



# CHAPTER 1

## Understanding Cisco Unified Communications Manager Real-Time Monitoring Tool

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The Cisco Unified Communications Manager Real-Time Monitoring Tool (RTMT), which runs as a client-side application, uses HTTPS and TCP to monitor system performance, device status, device discovery, and CTI applications for Cisco Unified Communications Manager. RTMT can connect directly to devices via HTTPS to troubleshoot system problems.



### Note

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Even when RTMT is not running as an application on your desktop, tasks such as alarm and performance monitoring updates continue to take place on the server in the background.

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RTMT allows you to perform the following tasks:

- Monitor a set of predefined management objects that monitor the health of the system.
- Generate various alerts, in the form of e-mails, for objects when values go over/below user-configured thresholds
- Collect and view traces in various default viewers that exist in RTMT
- Translate Q931 messages
- View syslog messages in SysLog Viewer
- Work with performance-monitoring counters

This chapter contains information on the following topics:

- [Services, Servlets, and Service Parameters on the Server, page 1-1](#)
- [Nonconfigurable components on the Server \(RTMT Collector, Alert Manager, and RTMT Reporter\), page 1-3](#)

## Services, Servlets, and Service Parameters on the Server

To support the RTMT client, there are a number of services that needs to be active and running on the server. RTMT uses the following services/servlets:

- Cisco AMC service—This service starts up automatically after the installation and allows RTMT to retrieve real-time information that exists on nodes in the cluster. Cisco Unified Communications Manager automatically assigns the first node as the Primary Collector. For RTMT to continue to

retrieve information when the primary collector fails, you must configure a subsequent node as the Failover Collector in Service Parameters in Cisco Unified Communications Manager Administration.

The following list comprises some Cisco AMC service parameters that are associated with RTMT. For the latest list of parameters, choose **System > Service Parameters** in Cisco Unified Communications Manager Administration. Then, choose the server and the Cisco AMC service.

- Primary Collector
- Failover Collector
- Data Collection Enabled
- Data Collection Polling Rate
- Server Synchronization Period
- RMI Registry Port Number
- RMI Object Port Number
- Alert Manager Enabled
- Logger Enabled
- Alarm Enabled
- PerfMon Log Deletion Age

For information on these service parameters, click the ? button that displays in the Service Parameter window of Cisco Unified Communications Manager Administration.

- Cisco Communications Manager servlet (in the Control Center—Network Services window in Cisco Unified Serviceability)—Supports the Cisco Unified Communications Manager Real-Time Monitoring Tool (RTMT), this service starts up automatically after the installation.
- Cisco RIS Data Collector (in the Control Center—Network Services window in Cisco Unified Serviceability)—The Real-time Information Server (RIS) maintains real-time information such as performance counter statistics, critical alarms generated, and so on. The Cisco RIS Data Collector service provides an interface for applications, such as Real-Time Monitoring Tool (RTMT), SOAP applications, and AlertMgrCollector (AMC) to retrieve the information that is stored on the server.
- Cisco Tomcat Stats Servlet (in the Control Center—Network Services window in Cisco Unified Serviceability)—The Cisco Tomcat Stats Servlet allows you to monitor the Tomcat perfmon counters by using RTMT or the Command Line Interface. Do not stop this service unless you suspect that this service is using too many resources, such as CPU time.
- Cisco Trace Collection Servlet (in the Control Center—Network Services window in Cisco Unified Serviceability)—The Cisco Trace Collection Servlet, along with the Cisco Trace Collection Service, supports trace collection and allows users to view traces by using the RTMT client. If you stop this service on a server, you cannot collect or view traces on that server.
- Cisco Trace Collection Service (in the Control Center—Network Services window in Cisco Unified Serviceability)—The Cisco Trace Collection Service, along with the Cisco Trace Collection Servlet, supports trace collection and allows users to view traces by using the RTMT client. If you stop this service on a server, you cannot collect or view traces on that server.
- Cisco Log Partition Monitoring Tool (in the Control Center—Network Services window in Cisco Unified Serviceability)—This service which starts up automatically after the installation, monitors the disk usage of the log partition on a server.
- Cisco SOAP-Real-Time Service APIs (in the Control Center—Network Services window in Cisco Unified Serviceability)—The Cisco SOAP-Real-Time Service APIs, which start up automatically after the installation, allow you to collect real-time information for devices and CTI applications.

- Cisco SOAP-Performance Monitoring APIs (in the Control Center—Network Services window in Cisco Unified Serviceability)—This service, which starts up automatically after the installation, allows you to use performance monitoring counters for various applications through SOAP APIs.
- Cisco RTMT Reporter servlet (in the Control Center—Network Services window in Cisco Unified Serviceability)—This service, which starts up automatically after the installation, allows you to publish reports for RTMT.
- Cisco Serviceability Reporter (in the Control Center—Feature Services window in Cisco Unified Serviceability)—The Cisco Serviceability Reporter service allows you to publish reports for RTMT.

#### Additional Information

See the “[Related Topics](#)” section on page 1-5.

## Nonconfigurable components on the Server (RTMT Collector, Alert Manager, and RTMT Reporter)

RTMT Collector, a component that automatically gets installed with the application, logs preconfigured monitoring objects information while Alert Manager, also automatically installed, logs alert histories into log files. Each preconfigured object belongs to one of several categories: devices, services, servers, call activities, and PPR. Each category has a separate log file, and alert details get logged in a separate file.

The system also records important perfmon object values in performance log files.



#### Tip

Although they require no configuration tasks to run, RTMT Collector and Alert Manager support redundancy. If the primary collector or manager fails for any reason, the secondary collector and manager perform the tasks until primary support becomes available. RTMT Collector, Alert Manager, and RTMT Reporter run on the first node to minimize call-processing interruptions.

The locally written log files appear in the primary collector server at `cm/log/amc`. Because the primary collector changes because of failover and fallback scenarios, the log files can exist on more than one server in the Cisco Unified Communications Manager cluster.

You can display log files, except an alert log file, by using the Performance log viewer in RTMT or by using the native Microsoft Performance viewer. For more information on using the Performance log viewer in RTMT, refer to “[Viewing Perfmon Log Files](#)” section on page 5-10. You can view an alert log file by using any text editor.

To download log files to a local machine, you can use the collect files option in Trace and Log Central in RTMT. For more information on downloading log files by using the collect files option, refer to “[Collecting Trace Files](#)” section on page 9-3.

Alternatively, from the command line interface (CLI), you can use the file list command to display a list of files and the file get command to download files by SFTP. For more information on using CLI commands, refer to the *Cisco Unified Communications Operating System Administration Guide*.

Log files exist in csv format. New log files get created every day at 00:00 hours on the local system. New logs for devices, services, servers, and calls get created when the time zone changes, when a new node is added to the cluster, or during failover/fallback scenarios. The first column of all these logs comprises the time zone information and the number of minutes from the Greenwich Meridian Time (GMT). RTMT Reporter uses these log files as a data source to generate daily summary reports. The report, which is based on the default monitoring objects, generates every 24 hours for the following information:

- Call Activity Status—Number of calls attempted and number of calls completed for each Cisco Unified Communications Manager, each gateway, trunk, and overall cluster. Number of channels available, in-service for each gateway.
- Device Status—Number of registered phones, gateways, and trunks per each server and overall cluster.
- Server Status—% CPU load,% memory used,% disk space used per server.
- Service Status —For each CTI Manager, number of opened devices and lines. For each TFTP server, number attempted and failed requests.
- Alert Status—Number of alert per severity level for the cluster, including the top 10 alerts in the cluster.
- Performance Protection Report—Trend analysis information on default monitoring objects that allows you to track overall system health. The report includes information for the for the last 7 days for each server.

**Tip**


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The RTMT reports display in English only.

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The following service parameters apply to RTMT report generation: RTMT Reporter Designated server, RTMT Report Generation Time, and RTMT Report Deletion Age. For information on these parameters, choose Cisco Serviceability Reporter in the Service Parameter window in Cisco Unified Communications Manager Administration and click the ? button.

For more information on the Serviceability reports, see the “Serviceability Reports” chapter in *Cisco Unified Serviceability Administration Guide*.

#### Additional Information

See the “[Related Topics](#)” section on page 1-5.

## Understanding Server Logs

Every 5 minutes, the server data gets logged into the file as a single record. The system logs the data every 5 minutes for the following counters, based on the following calculation:

- cpuUsage—Average of all the values that were collected in the last 5 minutes
- MemoryInUse—Average of all the values that were collected in the last 5 minutes
- DiskSpaceInUse—Average of all the values that were collected in the last 5 minutes for the active partition

The Cisco AMC service logs the server data in csv format. The header of the log comprises the time zone information and a set of columns with the previous counters for a Cisco Unified Communications Manager node. These sets of columns repeat for every node.

The following file name format of the server log applies: ServerLog\_MM\_DD\_YYYY\_hh\_mm.csv. The first line of each log file comprises the header.

To download the server logs for viewing on your local computer, refer to [Configuring Trace and Log Central in RTMT, page 9-1](#).

#### Additional Information

See the “[Related Topics](#)” section on page 1-5.

## Related Topics

- [Services, Servlets, and Service Parameters on the Server, page 1-1](#)
- [Nonconfigurable components on the Server \(RTMT Collector, Alert Manager, and RTMT Reporter\), page 1-3](#)
- [Understanding Server Logs, page 1-4](#)

