Understanding Feature and Network Services in Cisco Unified Serviceability

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

About Feature Services

In Cisco Unified Serviceability, you can turn on (activate), start, and stop feature services. When you turn on (activate) a service, Cisco Unified 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 Cisco Unified Presence. After you turn on feature services, you can modify associated service parameters in Cisco Unified Presence Administration.

Cisco Unified Serviceability categorizes feature services into the following groups:

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

Related Topics

How To Turn On and Turn Off Feature Services, page 5-1

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 Cisco Unified Presence. This web-based interface also enables large scale deployments of Cisco Unified 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 Cisco Unified 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 Cisco Unified Presence 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 Cisco Unified 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 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

About Serviceability Reports Archive, page 4-10

Cisco Unified Presence Services

Cisco UP SIP Proxy

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

Cisco UP Presence Engine

The Cisco Unified 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 UP Sync Agent

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

Cisco UP XCP Text Conference Manager

The Cisco Unified Presence 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 UP XCP Web Connection Manager

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

Cisco UP XCP Connection Manager

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

Cisco UP XCP SIP Federation Connection Manager

The Cisco Unified Presence 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 a Cisco Unified Presence Release 8.x cluster, and a Cisco Unified Presence Release 7.x cluster.

Cisco UP XCP XMPP Federation Connection Manager

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

Cisco UP XCP Message Archiver

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

Cisco UP XCP Directory Service

The Cisco Unified Presence 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 UP XCP Authentication Service

The Cisco Unified Presence XCP Authentication Service handles all authentication requests from XMPP clients connecting to Cisco Unified Presence.

About Network Services

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

Performance and Monitoring Services

Cisco CallManager Serviceability RTMT

The Cisco CallManager Serviceability RTMT servlet supports the Cisco Unified 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 Cisco Unified 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 Cisco Unified 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.

Backup and Restore Services

Cisco DRF Master

The CiscoDRF 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 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 Serviceability graphical user interface (GUI). If you stop this service, you cannot access the Cisco Unified 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 CiscoWorks2000, 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 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 Cisco Unified 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 Cisco Unified 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 Cisco Unified 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 Operating System Administration.

Cisco License Manager

Cisco License Manager keeps track of the Cisco Unified Presence-related licenses that a customer purchases and uses. It controls license checkins and checkouts, and it takes responsibility for issuing and reclaiming Cisco Unified Presence-related licenses. For Cisco Unified Presence, Cisco License Manager manages the Cisco Unified Presence application and the number of device licenses. This service runs on all the nodes, but the service on the first node has the responsibility for issuing and reclaiming licenses.

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 availability 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 UP Admin

The Cisco UP Admin service supports Cisco Unified Presence Administration, the web application/interface that you use to configure Cisco Unified Presence settings. After the Cisco Unified 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 Presence Administration graphical user interface when you browse into that server.

Cisco UP User

The Cisco UP User service supports the Cisco Unified Presence User Options interface.

Cisco Unified Presence Services

Cisco UP Login Datastore

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

Note This service applies to Cisco Unified Presence Release 8.6(4) and later only.

Cisco UP Route Datastore

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

Note This service applies to Cisco Unified Presence Release 8.6(4) and later only.

Cisco UP Config Agent

The Cisco Unified Presence Configuration Agent is a change notification service which notifies the Cisco Unified Presence SIP Proxy of configuration changes in the Cisco Unified Presence IDS database. This process also provides some management of the replication and recovery of data stored in Cisco UP Login Datastore, Cisco UP Route Datastore, Cisco UP Presence Datastore, and Cisco UP SIP registration Datastore.

Cisco UP OAM Agent

The Cisco Unified Presence OAM Agent service monitors configuration parameters in the Cisco Unified 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 UP Client Profile Agent

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

Cisco UP Presence Engine Database

The Cisco UP Presence Engine Database is a real-time database for storing transient availability data and subscriptions.

Note This service does not apply to Cisco Unified Presence Release 8.6(4) and later.

Cisco UP Intercluster Sync Agent

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

Cisco UP XCP Router

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

After Cisco Unified Presence installation, the system turns on Cisco UP XCP Router by default.

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

Cisco UP XCP Config Manager

The Cisco UP 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 UP 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 UP Server Recovery Manager

The Cisco UP 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 UP Replication Watcher

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

On the subscriber nodes, the Cisco UP Replication Watcher service delays the startup of feature services until IDS replication is successfully established. The Cisco UP 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 UP 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 UP Presence Datastore

The Cisco UP Presence Datastore is a real-time database for storing transient availability data and subscriptions.

Note This service applies to Cisco Unified Presence Release 8.6(4) and later only.

Cisco UP SIP Registration Datastore

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

Note This service applies to Cisco Unified Presence Release 8.6(4) and later only.

About Serviceability Reports Archive

The Cisco Serviceability Reporter service, which is CPU intensive, generates daily reports in Cisco Unified 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, page 4-10
- Alert Summary Reports, page 4-11

Server Statistic Reports

The Server Statistics Report provides the following line charts:

- Percentage of CPU per Server, page 4-10
- Percentage of Memory Usage per Server, page 4-10
- Percentage of Hard Disk Usage of the Largest Partition per Server, page 4-11

Percentage of CPU per Server

The line chart displays the percentage of CPU usage for the server (or for each server in a Cisco Unified Presence cluster). The line in the chart represents the data for the server (or one line for each server in a Cisco Unified 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 Cisco Unified 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 Cisco Unified Presence server (%MemoryInUse). In a Cisco Unified 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 a Cisco Unified Presence cluster configuration, the Reporter does not generate the line that represents that server.

Percentage of Hard Disk Usage of the 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 a Cisco Unified 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 a Cisco Unified 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 a Cisco Unified Presence cluster)
- % Memory usage (%MemoryInUse) on the server (or on each server in a Cisco Unified Presence cluster)
- % Hard disk usage of the largest partition (%DiskSpaceInUse) on the server (or on each server in a Cisco Unified Presence cluster)

Alert Summary Reports

The Alert Summary Report provides details of alerts that are generated for the day. The Alert report comprises the following charts:

- Number of Alerts per Server, page 4-11
- Number of Alerts per Severity for the Cluster, page 4-11
- Top 10 Alerts in the Cluster, page 4-12

Number of Alerts per Server

The pie chart provides the number of alerts per Cisco Unified Presence node. The chart displays the serverwide 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 Cisco Unified 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 the 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 the 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 a Cisco Unified 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

How to Access Serviceability Reports Archive

Activating Serviceability Reports Archive

Before you Begin

If you have already signed into one of the applications that display in the Navigation list box (not Cisco Unified OS Administration or Disaster Recovery System), you can access Cisco Unified Serviceability without signing in. From the Navigation list box, select Cisco Unified Serviceability, and select **Go**.

Procedure

Step 1 Select **Tools > Service Activation**.

Step 2 Select the required server from the Server list box.

Step 3 Select **Go**.

Step 4 Navigate to the Performance and Monitoring services pane.

Step 5 Check the Cisco Serviceability Reporter service checkbox.

Step 6 Select **Save**.

Step 7 Select **Tools > Control Center - Feature Services**.

Step 8 Select the required server from the Server list box.

Step 9 Select **Go**.

Step 10 Navigate to the Performance and Monitoring services pane and locate the Cisco Serviceability Reporter.

Step 11 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**.

Troubleshooting Tips

- If you opened Cisco Unified Serviceability by entering the server name in the browser, you must sign in to Cisco Unified Serviceability before you can view the report.
- The Cisco Unified Serviceability service only generates reports on the publisher node even if you turn on the service on other nodes.

Accessing 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.

Troubleshooting Tips

- If you opened Cisco Unified Serviceability by entering the server name in the browser, you must sign in to Cisco Unified Serviceability before you can view the report.
- The section in the Trace Filter Settings area that relates to devices is not relevant to Cisco Unified Presence.