Feature and network services

Cisco Unified IM and Presence Serviceability service management includes working with feature and network services and servlets, which are associated with the Tomcat Java Webserver. Feature services allow you to use application features, while network services are required for your system to function.

If something is wrong with a service or servlet, an alarm is written to an alarm monitor. After viewing the alarm information, you can run a trace on the service. Be aware that services and servlets display different trace levels in the Trace Configuration window.

If you upgrade IM and Presence, those services that you activated on the system prior to the upgrade automatically activate and start after the upgrade.

- Feature services, page 1
- Network services, page 4
- Serviceability Reports Archive, page 10
- Access to Serviceability Reports Archive, page 12

Feature services

In Cisco Unified IM and Presence Serviceability, you can turn on (activate), start, and stop feature services. When you turn on (activate) a service, IM and Presence automatically starts the service. After you turn on a service in the Service Activation window, you do not need to start it in the Control Center—Feature Services window. If the service does not start for any reason, you must start it in the Control Center—Features Services window.

You must manually turn on (activate) all feature services on IM and Presence. After you turn on feature services, you can modify associated service parameters in Cisco Unified CM IM and Presence Administration.

Cisco Unified IM and Presence Serviceability categorizes feature services into the following groups:

- Database and admin services
- Performance and monitoring services
- IM and Presence services

In the Control Center—Feature Services window, Cisco Unified IM and Presence Serviceability categorizes services into the same groups that display in the Service Activation window.
Related Topics

  IM and Presence services, on page 2
  How to activate and deactivate feature services

Database and admin services

Cisco AXL Web Service
The Cisco AXL Web Service allows you to modify database entries and execute stored procedures from client-based applications that use AXL.
This service supports Cisco Unified Communications Manager and Cisco Unity Connection.

Platform SOAP Service
The Platform SOAP service provides a web-based interface to facilitate your system upgrades and COP file installs of IM and Presence. This web-based interface also enables large scale deployments of IM and Presence to be initiated and monitored from a single management client. If you need to manage system upgrades, this service must be turned on for all IM and Presence and Cisco Unified Communications Manager nodes.

Cisco Bulk Provisioning Service
You can activate the Cisco Bulk Provisioning Service only on the first node. If you use the Bulk Administration Tool (BAT) to administer users, you must activate this service.

Performance and monitoring services

Cisco Serviceability Reporter
The Cisco Serviceability Reporter service generates daily reports.
This service is installed on all the IM and Presence nodes in the cluster. Reporter generates reports once a day based on logged information. You can access the reports that Reporter generates in Cisco Unified IM and Presence Serviceability from the Tools menu. Each summary report comprises different charts that display the statistics for that particular report. After you activate the service, report generation may take up to 24 hours.

Related Topics

  Serviceability Reports Archive, on page 10

IM and Presence services

Cisco SIP Proxy
The Cisco SIP Proxy service is responsible for providing the SIP registrar and proxy functionality. This includes request routing, requestor identification, and transport interconnection.
**Cisco Presence Engine**

The Cisco Presence Engine collects, aggregates, and distributes user capabilities and attributes using the standards-based SIP and SIMPLE interface. It collects information regarding the availability status and communications capabilities of a user.

**Cisco Sync Agent**

The Cisco Sync Agent keeps IM and Presence data synchronized with Cisco Unified Communications Manager data. It sends SOAP requests to the Cisco Unified Communications Manager for data of interest to IM and Presence and subscribes to change notifications from Cisco Unified Communications Manager and updates the IM and Presence IDS database.

**Cisco XCP Text Conference Manager**

The Cisco XCP Text Conference Manager supports the Chat feature. The Chat feature allows users to communicate with each other in online chat rooms. It supports chat functionality using ad-hoc (temporary) and permanent chat rooms, which remain on a Cisco-supported external database until they are deleted.

**Cisco XCP Web Connection Manager**

The Cisco XCP Web Connection Manager service enables browser-based clients to connect to IM and Presence.

**Cisco XCP Connection Manager**

The Cisco XCP Connection Manager enables XMPP clients to connect to the IM and Presence server.

**Cisco XCP SIP Federation Connection Manager**

The Cisco XCP SIP Federation Connection Manager supports interdomain federation with Microsoft OCS over the SIP protocol. Note that you also turn on this service when your deployment contains an intercluster connection between an IM and Presence Release 9.0 cluster, and a Cisco Unified Presence Release 8.6 cluster.

**Cisco XCP XMPP Federation Connection Manager**

The Cisco XCP XMPP Federation Connection Manager supports interdomain federation with third party enterprises such as IBM Lotus Sametime, Cisco Webex Meeting Center, Google Talk, and another IM and Presence enterprise, over the XMPP protocol.

**Cisco XCP Message Archiver**

The Cisco XCP Message Archiver service supports the IM Compliance feature. The IM Compliance feature logs all messages sent to and from the IM and Presence server, including point-to-point messages, and messages from ad-hoc (temporary) and permanent chat rooms for the Chat feature. Messages are logged to an external Cisco-supported database.

**Cisco XCP Directory Service**

The Cisco XCP Directory Service supports the integration of XMPP clients with the LDAP directory to allow users to search and add contacts from the LDAP directory.

**Cisco XCP Authentication Service**

The Cisco XCP Authentication Service handles all authentication requests from XMPP clients connecting to IM and Presence.
Network services

Installed automatically, network services include services that the IM and Presence system requires to function, for example, database and platform services. Because these services are required for basic functionality, you cannot activate them in the Service Activation window. If necessary, for example, for troubleshooting purposes, you may need to stop and start (or restart) a network service in the Control Center—Network Services window.

After the IM and Presence installation, network services start automatically. In the Control Center—Network Services window, Cisco Unified IM and Presence Serviceability categorizes network services into the following groups:

Performance and monitoring services

Cisco CallManager Serviceability RTMT
The Cisco CallManager Serviceability RTMT servlet supports the IM and Presence Real-Time Monitoring Tool (RTMT), which allows you to collect and view traces, view performance monitoring objects, work with alerts, and monitor system performance, performance counters, and so on.

Cisco RTMT Reporter Servlet
The Cisco RTMT Reporter servlet allows you to publish reports for RTMT.

Cisco Log Partition Monitoring Tool
The Cisco Log Partition Monitoring Tool service supports the Log Partition Monitoring feature, which monitors the disk usage of the log partition on a node (or all nodes in the cluster) by using configured thresholds and a polling interval.

Cisco Tomcat Stats Servlet
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 RIS Data Collector
The Real-time Information Server (RIS) maintains real-time information such as device registration status, performance counter statistics, critical alarms generated, and so on. The Cisco RIS Data Collector service provides an interface for applications, such as the IM and Presence Real-Time Monitoring Tool (RTMT), SOAP applications, and so on, to retrieve the information that is stored in all RIS nodes in the cluster.

Cisco AMC Service
Used for the IM and Presence Real-Time Monitoring Tool (RTMT), this service, Alert Manager and Collector service, allows RTMT to retrieve real-time information that exists on nodes in the cluster.
**Cisco Audit Event Service**

The Cisco Audit Event Service monitors and logs any administrative configuration change to the IM and Presence server, such as service start/stop and topology configuration. The Cisco Audit Event Service also monitors and logs end user events such as login, logout, and IM chat room entry and exit.

**Backup and restore services**

**Cisco DRF Master**

The Cisco DRF Master Agent service supports the DRF Master Agent, which works with the Disaster Recovery System graphical user interface (GUI) or command line interface (CLI) to schedule backups, perform restorations, view dependencies, check status of jobs, and cancel jobs, if necessary. The Cisco DRF Master Agent also provides the storage medium for the backup and restoration process.

**Cisco DRF Local**

The Cisco DRF Local service supports the Cisco DRF Local Agent, which acts as the workhorse for the DRF Master Agent. Components register with the Cisco DRF Local Agent to use the disaster recovery framework. The Cisco DRF Local Agent executes commands that it receives from the Cisco DRF Master Agent. Cisco DRF Local Agent sends the status, logs, and command results to the Cisco DRF Master Agent.

**System services**

**Cisco CallManager Serviceability**

The Cisco CallManager Serviceability service supports Cisco Unified IM and Presence Serviceability, the web application/interface that you use to troubleshoot issues and manage services. This service, which is installed automatically, allows you access to the Cisco Unified IM and Presence Serviceability graphical user interface (GUI). If you stop this service, you cannot access the Cisco Unified IM and Presence Serviceability GUI when you browse into that server.

**Cisco CDP**

Cisco CDP advertises the voice application to other network management applications, so the network management application, for example, SNMP or Cisco Unified Operations Manager, can perform network management tasks for the voice application.

**Cisco Trace Collection Servlet**

The Cisco Trace Collection Servlet, along with the Cisco Trace Collection Service, supports trace collection and allows users to view traces by using RTMT. If you stop this service on a server, you cannot collect or view traces on that server.

For SysLog Viewer and Trace and Log Central to work in RTMT, the Cisco Trace Collection Servlet and the Cisco Trace Collection Service must run on the server.
Cisco Trace Collection Service

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.

For SysLog Viewer and Trace and Log Central to work in RTMT, the Cisco Trace Collection Servlet and the Cisco Trace Collection Service must run on the server.

Tip
If necessary, Cisco recommends that, to reduce the initialization time, you restart the Cisco Trace Collection Service before restarting Cisco Trace Collection Servlet.

Platform services

A Cisco DB
A Cisco DB service supports the IDS database engine.

A Cisco DB Replicator
A Cisco DB Replicator service ensures database configuration and data synchronization between the first and subsequent nodes in the cluster.

Cisco Tomcat
The Cisco Tomcat service supports the web server.

SNMP Master Agent
This service, which acts as the agent protocol engine, provides authentication, authorization, access control, and privacy functions that relate to SNMP requests.

Tip
After you complete SNMP configuration in Cisco Unified IM and Presence Serviceability, you must restart the SNMP Master Agent service in the Control Center—Network Features window.

MIB2 Agent
This service provides SNMP access to variables, which are defined in RFC 1213, that read and write variables; for example, system, interfaces, IP, and so on.

Host Resources Agent
This service provides SNMP access to host information, such as storage resources, process tables, device information, and installed software base. This service implements the HOST-RESOURCES-MIB.

Native Agent Adaptor
This service, which supports vendor MIBs, allows you to forward SNMP requests to another SNMP agent that runs on the system. This service will not be present if IM and Presence is installed on a Virtual Machine.
System Application Agent
This service provides SNMP access to the applications that are installed and executing on the system. This implements the SYSAPPL-MIB.

Cisco CDP Agent
This service uses the Cisco Discovery Protocol to provide SNMP access to network connectivity information on the IM and Presence node. This service implements the CISCO-CDP-MIB.

Cisco Syslog Agent
This service supports gathering of syslog messages that various Cisco Unified Communications Manager components generate. This service implements the CISCO-SYSLOG-MIB.

Caution
Stopping any SNMP service may result in loss of data because the network management system no longer monitors the IM and Presence network. Do not stop the services unless your technical support team tells you to do so.

Cisco Certificate Expiry Monitor
This service periodically checks the expiration status of certificates that the system generates and sends notification when a certificate is close to its expiration date. You manage the certificates that use this service in Cisco Unified IM and Presence Operating System Administration.

Database services

Cisco Database Layer Monitor
The Cisco Database Layer Monitor service monitors aspects of the database layer. This service takes responsibility for change notification and monitoring.

SOAP services

Cisco SOAP-Real-Time Service APIs
The Cisco SOAP-Real-Time Service APIs supports client login and third-party APIs for presence data.

Cisco SOAP-Performance Monitoring APIs
The Cisco SOAP-Performance Monitoring APIs service allows you to use performance monitoring counters for various applications through SOAP APIs; for example, you can monitor memory information per service, CPU usage, performance monitoring counters, and so on.

Cisco SOAP-Log Collection APIs
The Cisco SOAP-Log Collection APIs service allows you to collect log files and to schedule collection of log files on a remote SFTP server. Examples of log files that you can collect include syslog, core dump files, Cisco application trace files, and so on.
Admin services

Cisco IM and Presence Admin
The Cisco IM and Presence Admin service supports Cisco Unified CM IM and Presence Administration, the web application/interface that you use to configure IM and Presence settings. After the IM and Presence installation, this service starts automatically and allows you to access the graphical user interface (GUI). If you stop this service, you cannot access the Cisco Unified CM IM and Presence Administration GUI when you browse into that server.

Cisco IM and Presence User
The Cisco IM and Presence User service supports the Cisco Unified CM IM and Presence User Options interface.

IM and Presence services

Cisco Login Datastore
The Cisco Login Datastore is a real-time database for storing client sessions to the Cisco Client Profile Agent.

Cisco Route Datastore
The Cisco Route Datastore is a real-time database for storing a cache of route information and assigned users for the Cisco SIP Proxy and the Cisco Client Profile Agent.

Cisco Config Agent
The Cisco Configuration Agent is a change notification service which notifies the Cisco SIP Proxy of configuration changes in the IM and Presence IDS database.

Cisco OAM Agent
The Cisco OAM Agent service monitors configuration parameters in the IM and Presence IDS database that are of interest to the Presence Engine. When there are changes in the database, the OAM Agent writes a configuration file and sends an RPC notification to the Presence Engine.

Cisco Client Profile Agent
The Cisco Client Profile Agent service provides a secure SOAP interface to or from external clients using HTTPS.

Cisco Intercluster Sync Agent
The Cisco Intercluster Sync Agent service provides the following: DND propagation to Cisco Unified Communications Manager and syncs end user information between IM and Presence clusters for intercluster SIP routing.
Cisco XCP Router

The XCP Router is the core communication functionality on the IM and Presence server. It provides
XMPP-based routing functionality on IM and Presence; it routes XMPP data to the other active XCP services
on IM and Presence, and it accesses SDNS to allow the system to route XMPP data to IM and Presence users.
The XCP router manages XMPP sessions for users, and routes XMPP messages to and from these sessions.

After IM and Presence installation, the system turns on Cisco XCP Router by default.

Note

If you restart the Cisco XCP Router, IM and Presence automatically restarts all active XCP services. Note
that you must select the Restart option to restart the Cisco XCP Router; this is not the same as turning off
and turning on the Cisco XCP Router. If you turn off the Cisco XCP Router, rather than restart this service,
IM and Presence stops all other XCP services. Subsequently when you turn on the XCP router, IM and
Presence does not automatically turn on the other XCP services; you need to manually turn on the other
XCP services.

Cisco XCP Config Manager

The Cisco XCP Config Manager service monitors the configuration and system topology changes made
through the administration GUI (as well as topology changes synchronized from an InterCluster Peer) that
affect other XCP components (for example, Router and Message Archiver), and updates these components
as needed. The Cisco XCP Config Manager service creates notifications for the administrator indicating when
an XCP component requires a restart (due to these changes) and it automatically clears the notifications once
the restarts are complete.

Cisco Server Recovery Manager

The Cisco Server Recovery Manager (SRM) service manages the failover between nodes in a subcluster. The
SRM manages all state changes in a node; state changes are either automatic or initiated by the administrator
(manual). Once you turn on high availability in a subcluster, the SRM on each node establishes heartbeat
connections with the peer node and begins to monitor the critical processes.

Cisco Replication Watcher

The Cisco Replication Watcher monitors IDS replication state on IM and Presence. Other IM and Presence
services are dependent on the Cisco Replication Watcher service. These dependent services use the Cisco
Replication Watcher service to delay startup until such time as IDS replication is in a stable state.

On the subscriber nodes, the Cisco Replication Watcher service delays the startup of feature services until
IDS replication is successfully established. The Cisco Replication Watcher service only delays the startup of
feature services on the problem subscriber node in a cluster, it will not delay the startup of feature services
on all subscriber nodes due to one problem node. The Cisco Replication Watcher service behaves differently
on the publisher node. It only delays the startup of feature services until a timeout expires. When the timeout
expires, it allows all feature services to start on the publisher node even if IDS replication is not successfully
established.

Cisco Presence Datastore

The Cisco Presence Datastore is a real-time database for storing transient presence data and subscriptions.
Cisco SIP Registration Datastore

The Cisco Presence SIP Registration Datastore is a real-time database for storing SIP Registration data.

Serviceability Reports Archive

The Cisco Serviceability Reporter service, which is CPU intensive, generates daily reports in Cisco Unified IM and Presence Serviceability. Each report provides a summary that include different charts that display the statistics for that particular report. The Reporter generates reports once a day on the basis of logged information.

Server statistic reports

The Server Statistics Report provides a number of line charts.

Percentage of CPU per server

The line chart displays the percentage of CPU usage for the server (or for each server in an IM and Presence cluster). The line in the chart represents the data for the server (or one line for each server in a IM and Presence cluster) for which data is available. Each data value in the chart represents the average CPU usage for a 15 minute duration. If no data exists for the server (or for any one server in a IM and Presence cluster), the Reporter does not generate the line that represents that server. If there are no lines to generate, the Reporter does not create the chart. The message “No data for Server Statistics report available” displays.

Percentage of memory usage per server

The line chart displays the percentage of Memory Usage for the IM and Presence server (%MemoryInUse). In an IM and Presence cluster configuration, there is one line per server in the cluster for which data is available. Each data value in the chart represents the average memory usage for a 15 minute duration. If no data exists, the Reporter does not generate the chart. If no data exists for any server in an IM and Presence cluster configuration, the Reporter does not generate the line that represents that server.

Percentage of hard disk usage of largest partition per server

The line chart displays the percentage of disk space usage for the largest partition on the server (%DiskSpaceInUse), or on each server in an IM and Presence cluster configuration. Each data value in the chart represents the average disk usage for a 15 minute duration. If no data exists, the Reporter does not generate the chart. If no data exists for any one server in a cluster configuration, the Reporter does not generate the line that represents that server.

The server (or each server in an IM and Presence cluster configuration) contains log files that match the file name pattern ServerLog_mm_dd_yyyy_hh_mm.csv. The following information exists in the log file:

• % CPU usage on the server (or each server in an IM and Presence cluster)
• % Memory usage (%MemoryInUse) on the server (or on each server in an IM and Presence cluster)
• % Hard disk usage of the largest partition (%DiskSpaceInUse) on the server (or on each server in an IM and Presence cluster)
Alert Summary Reports

The Alert Summary Report provides details of alerts that are generated for the day.

Number of alerts per server

The pie chart provides the number of alerts per IM and Presence node. The chart displays the server-wide details of the alerts that are generated. Each sector of the pie chart represents the number of alerts generated for a particular server in the IM and Presence cluster. The chart includes as many number of sectors as there are servers (for Alert Summary Report which the Reporter generates alerts in the day) in the cluster. If no data exists for a server, no sector in the chart represents that server. If no data exists for all servers, the Reporter does not generate the chart. The message “No alerts were generated for the day” displays.

Number of alerts per severity for cluster

The pie chart displays the number of alerts per alert severity. The chart displays the severity details of the alerts that are generated. Each sector of the pie chart represents the number of alerts that are generated of a particular severity type. The chart provides as many number of sectors as there are severities (for which the Reporter generates alerts in the day). If no data exists for a severity, no sector in the chart represents that severity. If no data exists, the Reporter does not generate the chart.

Top 10 alerts in cluster

The bar chart displays the number of alerts of a particular Alert Type. The chart displays the details of the alerts that are generated on the basis of the alert type. Each bar represents the number of alerts for an alert type. The chart displays details only for the first 10 alerts based on the highest number of alerts in descending order. If no data exists for a particular alert type, no bar represents that alert. If no data exists for any alert type, the Real-Time Monitoring Tool does not generate the chart.

The server (or each server in an IM and Presence cluster) contains log files that match the file name pattern AlertLog_mm_dd_yyyy_hh_mm.csv. The following information exists in the log file:

- Time—Time at which the alert occurred
- Alert Name—Descriptive name
- Node Name—Server on which the alert occurred
- Monitored object—The object that is monitored Performance Protection Report
- Severity—Severity of this alert
**Access to Serviceability Reports Archive**

### Activate Serviceability Reports Archive

**Procedure**

- **Step 1** From Cisco Unified IM and Presence Serviceability, select **Tools > Service Activation**.
- **Step 2** Select the required server from the **Server** list box, and then select **Go**.
- **Step 3** Navigate to the **Performance and Monitoring** services pane.
- **Step 4** Check the **Cisco Serviceability Reporter** service checkbox, and then select **Save**.
- **Step 5** Select **Tools > Control Center - Feature Services**.
- **Step 6** Select the required server from the **Server** list box, and then select **Go**.
- **Step 7** Navigate to the **Performance and Monitoring** services pane and locate the Cisco Serviceability Reporter.
- **Step 8** Verify that the status of the Cisco Serviceability Reporter is Started and Activated. If the Cisco Serviceability Reporter is not running, select the Cisco Serviceability Reporter and select **Start**.

### What to Do Next

If you opened Cisco Unified IM and Presence Serviceability by entering the server name in the browser, you must sign in to Cisco Unified IM and Presence Serviceability before you can view the report.

The Cisco Unified IM and Presence Serviceability service only generates reports on the publisher node even if you turn on the service on other nodes.

### Access Serviceability Reports Archive

#### Before You Begin

Activate the Cisco Serviceability Reporter service. After you activate the service, report generation may take up to 24 hours.

**Procedure**

- **Step 1** Select **Tools > Serviceability Reports Archive**.
- **Step 2** Select the month and year for which you want to display reports in the **Month-Year** section.
- **Step 3** Select the link that corresponds to the day for which reports were generated to view the required report.
- **Step 4** Select the link of the report that you want to view to view a particular PDF report.
  The section in the Trace Filter Settings area that relates to devices is not relevant to IM and Presence.

**Tip** If you opened Cisco Unified IM and Presence Serviceability by entering the server name in the browser, you must sign in to Cisco Unified IM and Presence Serviceability before you can view the report.