primary Service** fields are for RTViewCentral only.
- **Operator:** Select one - **EQUALS, DOES NOT EQUAL, STARTS WITH, ENDS WITH** or **CONTAINS**. This is required.
- **Value:** Enter the value to which to compare the Alert Field. Cannot contain wildcard characters. This is required.
- **Action(s):** Select one or more actions to execute when this condition is met.

Persistence

Persist Alerts: When enabled, saves alerts to the database for high availability purposes.

History Tab

This tab contains the following region:

History

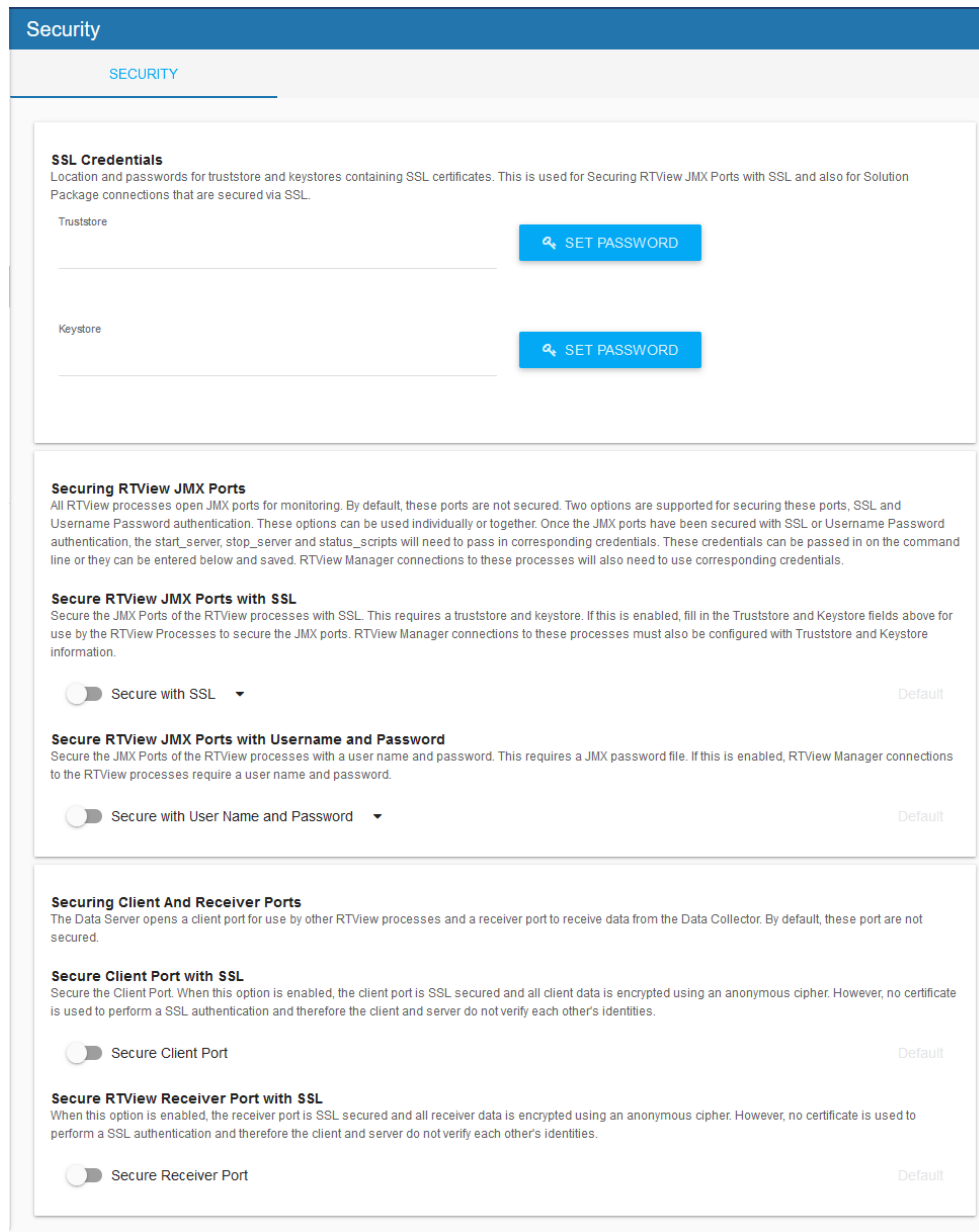
Store Alert History: Toggle to enable/disable **Store Alert History** to store alerts in the history database. This value is used in the **Alerts Table** (which makes it easier to find the alerts).

History Table Name Prefix: This 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 **TIB_rtview-bw/rtvapm/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

Security

All RTView processes (Data Server, Historian, Display Server) open JMX ports for monitoring which, by default, are not secured. The **Security** tab allows you secure these ports as well as specify credentials needed to connect to SSL secured servers from RTView's Solution Packages.



SSL Credentials

This region allows you to specify the path to the **Truststore** and **Keystore** files (and their associated passwords) that contain the SSL credentials needed to secure the RTView JMX Ports and/or access any SSL secured servers associated with RTView's Solution Packages. This is required if the **Secure with SSL** option is enabled (see below for details).

Optional: To obscure the credentials of the truststore and keystore in the output of the **ps** and **jps** commands, add the following custom property to each Data Server on which SSL Credentials have been configured:

```
Name: sl.rtvview.jvm
Value: -Drtv.hidesslprops=true
Comment: hide ssl properties in ps/jps output
```

Securing RTView JMX Ports

This region provides a couple of options for securing the JMX ports that are opened by the RTView processes: **Secure with SSL** and/or **Secure with Username and Password**.

Secure with SSL

When toggled on, this option secures the JMX ports for the RTView processes with SSL. When the JMX ports are SSL secured, an SSL handshake is performed between the client and the server when the client attempts to connect. For this handshake, the client must provide a certificate the server trusts, and the server must provide a certificate the client trusts. A Keystore file contains the application's certificate and private key and a Truststore file contains the application's trusted certificates. These files are created by running the Java keytool on the command line. When this option is enabled, you must specify the path to the server's Truststore and Keystore files (and their associated passwords) in the **SSL Credentials** region (see above).

The **start_server**, **stop_server**, and **status_server** scripts are all connected to the JMX Ports of the RTView processes to execute operations and get status. If the JMX ports have been secured with SSL, these scripts need the path and passwords for the truststore and keystore files containing the client credentials in order to connect. You can either pass these in on the command line each time you run (**-sslkeystore:clientkeystore.jks-sslkeystorepass:clientkeystorepass-ssltruststore:clienttruststore.jks-ssltruststorepass:clienttruststorepass**) or you can fill in the fields under **SSL Credentials for RTView Scripts**.

The RTView Manager application also connects to the JMX Ports of the RTView processes in order to monitor them. If you are using the RTView Manager and the JMX ports have been secured with SSL, you must fill in the **SSL Credentials** on the **Security** tab of the RTView Manager Configuration Application to specify the path the truststore and keystore files containing the client credentials.

Secure with Username and Password

This region allows you to secure the JMX ports for RTView processes with a username/password. This can be used in addition to Securing with SSL (see above). If this option is enabled, you must specify the path to a JMX password file containing all valid user names and passwords.

Important! A JMX password file must be read-only to the owner. See Java documentation for details on the creation of a JMX remote password file.

The **start_server**, **stop_server**, and **status_server** scripts are all connected to the JMX Ports of the RTView processes to execute operations and get status. If the JMX ports have been secured with a username and password, the scripts need a valid user name and password in order to connect. You can either pass these into the command line each time you run (**-jmxuser:userName-jmxpass:myPassword**) or you can fill in the **Username and Password Credentials** and enable the **Use for Scripts** toggle.

The RTView Manager application also connects to the JMX Ports of the RTView processes in order to monitor them. If you are using the RTView Manager in RTViewCentral and the JMX ports have been secured with username and password, you must fill in the **Username and Password Credentials** that the RTView Manager should use to connect. If you are using the RTView Manager in a deliverable other than RTViewCentral, you will need to fill in the user name and password in the connection to this RTViewDataServer in the RTView Manager Configuration Application.

Securing RTView JMX Ports

All RTView processes open JMX ports for monitoring. By default, these ports are not secured. Two options are supported for securing these ports, SSL and Username Password authentication. These options can be used individually or together. Once the JMX ports have been secured with SSL or Username Password authentication, the start_server, stop_server and status_scripts will need to pass in corresponding credentials. These credentials can be passed in on the command line or they can be entered below and saved. RTView Manager connections to these processes will also need to use corresponding credentials.

Secure RTView JMX Ports with SSL


Secure the JMX Ports of the RTView processes with SSL. This requires a truststore and keystore. If this is enabled, fill in the Truststore and Keystore fields above for use by the RTView Processes to secure the JMX ports. RTView Manager connections to these processes must also be configured with Truststore and Keystore information.

Secure with SSL

SSL Credentials for RTView Scripts

The start_server, stop_server and status_server scripts connect to the RTView processes using JMX. You can either save the client Truststore and Keystore properties below for use by the scripts or you can pass them in on the command line each time you execute those scripts. For example, start_server.sh -sslkeystore:clientkeystore.jks -sslkeystorepass:clientkeystorepass -ssltruststore:clienttruststore.jks -ssltruststorepass:clienttruststorepass.

Client Truststore

 SET PASSWORD

Client Keystore

 SET PASSWORD

Secure RTView JMX Ports with Username and Password

Secure the JMX Ports of the RTView processes with a user name and password. This requires a JMX password file. If this is enabled, RTView Manager connections to the RTView processes require a user name and password.


Secure with User Name and Password

Password File

Username and Password Credentials

A user name and password are required in order for the RTView Manager in RTViewCentral to monitor these RTView processes.

Username

 SET PASSWORD

The start_server, stop_server and status_server scripts also connect to RTView processes using JMX. You can optionally allow the scripts use the user name and password entered above or you can enter them on the command line each time you run the start_server, stop_server and status_server scripts. For example, start_server.sh -jmxuser:userName -jmxpass:myPassword.

Use for Scripts

Default

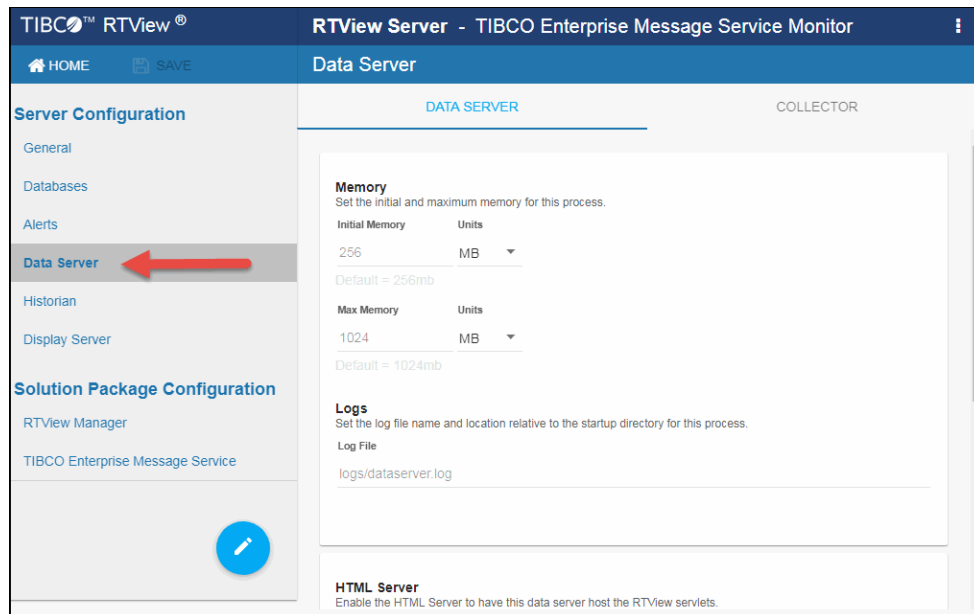
Secure Client and Receiver Ports with SSL

The Data Server opens a client port for use by other RTView processes and a receiver port to receive data from the Data Collector. By default, these port are not secured.

When **Secure Client Port with SSL** is enabled, the client port is SSL secured and all client data is encrypted using an anonymous cipher. However, no certificate is used to perform a SSL authentication and therefore the client and server do not verify each other's identities.

When **Secure RTView Receiver Port** is enabled, the receiver port is SSL secured and all receiver data is encrypted using an anonymous cipher. However, no certificate is used to perform a SSL authentication and therefore the client and server do not verify each other's identities.

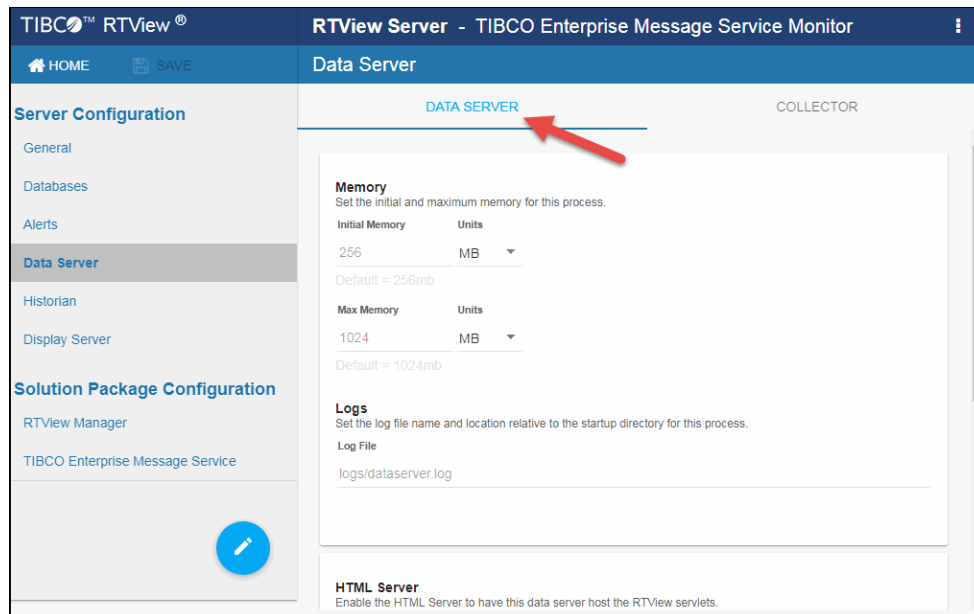
Data Server



This section describes the Data Server Configuration settings. There are two tabs available:

- [Data Server Tab](#)
- [Collector Tab](#)

Data Server Tab



This tab contains the following:

Memory: Set the initial memory and maximum memory for the Data Server process. Specify a number followed by a unit. Units 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 and if too large the server might eventually exceed the available CPU/memory and fail.

Initial Memory: The initial amount of memory to allocate for this process.

Max Memory: The maximum amount of memory to allocate for this process.

Logs

Log File: The log file name and location relative to the startup directory for this process. In the **Log File** field, use the following format: **<directory name>/<log file name>**.

For example, logs/dataserver.log.

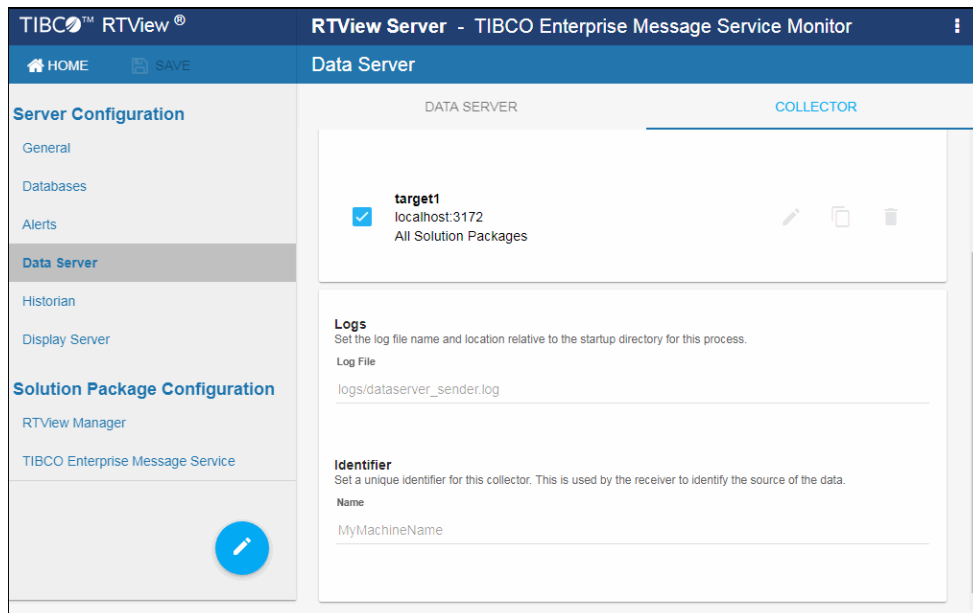
HTML Server

HTML Server Enabled: Enable the Eclipse Jetty HTML Server in the Data Server. If enabled, Eclipse Jetty will host the RTView Servlets at **http://localhost:XX70**, where **XX** is the port prefix specified on the **Server Configuration > General > GENERAL** tab.


Note: You cannot disable this option if the RTView Configuration Application is being hosted by Eclipse Jetty in the Data Server. All RTView Servlets hosted by Eclipse Jetty are automatically configured with the correct Data Server port at runtime. The following RTView Servlets are hosted in Eclipse Jetty:

```
rtview-emsmon-classic
rtview-emsmon-rtvadmin
rtvadmin
rtvdata
rtvquery
rtvagent
rtvpost
```

Collector Tab



This tab is only available when the data server is configured to be a sender. See [Sender/Receiver: Distributing the Load of Data Collection](#) for more information. This tab contains the following:

Targets: You can specify multiple targets by adding them one at a time. All fields on the **Add Target** dialog are required. Click the  icon to open the **Add Target** 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, if you are using Tomcat, you would use **`http://somehost:8068/emsmon-rtvagent`**. If you are using Jetty, you would use **`http://somehost:3170/rtvagent`**.

Targets: Select the **All solution packages** option.

Enabled: Select this check box to enable the target.

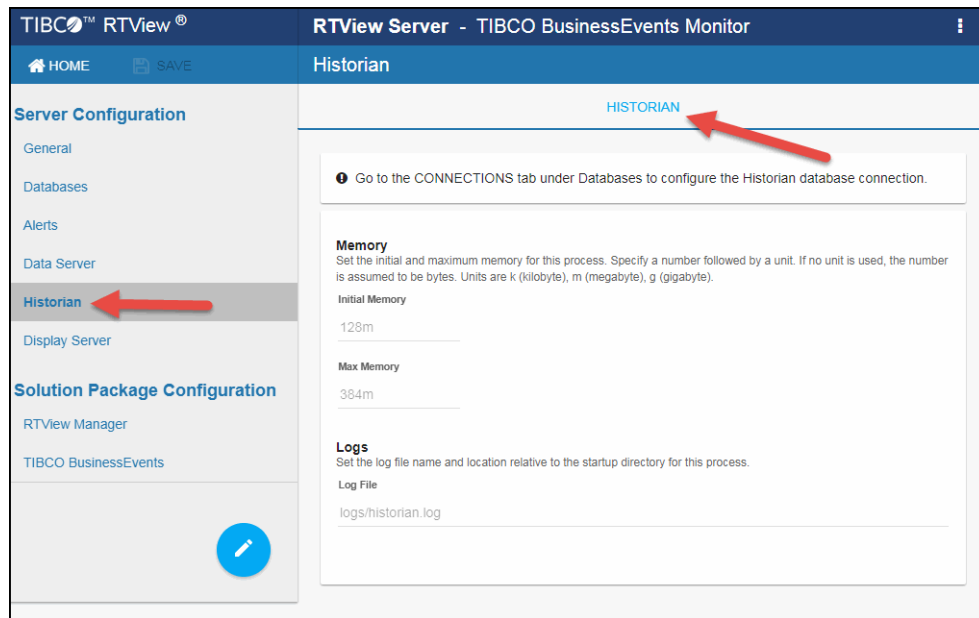
Logs

Log File: The log file name and full path.

Identifier

Name: A unique name for the data server, which is typically your machine's name.

Historian



The **Historian** option consists of the **Historian** tab, which allows you to define the history properties. Historian database connections are set up using the [Databases](#) option. This option contains the following regions:

Memory: Set the initial memory and maximum memory for the Historian process. Specify a number followed by a unit. Units 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 and if too large the server might eventually exceed the available CPU/memory and fail.

Initial Memory: The initial amount of memory to allocate for this process.

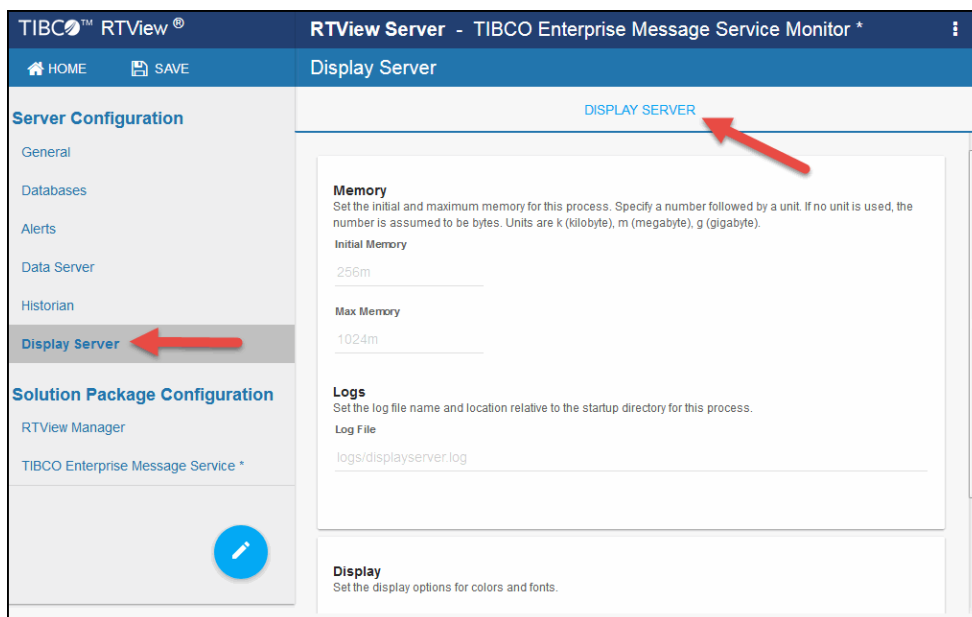
Max Memory: The maximum amount of memory to allocate for this process.

Logs

Log File: The log file name and location relative to the startup directory for this process. In the **Log File** field, use the following format: **<directory name>/<log file name>**.

For example, logs/historian.log.

Display Server



The **Display Server** option contains the **DISPLAY SERVER** tab, which contains the following regions:

Memory: Set the initial memory and maximum memory for the Display Server process. Specify a number followed by a unit. Units 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 and if too large the server might eventually exceed the available CPU/memory and fail.

Initial Memory: The initial amount of memory to allocate for this process.

Max Memory: The maximum amount of memory to allocate for this process.

Logs

Log File: The log file name and location relative to the startup directory for this process. In the **Log File** field, use the following format: **<directory name>/<log file name>**.

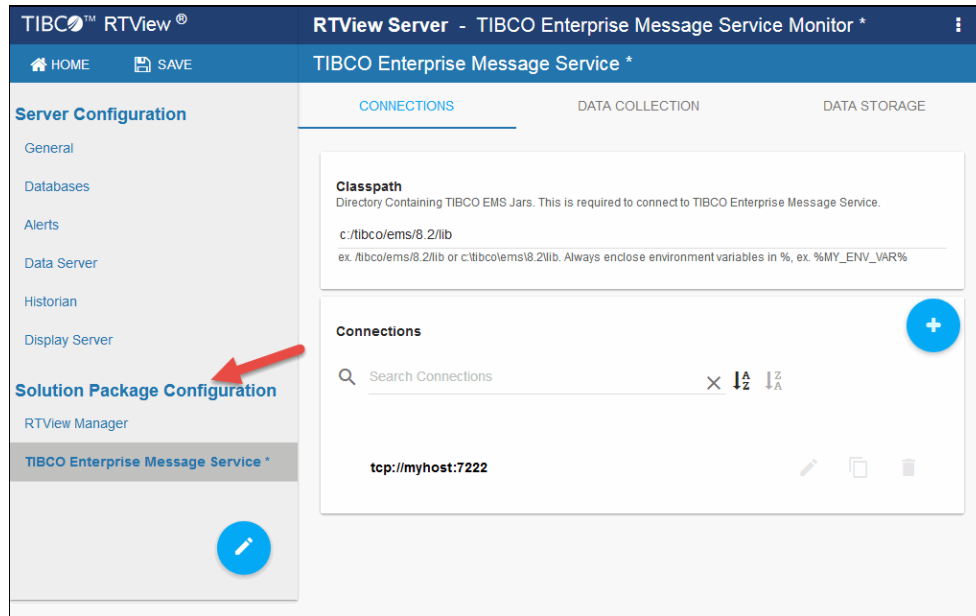
For example, logs/displayserver.log.

Display

Use Light Stylesheet: By default, RTView displays appear with a black background. Select this option for all RTView displays to appear with a white background.

Enable Cross Platform Fonts: Selecting this option prevents LINUX users from seeing inconsistently aligned labels in displays. This option should only be applied to Display Servers on Linux AND only if the text size and alignment issue is observed in the Thin Client. Otherwise, it can cause unnecessary overhead or unwanted changes to the appearance of text in RTView displays.

Solution Package Configuration View



The **Solution Package Configuration** View provides options that allow you to modify the default settings for the project, define the classpaths and connections for the Monitor, and define the data collection and data storage properties for the Monitor. Descriptions for all of the properties for these options, as they pertain to the Monitor, are explained in detail in the [Configuration](#) chapter. You can also view the basic steps to get the Monitor up and running in the [Quick Start](#) chapter.

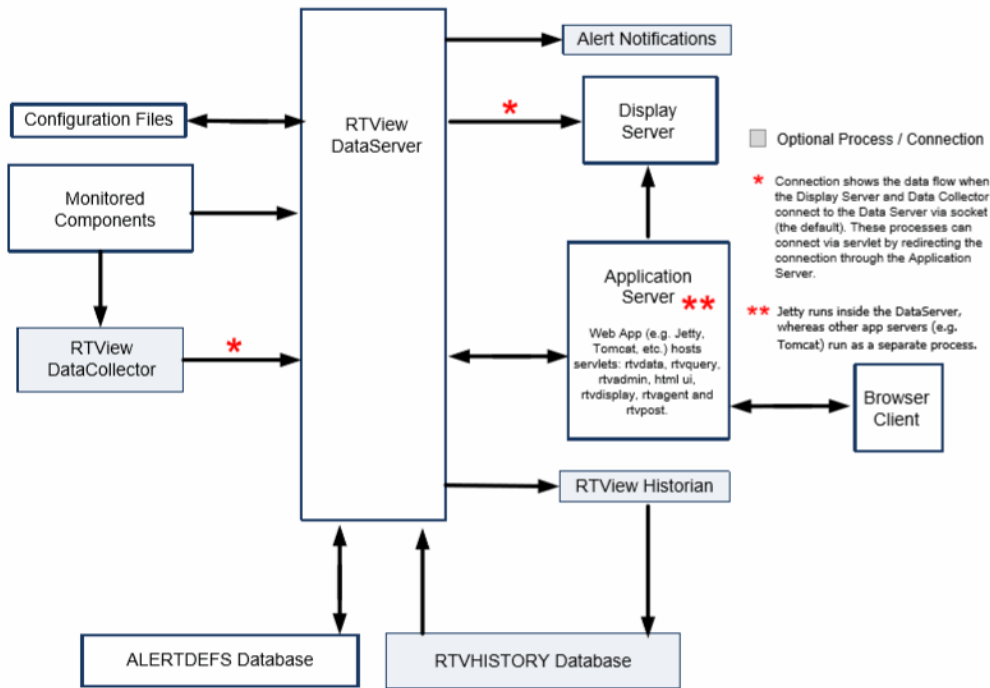
APPENDIX D Security Configuration

This section provides details for securing a direct connection RTView deployment. This section contains:

- [Introduction](#)
- [Data Server](#)
- [Display Server \(thin client\)](#)
- [HTML UI](#)
- [Data Collectors](#)
- [Configuration Application](#)
- [Configuration Files](#)
- [Historian](#)
- [Database](#)
- [Application Servers](#)
- [Monitored Components](#)
- [Security Summary](#)

Introduction

The following diagram shows how data flows through the RTView deployment. The Data Server connects to the Monitored Components to collect metric data which it stores in local caches. The Data Server uses the collected data to generate alerts based on enabled threshold settings in the ALERDEFS database. If the user has (optionally) defined alert notifications, the Data Server also executes them.



In cases where the data collection needs to be distributed, one or more [Data Collectors](#) can be deployed to connect to the [Monitored Components](#) and forward the collected data to the [Data Server](#).

The [HTML UI](#) and [Display Server \(thin client\)](#) are browser-based user interfaces that show metric and alert data from the Data Server and also allow the user to enable, disable and set thresholds on alerts.

The [Historian](#) is an optional process that stores historical metric and alert data to the RTVHISTORY database. When the Historian is enabled, the Data Server queries historical data from the RTVHISTORY on startup to populate in-memory history and also any time the Display Server or HTML UI request history data that is older than the data in the in-memory history.

The [Configuration Application](#) is a browser based application for configuring the RTView processes. It connects to the Data Server to read and write [Configuration Files](#).

The next sections provide a more detailed description of each process.

Port Settings

This document describes port settings for the following TIBCO applications, where the **XX** prefix is replaced with the following:

- For TIBCO EMS, replace **XX** with **31**
- For TIBCO BusinessWorks5, replace **XX** with **33**
- For TIBCO BusinessWorks6, replace **XX** with **45**
- For TIBCO BusinessEvents, replace **XX** with **32**

Data Server

The Data Server gathers and caches the data from the applications being monitored and also hosts the alerts for that data. Because the Data Server can exist behind firewalls, it simplifies and strengthens the secured delivery of information to clients beyond the firewall. The Data Server serves metric and alert data to the Display Server and Historian via socket on port **XX78** and receives data via socket from the optional Data Collector on port **XX72**. It also serves metrics and alert data to the HTML UI via the `rtvquery` servlet which connects via socket on port **XX78**.

The Historian and Display Server run in the same directory as the Data Server, while the optional Data Collector(s) typically run in a different directory or a different system. By default, socket connections to the Data Server are unsecured. The Data Server supports secure socket connections (SSL) with or without certificates. It also supports client whitelist and blacklist. Secure socket and client whitelist/blacklist configuration are described in the *RTView Core User's Guide* under *Deployment/Data Server/Security*.

The Display Server can optionally be configured to connect to the Data Server via the `rtvdata` servlet instead of the socket. In this case, the `rtvdata` servlet connects to the Data Server via socket on port **XX78**. While the `rtvdata` servlet cannot be configured for authentication, Tomcat access filters can be used to restrict access. The `rtvdata` servlet will connect via secure socket if the Data Server is configured for SSL sockets.

The HTML UI connects to the Data Server via the `rtvquery` servlet. See [HTML UI](#) in this document for information on how to enable authentication in the HTML IU and `rtvquery` servlets. The `rtvquery` servlet will connect via secure socket if the Data Server is configured for SSL sockets.

The Data Collector can optionally be configured to send data to the Data Server via the `rtvagent` servlet instead of the socket. In this case, the `rtvagent` servlet connects to the Data Server via socket on port **XX72**. While the `rtvagent` servlet cannot be configured for authentication, Tomcat access filters can be used to restrict access. The `rtvagent` servlet will connect via secure socket if the Data Server is configured for SSL sockets.

The Configuration Application connects to the Data Server via the `rtvadmin` servlet to read and write properties files. The `rtvadmin` servlet connects to the Data Server via socket on port **XX78**. See [Configuration Application](#) in this document for information about servlet authentication. The `rtvadmin` servlet will connect via secure socket if the Data Server is configured for SSL sockets.

If the Historian is enabled, the Data Server connects to the RTVHISTORY database on startup to read initial cache history data and if the thin client or HTML UI request history data older than the in memory cache history. It also connects to the ALERTDEFS database to query and set alert thresholds. See [Database](#) in this document for more information.

The Data Server optionally executes alert notifications based on user settings. Since the notification actions are user defined, security must be determined by the user.

The Data Server opens a JMX port on **XX68** to enable monitoring. By default, the JMX port is not secured. See [RTView Processes](#) under [Monitored Components](#) for information on securing this connection.

By default, the Data Server runs a Jetty process which hosts all of the RTView servlets and accepts HTTP client requests on port **XX70**. You can optionally configure Jetty to use HTTPS instead of HTTP.

Also see [Port Settings](#).

Display Server (thin client)

The Classic user interface deployment, the thin client, is implemented using the Display Server. The Display Server consists of two parts, the Display Server application and the Display Servlet (**rtview-`<sp>`-classic.war**, where `<sp>` is replaced with **emsmon**, **bwmon**, **bw6mon** or **tbemon**). The Display Server application is generally installed on a dedicated platform. It loads displays from the file system and queries data from the Data Server that it passes on to the Display Servlet via a socket. The Display Servlet runs on an application server (like Tomcat or Jetty). Browser clients connect to the Display Servlet using HTTP or HTTPS (depending on the Application Server configuration). This process opens a JMX port on **XX79** to enable monitoring. By default, the JMX port is not secured. See [RTView Processes](#) under [Monitored Components](#) for information on securing this connection.

Also see [Port Settings](#).

For the thin client, we support our **users/role.xml** login (which can be customized to integrate with LDAP) as well as SSO using BASIC or DIGEST HTTP authentication. This is described in the *RTView Core User's Guide* under Role-based Security and also under Deployment/Browser Deployment/Display Server.

Note: The external libraries used for PDF export capability, iText and iTextAsian, can trigger security warnings due to a High Severity CVE (<http://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2017-9096>) which "might allow remote attackers to conduct XML external entity attacks via a crafted PDF".

These libraries do not pose a genuine security risk. The only PDFs that are handled by iText in RTView are those generated from customer displays, and therefore there is no mechanism to exploit the vulnerability with a "crafted PDF".

Users who do not need to use the PDF export or reporting capability, and who would like to remove any library that raises alarms in a security scan, can remove `gmsjextpdf.jar` from the `lib` directory.

HTML UI

The new user interface is implemented in HTML and is deployed as a servlet, **rtview-`<sp>`mon** (where `<sp>` is replaced with **emsmon**, **bwmon**, **bw6mon** or **tbemon**), which is configured by default to use BASIC HTTP authentication. Browser clients connect via HTTP or HTTPS depending on the Application Server configuration. It should be used with HTTPS since BASIC authentication does not encrypt user credentials. The HTML UI connects to the Data Server via the `rtvquery` servlet. See [Data Server](#) for information on securing the connection between the `rtvquery` servlet and the Data Server. By default, the `rtvquery` servlet is not configured for authentication, but can be modified to require BASIC HTTP authentication as follows (this should be used with HTTPS since BASIC authentication does not encrypt user credentials):

1. Extract the `web.xml` file from the `rtvquery` servlet as follows:

```
jar -xf rtview-<sp>-rtvquery.war WEB-INF/web.xml
```

where `<sp>` is replaced with **emsmon, **bwmon**, **bw6mon** or **tbemon****

2. Open **WEB-INF/web.xml** in a text editor and uncomment the security section.
3. Pack the modified **web.xml** file back into the `rtvquery` servlet as follows:

```
jar -uf rtview-<sp>-rtvquery.war WEB-INF/web.xml
```

where `<sp>` is replaced with **emsmon, **bwmon**, **bw6mon** or **tbemon****

After you enable BASIC HTTP authentication in the `rtvquery` servlet, you will also need to modify the HTML UI to pass in credentials:

1. Extract the **setup.js** file from `rtview-<sp>.war` as follows:

```
jar -xf rtview-<sp>.war setup.js
```

where **<sp>** is replaced with **emsmon, bwmon, bw6mon or tbemon**

2. Open **setup.js** in a text editor and remove the `//` from the beginning of the **authValueC** line: `//authValueC: 'Basic ' + btoa('rtvuser:rtvuser')`
3. Pack the modified **setup.js** file back into the HTML UI servlet as follows:

```
jar -uf rtview-<sp>.war setup.js
```

where **<sp>** is replaced with **emsmon, bwmon, bw6mon or tbemon**

Data Collectors

This process is optional and is used to distribute connections to Monitored Components Data Collectors instead of having the Data Server connect to each component to be monitored directly. This process collects data from Monitored Components and forwards it to the Data Server via socket or the `rtvagent` servlet. See [Data Server](#) for information about securing the connection between the Data Collector and Data Server. This process does not keep history or process alerts - those are handed in the Data Server. While the Data Collector typically does not have data clients, it accepts data requests via socket on port **XX76** which can be secured as described in the [Data Server](#) section. It runs Jetty on port **XX70** and also opens JMX on port **XX66** for monitoring. By default, the JMX port is not secured. See [RTView Processes](#) under [Monitored Components](#) for information on securing this connection.

Also see [Port Settings](#).

Configuration Application

The Configuration Application connects to the Data Server via the `rtvadmin` servlet which is configured with BASIC HTTP authentication. It should be run on HTTPS since Basic Authentication does not encrypt user credentials. Passwords saved by the configuration application are scrambled except in the case where they are added in the **CUSTOM PROPERTIES** section. See [Data Server](#) for information about securing the connection between the Configuration Application and Data Server.

Configuration Files

Configuration (**.properties** and **.properties.json**) files are stored on the file system and read by all RTView processes to control configuration. Additionally, the [Configuration Application](#) writes these files, scrambling all connection and database passwords. Passwords entered in the **CUSTOM PROPERTIES** tab are not scrambled.

Historian

The Historian connects to the [Data Server](#) via socket and saves cache history to a database via JDBC. This process is optional and the user can configure which data will be saved. See [Data Server](#) for information about securing the connection between the Historian and Data Server. See [Database](#) for information about the connection between the Historian and the database.

This process opens JMX port **XX67** for monitoring. By default, the JMX port is not secured. See [RTView Processes](#) under [Monitored Components](#) for information on securing this connection. Also see [Port Settings](#).

Database

The ALERTDEFS database stores alert threshold information and optionally alert persistence information. The Data Server connects to the ALERTDEFS database to query thresholds and also to set thresholds when the user interacts with the **Alert Administration** page in the user interface. The RTVHISTORY database stores cache data (if the Historian is enabled). The Historian connects to the RTVHISTORY database to insert cache history data and to perform data compaction. The Data Server connects to the RTVHISTORY database on startup to load initial history into the caches and also when the user interface asks for history data older than what is contained in the in-memory history caches.

By default, the Data Server and Historian connect to the HSQLDB database that is included with RTView using an unsecured JDBC connection. See the HSQLDB documentation for information on configuring it for secure JDBC connections. Alternately, you can use your own database and secure the JDBC connection according to the documentation for that database.

Application Servers

By default, the Data Server runs a Jetty process which hosts all of the RTView servlets and accepts HTTP client requests on port **XX70**. You can optionally configure Jetty to use HTTPS instead of HTTP. This will require you to provide a certificate for your domain.

Also see [Port Settings](#).

When you have a certificate, do the following in the [Configuration Application](#) in the **Data Server** tab:

1. Turn on the **Use HTTPS** toggle.
2. Set the **Keystore File** to the keystore file name (including the path) that contains the certificate for your domain.
3. Optionally enter the **Keystore Password** and **Key Manager Password** if they are required for your keystore.
4. **Save** your configuration and restart the data server.

The Configuration Application and [HTML UI](#) use BASIC HTTP authentication and require the following roles which are preconfigured. You can modify the user names and passwords (but not the roles) in **RTVAPM_HOME/common/lib/ext/jetty/rtvadmin-users.xml**:

- rtvadmin
- rtvuser
- rtvalertmgr

Jetty does not limit the number of failed login attempts which leaves it open to brute force attacks. If this is a concern, you should deploy with Tomcat or another Application Server.

You can optionally use Tomcat or another Application Server in addition to or instead of the Jetty process that comes with RTView. To deploy your servlets to your application server, go into the **RTVAPM__HOME/ <sp>/projects/sample** directory (where **<sp>** is replaced with **emsmon**, **bwmon**, **bw6mon** or **tbemon**) and run **update_wars.bat** or **update_wars.sh**. Copy all of the generated war files to the **webapps** directory in your application server.

Tomcat and most other Application Servers can be configured for HTTPS. This will require you to provide a certificate for your domain. Follow the application server instructions to enable HTTPS.

Additionally, Tomcat access filters can be configured to restrict access according to the remote client host or address. Tomcat also has a feature named LockOut Realm to protect against brute force login attacks. After 5 successive login attempts for a given username with invalid password, then all logins for that username are rejected for the next 5 minutes. The LockOut Realm parameters are configurable. See Apache Tomcat documentation for more information.

You will need to add the following roles to your Application Server for use with the Configuration Application and HTML UI authentication. For Tomcat, users and roles are defined in **conf\tomcat-users.xml**:

- rtvadmin
- rtvuser
- rtvalertmgr

You can optionally disable Jetty in the Data Server when using Tomcat or another Application Server. To disable Jetty, you must access the Configuration Application from Tomcat or another Application Server. In the Configuration Application, go to the **Data Server** tab and do the following:

- Turn off the **HTML Server Enabled** toggle.
- **Save** your configuration and restart.

Monitored Components

Monitored Components are the processes that the Data Server and Data Collector connect to in order to request metric data. Some examples of Monitored Components are EMS Servers, Oracle Databases and RTView Processes. Connections to Monitored Components are made through application-specific APIs, so the options for securing these connections differ based on the Monitored Component.

This section contains:

- [TIBCO BusinessEvents](#)
- [TIBCO BusinessWorks 5](#)
- [TIBCO BusinessWorks 6](#)
- [TIBCO EMS Server](#)
- [TIBCO Hawk](#)
- [RTView Manager](#)
- [RTView Processes](#)

TIBCO BusinessEvents

The Data Server connects to BusinessEvents using JMX. BusinessEvents does not support secure JMX connections.

TIBCO BusinessWorks 5

The Data Server connects to TIBCO BusinessWorks 5 using TIBCO Hawk. See [TIBCO Hawk](#) for information about securing those connections. Additional server metrics can optionally be collected via JMX using the [RTView Manager](#). See the TIBCO BusinessWorks 5 documentation for enabling JMX and securing it in your TIBCO BusinessWorks engine. See [RTView Manager](#) in

this document for information on making secure connections to JMX. For BWSE engines, RTView collects AMX Node data via JMS messages which are hosted on an EMS Server. The EMS Server can be configured to require a user name and password which the user enters in the [Configuration Application](#) when you define the Connection to that Server. Additionally, the EMS Server can be configured to use SSL. In this case, the user must implement a subclass of the `GmsRtViewJmsDsSSLHandler` to return a Map of the required SSL parameters per connection. This is described in the *RTView Core User's Guide* under **RTView Data Sources/JMS Data Source/Application Options - JMS/JMS Connections Tab/JMS SSL Parameters**.

TIBCO BusinessWorks 6

The Data Server connects to BusinessWorks 6 either using TIBCO Hawk or via the OSGI plugin. See the TIBCO Hawk section for information about securing TIBCO Hawk connections. When using the OSGI plugin, data is sent via socket to the Data Server on port **XX72**. By default, this socket is not secure, but the data will be sent via secure socket if the Data Server is configured for SSL sockets.

Also see [Port Settings](#).

TIBCO EMS Server

The Data Server connects to EMS Servers using TIBCO's `TibjmsAdmin` API. The EMS Server can be configured to require a user name and password which the user enters in the [Configuration Application/EMS Server Connection](#) dialog when you define the connection to that EMS Server. Additionally, the EMS Server can be configured to use SSL. In this case, the user must implement a subclass of the `GmsRtViewTibJmsSSLHandler` to return a Map of the required SSL parameters per connection. This is described in the *RTView Core User's Guide* under **RTView Data Sources/TIBCO EMS Administration Data Source/Application Options - TIBCO EMS/TIBCO EMS Servers Tab/TIBCO EMS Administration SSL Parameters**.

TIBCO Hawk

TIBCO Hawk is used to gather metrics for both BusinessWorks 5 (required) and BusinessWorks 6. The Data Server connects to TIBCO Hawk via TIBCO's `TIBHawkConsole` API. The TIBCO Hawk installation may either be configured to run on a Rendezvous transport (`rvd`) or an EMS Transport. In the case of Rendezvous transports, no secure connection options are supported. In the case of EMS transports, the TIBCO Hawk agent can be configured to require a user name and password which the user enters in the [Configuration Application TIBCO Hawk Connection](#) dialog when adding a connection to that agent. The EMS transport can also be configured for SSL. In this case, the user must implement a subclass of the `GmsRtViewHawkCustomSSLHandler` to return a Map of the required SSL parameters per connection. This is described in the *RTView Core User's Guide* under **RTView Data Sources/TIBCO Hawk Data Source/Application Options - TIBCO Hawk/TIBCO Hawk SSL Parameters**.

RTView Manager

The RTView Manager connects to processes via JMX. A process that opens a JMX port can be configured to require a user name and password which the user enters in the [Configuration Application RTView Manager Connection](#) dialog when you define the connection to that process. A process that opens a JMX port can also be configured to require SSL. To connect to

SSL JMX, in the **CUSTOM PROPERTIES** tab, add the following properties replacing the values with the appropriate values for your SSL configuration:

1. Set key store:
 - a. **Property Name:** sl.rtvview.jvm
 - b. **Property Value:** -Djavax.net.ssl.keyStore=client_keystore.jks
2. Set keystore password:
 - a. **Property Name:** sl.rtvview.jvm
 - b. **Property Value:** -Djavax.net.ssl.keyStorePassword=myspassword
3. Set truststore
 - a. **Property Name:** sl.rtvview.jvm
 - b. **Property Value:** sl.rtvview.jvm=-Djavax.net.ssl.trustStore=client_truststore.jks
4. Set truststore password
 - a. **Property Name:** sl.rtvview.jvm
 - b. **Property Value:** sl.rtvview.jvm=-Djavax.net.ssl.trustStorePassword=myspassword
5. **Save** your changes and **Restart Servers**.

RTView Processes

The Data Server, Data Collector, Historian and Display Server all open JMX ports for monitoring. By default, these JMX ports are unsecured, but they can be secured either by user name and password or by SSL. See [RTView Manager](#) in this document for instructions on connecting to secure JMX. Note that the **start/stop/status_rtv** scripts use JMX to communicate with the RTView processes. If you secure the JMX ports on the RTView processes, you will need to pass additional arguments into the **start/stop/status_rtv** scripts as described in the *RTView Enterprise Monitor Configuration Guide*.

To secure with user name and password:

1. Setup a password file in **JRE_HOME/lib/management** using the **jmxremote.password.template** file as a template as described in the Oracle docs (for example, you might refer to Using File-Based Password Authentication here: <https://docs.oracle.com/javase/8/docs/technotes/guides/management/agent.html>).
2. Start the Data Server for the project you want to secure and open the Configuration Application. In the **CUSTOM PROPERTIES** tab, add the following properties:
 - Disable ssl
Property Name: sl.rtvview.jvm
Property Value: -Dcom.sun.management.jmxremote.ssl=false
 - Enable authentication:
Property Name: sl.rtvview.jvm
Property Value: -Dcom.sun.management.jmxremote.authenticate=true
 - Set password file:
Property Name: sl.rtvview.jvm
Property Value: -Dcom.sun.management.password.file=jmxremote.properties (or the name and path to a different password file)
3. **Save** your changes and **Restart Servers**. The JMX Port on all RTView Servers for that project will now require a user name and password.

To secure with SSL:

If you do not already have a key pair and certificate setup on your server, follow the instructions in the Oracle docs (for example, you might refer to Using SSL/To Setup SSL, Step 1 here: <https://docs.oracle.com/javase/8/docs/technotes/guides/management/agent.html>).

1. Start the Data Server for the project you want to secure and open the Configuration Application. In the **CUSTOM PROPERTIES** tab, add the following properties replacing the values with the appropriate values for your SSL configuration:
 - Enable ssl

Property Name: sl.rtvview.jvm

Property Value: -Dcom.sun.management.jmxremote.ssl=true
 - Set key store:

Property Name: sl.rtvview.jvm

Property Value: -Djavax.net.ssl.keyStore=server_keystore.jks
 - Set keystore password:

Property Name: sl.rtvview.jvm

Property Value: -Djavax.net.ssl.keyStorePassword=mypassword
 - Set truststore

Property Name: sl.rtvview.jvm

Property Value: -Djavax.net.ssl.trustStore=server_truststore.jks
 - Set truststore password

Property Name: sl.rtvview.jvm

Property Value: -Djavax.net.ssl.trustStorePassword=mypassword
2. **Save** your changes and **Restart Servers**. The JMX Port on all RTView Servers for that project will now require SSL.

Security Summary

Security options per RTView process are included in the section for each component above. This section provides a summary of security options for the entire deployment organized by priority.

This section contains:

- [Secure Installation Location - High Priority](#)
- [Login and Servlet Authentication - High Priority](#)
- [Application Server Security - High Priority](#)
- [Secure Connections between RTView Processes - Medium-to-Low Priority*](#)
- [Secure Connections to Monitored Components - Medium-to-Low Priority*](#)
- [Secure Connections to Monitored Components - Medium-to-Low Priority*](#)

Secure Installation Location - High Priority

The RTView installation and Application Server should be run in a secure location to ensure displays and configuration files are secure and access-restricted.

Login and Servlet Authentication - High Priority

- **HTML UI** - By default, the HTML UI is configured with BASIC HTTP authentication which should use HTTPS since BASIC authentication does not encrypt user credentials. The HTML UI connects to the Data Server via the rtvquery servlet. The rtvquery servlet does not have authentication enabled by default. See the [HTML UI](#) section in this document for information on enabling authentication in the rtvquery servlet.
- **Display Server** - By default, the Display Server authentication is disabled. See the [Display Server \(thin client\)](#) section in this document for information on enabling authentication for the Display Server.
- **Configuration Application** - By default, the Configuration Application is configured with BASIC HTTP authentication which should use HTTPS since BASIC authentication does not encrypt user credentials.

Application Server Security - High Priority

It is highly recommended that you configure your Application Server to use HTTPS as described in the [Application Servers](#) section of this document. The RTView servlets that support HTTP authentication all use BASIC authentication which does not encrypt user credentials.

It is highly recommended that you change the user credentials in your Application Server for the rtvadmin, rtvuser and rtvalertmgr roles since the default credentials are documented and publicly available.

Secure Connections between RTView Processes - Medium-to-Low Priority*

The Historian, Data Server, Data Collector, rtvquery servlet, rtvdata servlet, rtvadmin servlet and rtvagent servlet all connect to the Data Server via socket which is unsecured by default. The Data Server supports secure socket connections (SSL) with or without certificates. It also supports client whitelist and blacklist. Secure socket and client whitelist/blacklist configuration are described in the RTView Core User's Guide under **Deployment/Data Server/Security**.

Secure Connections to Monitored Components - Medium-to-Low Priority*

The Data Server uses component specific API's to connect to Monitored Components. See the [Monitored Components](#) section in this document for information on how to secure these connections.

Secure Connections to Databases - Medium-to-Low Priority*

The Data Server and Historian both create database connections using JDBC. See the Database section in this document for information on securing JDBC connections to your database.

*If Secured Installation Location has been met, these are lower priority.