Cisco Unified CCX Serviceability

Cisco Unified CCX Serviceability

Access Cisco Unified CCX Serviceability

When you complete the AppAdmin inital setup, the end user with administrator capability as configured in AppAdmin web interface can login to Cisco Unified CCX Serviceability. You can also log in as an Application user with default administrator capability configured during the installation of Unified CCX. See the *Cisco Unified Contact Center Express Install and Upgrade Guide* and *Cisco Unified Contact Center Express Administration Guide* for detailed instructions on initial AppAdmin setup and how to assign administrator capability to end users.

To access Cisco Unified CCX Serviceability:

Step 1 By using a supported web browser, open a browser session.

Step 2 Go to `https://<server name or IP address>/uccxservice/`.

Step 3 Enter an applicable username and password, and click **Login**.

> **Note** If you log in as an end user, you can access Cisco Unified CCX Administration from the Navigation drop-down list box without logging in again. If you log in as an Application user, you can access Cisco Unified Serviceability in addition to these web applications.

Alarms

Cisco Unified CCX Serviceability alarms provide information on runtime status and the state of the system so that you can monitor the status and troubleshoot problems that are associated with the system. Alarm information includes the catalog, name, severity, explanation, recommended action, routing list, and parameters.

You can view alarm information by using the SysLog Viewer in Cisco Unified Real-Time Monitoring Tool (RTMT). See *Cisco Unified Real-Time Monitoring Tool Administration Guide for Cisco Unified Contact Center Express and Cisco Unified IP IVR* for detailed information on how to view alarm information.

Note Use the Alarm Definitions web page in Cisco Unified Serviceability to find information about an alarm message.

For information on alarm definitions, see the *Cisco Unified Serviceability Administration Guide* available at: https://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/products-maintenance-guides-list.html.

Alarm Configuration

Use the Alarm Configuration web page in Unified CCX Serviceability to view and configure alarm server settings for different Unified CCX components.

Note Alarm Server Configuration is applicable for the following Unified CCX components: Unified CCX Administration, Unified CCX Engine, and Unified CCX Cluster View Daemon .

The alarm configuration submenu allows you to:

- Enable or disable sending of alarms to local or remote syslog server.
- Configure alarm event level for local or remote syslog server

Select **Alarm** > **Configuration** from the Cisco Unified CCX Serviceability menu bar to access the Alarm Configuration web page.

Related Topics

Configure Alarm Settings

The Alarm Configuration page is used to view and update Cisco Unified CCX Alarm Configuration for local and remote syslogs.

Step 1 From the Unified CCXServiceability menu bar, choose **Alarm** and click **Configuration**.

The Alarm Configuration web page opens and the following fields are displayed on the Alarm Configuration web page, if configured on your Unified CCX server:

Field	Description
Local Syslogs	

Field	Description
Enable Alarm	Use the check box next to Enable Alarm field to enable or disable the alarms for local syslog.
Alarm Event Level	Lists the alarm severity level.
Remote Syslogs	
Enable Alarm	Use the check box next to Enable Alarm field to enable or disable the alarms for remote syslog.
Alarm Event Level	Lists the alarm severity level.
Server Name	IP address or hostname of the Syslog server to which system should send the alarm messages. If you are using CiscoWorks, enter the IP address or the hostname of the CiscoWorks server.

Step 2 To update the Alarm Event Level for local or remote syslogs, check the check box before Enable Alarm field.

Step 3 Modify Alarm Event Level for the local or remote syslogs by selecting from the Alarm Event Level drop-down list. Modify the syslog server name in case of remote syslog.

Step 4 Click **Update** icon that displays in the tool bar in the upper, left corner of the window or the **Update** button that displays at the bottom of the window to save your configuration. Click **Clear** to reset data to the previous values.

In case of a High Availability deployment, the alarm configuration changes are automatically propagated to the second node. If the second node cannot be contacted, an alert message indicating that the update has failed on the remote node is displayed.

Caution You should activate logging **only** for the purpose of debugging and remember to **deactivate** logging once the debugging session is complete.

Alarm Configuration Settings

Use the **Alarm Configuration** page to modify alarm settings.

In the case of a High Availability deployment, the alarm configuration changes are automatically propagated to the second node. If the second node cannot be contacted, an alert message indicating that the update has failed on the remote node is displayed.

Following table defines the options available on this page:

Setting	Description
Enable Alarm for Local Syslogs	The SysLog viewer serves as the alarm destination. The program logs errors in the Application Logs within SysLog Viewer and provides a description of the alarm and a recommended action. You can access the SysLog Viewer from the Cisco Unified Real-Time Monitoring Tool. For information on viewing logs with the SysLog Viewer, see *Cisco Unified Real-Time Monitoring Tool Administration Guide for Cisco Unified Contact Center Express and Cisco Unified IP IVR*.

Enable Alarm for Remote Syslogs	The Syslog file serves as the alarm destination. Check this check box to enable the Syslog messages to be stored on a Syslog server and to specify the Syslog server name.
Alarm Event Level	Alarm event level messages range from severity 0 (most severe) to severity 7 (least severe) description of which is mentioned below. When you choose a severity level, all messages of that severity level and higher are sent.
	For example, if you choose ERROR_ALARM (Severity 3), all messages of severity 3, severity 2, severity 1, and severity 0 are sent. The default is "INFORMATIONAL_ALARM (Severity 6)", which will send messages of all severity levels starting from 6 to severity level 0.
	You can choose one of the following alarm event level options from the drop-down list box:

	Emergency
	    This level designates system as unusable.
	Alert
	    This level indicates that immediate action is needed.
	Critical
	    The system detects a critical condition.
	Error
	    This level signifies an error condition exists.
	Warning
	    This level indicates that a warning condition is detected.
	Notice
	    This level designates a normal but significant condition.
	Informational
	    This level designates information messages only.
	Debug
	    This level designates detailed event information that Cisco TAC engineers use for debugging.

Traces

A trace file is a log file that records activity from the Cisco Unified CCX components. Trace files let you obtain specific, detailed information about the system that can help you troubleshoot problems.

The Cisco Unified CCX system can generate trace information for different services. This information is stored in a trace file. To help you control the size of a trace file, you can specify the services for which you want to collect information and the level of information that you want to collect.

The Cisco Unified CCX system also generates information about all threads that are running on the system. This information is stored in the thread dump file and is useful for troubleshooting.

Component Trace Files

The component trace file contains information about each component. You can create a trace file for any of the following Unified CCX components:

- Cisco Unified CCX Administration

- Cisco Unified CCX Cluster View Daemon

- Cisco Unified CCX Editor

- Cisco Unified CCX Engine

- Cisco Unified CM Telephony Client

- Cisco Unified CCX Recording and Monitoring Services

- Cisco Unified CCX Socket.IO Service

Note You must use Cisco Unified Intelligence Center CLIs for Log Trace Settings. For more information see *Cisco Unified Intelligence Center Commands*.

The component trace file contains information about each component. To set up the trace file, follow the procedure mentioned in **Configure Trace Parameters** section.

After configuring the information that you want to include in the trace files for the various services, you can collect and view trace files by using the trace and log central option in the Cisco Unified Real-Time Monitoring Tool. See *Cisco Unified Real-Time Monitoring Tool Administration Guide for Cisco Unified Contact Center Express and Cisco Unified IP IVR* for detailed information.

Configure Trace Parameters

To update trace file information and to activate and deactivate logging, follow the procedure mentioned below:

Step 1 From the Cisco Unified CCX Serviceability menu bar, choose **Trace** > **Configuration**.

The Trace Configuration web page opens displaying the default trace configuration for Unified CCX Engine.

Step 2 From the **Select Service** drop-down list box, choose a service or component for which you want to configure trace then, click **Go**.

You should be able to view the existing Trace configurations and debug levels for the selected Unified CCX service with check boxes for the various Debugging and XDebugging levels for each sub facility.

The debug levels for different Unified CCX subfacilities or services might vary depending on the selected service and are listed in the following table:

Table 1: Debug Levels for Different Unified CCX Subfacilities

Cisco Unified CCX Components	Subfacilities or Services
Cisco Unified CCX Administration	
	Libraries
	Managers
	Miscellaneous
Cisco Unified CCX Cluster View Daemon	

Cisco Unified CCX Components	Subfacilities or Services
	Libraries
	Managers
	Miscellaneous
Cisco Unified CCX Editor	
	Libraries
	Managers
	Miscellaneous
	Steps
Cisco Identity Service	
	Error
	Warning
	Information
	Debugging
Cisco Unified CCX Engine	
	Libraries
	Managers
	Miscellaneous
	Steps
	Subsystems
Cisco Unified CM Telephony Client or JTAPI Debug Levels	
	Warning
	Information
	Debugging
Cisco Unified CCX Socket.IO Service	
	Service
	DataProcessing
	Communication

Table 2: Debug Levels for Different Cisco VVB Subfacilities

Cisco VVB Components	Subfacilities or Services
Cisco VVB Administration	
	Libraries
	Managers
	Miscellaneous
Cisco VVB Engine	Libraries
	Managers
	Miscellaneous
	Steps
	Subsystems

Step 3 Update the debug level for one or more of the libraries or sub facilities for the selected service by doing the following:

a) To activate traces for a specific component or logging for a server, check the check box for the service that you chose.

b) To deactivate logging for a server, uncheck the specific check box.

Caution   If you modify the trace level settings for Cisco Unified CM Telephony Client, you have to restart the Unified CCX Engine for the changes to take effect.

Step 4 To limit the number and size of the trace files, you can specify the trace output setting using the following two fields. See the following table for description and default values for these two fields.

Field	Description
Maximum No. of Files	The maximum number of trace files to be retained by the system.
	This field specifies the total number of trace files for a given service. Cisco Unified CCX Serviceability automatically appends a sequence number to the file name to indicate which file it is; for example, Cisco001MADM14.log. When the last file in the sequence is full, the trace data begins writing over the first file. The default value varies by service.
Maximum File Size	This field specifies the maximum size of the trace file in kilobytes or megabytes depending on the selected service. The default value varies by service.

Step 5 Click **Save** icon that displays in the tool bar in the upper, left corner of the window or the **Save** button that displays at the bottom of the window to save your trace parameter configuration. The settings are updated in the system and the trace files will be generated as per the saved settings. Click **Restore Defaults** icon or button to revert to the default settings for the selected service.

In a High Availability deployment, the changes are propagated to the second node. If the second node cannot be contacted, an alert message indicating that the update has failed on the remote node is displayed.

Caution   You should activate logging **only** for the purpose of debugging and remember to **deactivate** logging once the debugging session is complete.

Note	You will not be able to save the trace configuration if the Socket.IO service is down. When the node containing the socket.IO service is down then the log levels will not be saved on that particular node.

Related Topics

Trace Level Options

A trace file is a log file that records activity from the Cisco Unified CCX component subsystems and steps. Trace files let you obtain specific, detailed information about the system that can help you troubleshoot problems.

The Cisco Unified CCX system can generate trace information for every component. This information is stored in an trace file. To help you control the size of an trace file, you specify the components for which you want to collect information and the level of information that you want to collect.

A trace file that records all information for a component, such as the Cisco Unified CCX Engine, can become large and difficult to read. To help you manage the trace file, the Cisco Unified CCX system lets you specify the subfacilities for which you want to record information.

For each component, you can select one or more Debugging trace levels. These selections specify the level of details in the debugging messages that the system sends to a trace file. For instance, if you select Debugging, the system sends only the basic error messages while if you select XDebugging5, the system will send errors, warnings, informational, debugging, verbose messages and so on in detail to the trace file.

The table below describes the Trace file subfacilities.

Table 3: Trace File Subfacilities

Component Code	Description
AC_CLUSTER	Archive Cluster Component
AC_CONFIG	Archive Configuration Component
AC_DATABASE	Archive Database Component
AC_JTAPI	JTAPI Archive Component
AC_OS	Archive Operating System Component
ADM	Administration Client
ADM_CFG	Administration Configuration
APP_MGR	Applications Manager
ARCHIVE_MGR	Archive Manager
AW_CFG	Restore Administration Configuration
BARBI_CLI	Backup and Restore Client Interface
BOOTSTRAP_MGR	Cisco Unified CCX Bootstrap Manager

Component Code	Description
CFG_MGR	Configuration Manager
CHANNEL_MGR	Channel Manager
CLUSTER_MGR	Cluster Manager
CONTACT_MGR	Contact Manager
CONTACT_STEPS	Contact Steps
CRA_CMM	Cisco Unified CCX ClusterMsgMgr Component
CRA_HRDM	Cisco Unified CCX Historical Reporting Data Manager
CVD	Cluster View Daemon
DB	Database
DBPURGE_MGR	Database Purge Manager
DESKTOP	Cisco Unified CCX Editor Desktop
DOC_MGR	Document Manager
EDT	Cisco Unified CCX Editor general
ENG	Cisco Unified CCX Engine
EXECUTOR_MGR	Executor Manager
EXPR_MGR	Expression Manager
FILE_MGR	File Manager
GENERIC	Generic catalog for a facility
GRAMMAR_MGR	Grammar Manager
GRP_CFG	Group Configuration
HOLIDAY_MGR	Holiday Manager
HR_MGR	Historical Reports Manager
ICD_CTI	Cisco Unified CCX CTI Server
ICD_HDM	IPCC Express Historical Data Manager
ICD_RTDM	Cisco Unified CCX ICD Real-Time Data Manager
IVR_RTDM	Cisco Unified CCX IP IVR Real-Time Data Manager
IO_ICM	Cisco Unified ICME Input/Output
JASMIN	Java Signaling and Monitoring Interface

Component Code	Description
LIB_APPADMININTERCEPTOR	Cisco Unified CCX Administration Interceptor Library
LIB_AXL	AXL Library
LIB_CFG	Configuration Library
LIB_CLUSTER_CFG	Configuration Library for the cluster
LIB_CRTP	CRTP Library
LIB_DATABASE	Database Library
LIB_DIRECTORY	Directory Access Library
LIB_EVENT	Event Message Library
LIB_ICM	Cisco Unified ICME Library
LIB_JASPER	Jasper Tomcat Library
LIB_JCUP	JavaCup Library to parse expressions
LIB_JDBC	JDBC Library
LIB_JINI	JINI Services
LIB_JMAIL	Java Mail Library
LIB_JLEX	JLEX Library used to parse expressions
LIB_LICENSE	License Library
LIB_MEDIA	Media Library
LIB_RMI	Java Remote Method Invocation Library
LIB_SERVLET	Servlet Library
LIB_TC	Tomcat Library
LOG_MGR	Log Manager
MRCP_CFG	MRCP Configuration
MGR_MGR	Manager Manager
NODE_MGR	Node Manager
PALETTE	Editor Palette
PROMPT_MGR	Prompt Manager
PURGING	Purging
RPT	Reporting

Component Code	Description
RTPPORT_MGR	RTP Manager
SCRIPT_MGR	Script Manager
SESSION_MGR	Session Manager
SIP_STACK	SIP Stack logging
SOCKET_MGR	Socket Manager
SS_APP	Application Subsystem
SS_CHAT	Chat Subsystem
SS_CM	Contact Manager Subsystem
SS_CMT	Cisco Media Termination Subsystem
SS_DB	Database Subsystem
SS_EMAIL	Email Subsystem
SS_HTTP	HTTP Subsystem
SS_ICM	Cisco Unified ICME Subsystem
SS_MRCP_ASR	MRCP ASR Subsystem
SS_MRCP_TTS	MRCP TTS Subsystem
SS_OUTBOUND	Outbound Dialer Express Subsystem (uses MIVR log file)
SS_RM	Resource Manager Subsystem
SS_RMCM	Resource Manager Contact Manager Subsystem
SS_ROUTEANDQUEUE	Route and Queue Subsystem
SS_RTR	Real-Time Reporting Subsystem
SS_SIP	SIP Subsystem
SS_TEL	JTAPI Subsystem (Telephony)
STEP_CALL_CONTROL	Call Control Steps
STEP_MEDIA_CONTROL	Media Control Steps
STEP_SESSION	Sessions Steps
STEP_SESSION_MGMT	Session Management Steps
STEP_USER	User Steps
STEP_CALL_CONTACT	Call Contact Steps

Component Code	Description
STEPS_CONTACT	Contact Steps
STEPS_DB	Database Steps
STEPS_DOCUMENT	Document Steps
STEPS_EMAIL	E-mail Steps
STEPS_GENERAL	General Steps
STEPS_GRAMMAR	Grammar Steps
STEPS_HTTP	HTTP Steps
STEPS_ICM	Cisco Unified ICME Steps
STEPS_IPCC_EXP	Cisco Unified CCX Steps
STEPS_JAVA	Java Steps
STEPS_PROMPT	Prompt Steps
STEPS_SESSION	Session Steps
UCCX_WEBSERVICES	Chat Subsystem
USR_MGR	User Manager
WEB_STEPS	HTTP Contact Steps

When the Cisco Unified CCX product is running on a 7845 machine and tracing is ON (the default), limit the Busy Hour Call Completions (BHCC) to 4500 calls per hour. If you want to run a higher BHCC, turn the debug traces OFF. The trace subfacilities to be turned OFF are ICD_CTI, SS_TEL, SS_RM, SS_CM, and SS_RMCM.

Trace file location

The Unified CCX server stores the trace files in the Log directory under the directory in which you installed the Unified CCX component. You can collect and view trace information using the Real-Time Monitoring Tool (RTMT).

Trace File Information

The trace files contain information in standard Syslog format. The file includes some or all of the following information for each event that it records:

- Line number

- Date and time the event occurred

- Facility and subfacility (component) name

- Severity level

- Message name

- Explanation

- Parameters and values

Log Profiles Management

Log Profile is an aggregated entity that preserves trace settings of the following Unified CCX services:

- Cisco Unified CCX Engine (Traces termed as MIVR)

- Cisco Unified CCX Administration (Traces termed as MADM)

- Cisco Unified CCX Cluster View Daemon (Traces termed as MCVD)

Choose **Trace** > **Profile** from the Unified CCXServiceability menu bar to access the Log Profiles Management web page. The Log Profiles Management web page opens displaying the available log profiles each with a radio button. You can perform different operations on the listed log profiles, which are explained in detail in the following sub-sections.

> **Note** Log Profiles Management does not support Socket.IO service.

Log profiles in Unified CCX can be one of the following two types:

1. System Log Profiles: These log profiles are pre-installed with Unified CCX and you cannot modify these profiles.

   The following table provides information on the log profiles that are factory shipped with Unified CCX:

Table 4: System Log Profiles

Name	Scenario in which this profile must be activated
Default	Activate this profile once an issue is resolved.
Outbound	For issues with Unified CCX Outbound Dialer AppAdmin.
AppAdmin	For issues with web administration through AppAdmin, Unified CCX Serviceability, and other web pages.
Media	For issues with media setup or media transmission.
HRDM (Historical Reporting Data Manager)	For issues with historical data that is written to the database.
StuckSession	For issues with application sessions, sessions that are not being deleted when appropriate and appearing stuck in AppAdmin Real Time Reports.
Database	For issues with Unified CCX Informix database.
EDBS (Enterprise Database Subsystem)	For issues with external database connectivity and integration.

Name	Scenario in which this profile must be activated
CallsStuckInQueue	For issues with calls in queue that are not being allocated to available agents or appearing stuck in queue in reports.
Serviceability	For issues with the functionality in Unified CCX Serviceability Administration Interface.
RealTimeDataProblems	For issues with Real Time Reports in AppAdmin.

2. Custom Log Profiles: If the trace settings generated by system profiles are not sufficient in a particular scenario, you can create custom log profiles for better troubleshooting. You can upload and activate these custom log profiles, on a need basis.

Note
- In a HA deployment of Unified CCX, all the log profile operations will be reflected on both the nodes in the cluster.

- You cannot delete the profile if the selected log profile is the last-enabled profile in the system.

Related Topics

Create Profile

To create a log profile for a specific trace, perform the following steps:

Step 1 From the Unified CCXServiceability menu bar, choose **Trace** > **Profile**. The Log Profiles Management web page displays.

Step 2 Click **Add New** icon that displays in the tool bar in the upper, left corner of the window or the **Add New** button that displays at the bottom of the window.

The Log Profile Configuration web page displays. You can view lists of subfacilities such as libraries, managers, steps, subsystems, and so on with check boxes for the various Debugging and XDebugging levels for each subfacility for the MIVR tab by default.

Step 3 Select desired trace setting for different subfacilities in a service by clicking the corresponding check box.

Step 4 Click MCVD and MADM tabs to navigate to view and enable trace setting for these profiles.

Step 5 On successful configuration of these log profiles, click **Save** to save the profile or **Save and Enable** to save and enable the profile. The new profile will be displayed in the main profile page.

Related Topics

Save as Another Profile

To save an existing profile as another profile, perform the following steps:

Step 1 From the Unified CCXServiceability menu bar, choose **Trace** > **Profile**. The Log Profiles Management web page displays.

Step 2 Click the radio button to select a log profile.

Step 3 Click **Save As**.

The Log Profile Configuration web page for the selected profile is displayed where you can view and update the existing profile settings. Click MIVR, MCVD, and MADM tabs to view and modify the trace settings.

Step 4 You can save these updated trace settings with a new name. You will see a message confirming successful saving of the new profile.

Related Topics

Enable Profile

To enable or activate a log profile, perform the following steps:

Step 1 From the Unified CCXServiceability menu bar, choose **Trace** > **Profile**. The Log Profiles Management web page displays.

You can enable a log profile using any one of the following methods from the Log Profiles Management web page:

a) Select the radio button for the profile and click **Enable** icon or button

b) Click the hyperlink for the desired profile. Log Profile Configuration web page for the selected profile is displayed. Click **Enable** icon or button in the Profile Configuration web page

c) Click **Add New**. Enter the desired trace settings in the Profile Configuration web page and click **Save and Enable** icon or button in the Profile Configuration web page.

Step 2 The trace setting for the selected profile is transferred to system's trace settings and on successful activation, a message will be displayed in the status bar.

Related Topics

Delete Profile

To delete an existing log profile, perform the following steps:

Step 1 From the Unified CCXServiceability menu bar, choose **Trace** > **Profile**.

The Log Profiles Management web page displays.

Step 2 Select the radio button for an existing profile and click **Delete** icon or button to delete a log profile.

Alternatively, you can click the hyperlink of the profile that you want to delete from the Log Profiles Management web page. Log Profile Configuration web page for the selected profile is displayed where you can view the existing profile settings. Click **Delete** to delete the selected log profile.

Step 3 The selected log profile is deleted and you will see a confirmation message in the status bar.

Note You cannot delete the default and system log profiles. If the selected log profile happens to be the last-enabled profile in the system, then you cannot delete the profile. If you try to delete the last-enabled profile, the following alert message—"This is the last enabled profile in system and hence not allowed to be deleted." will be displayed.

Related Topics

Save Current Trace Settings

The trace settings that are currently enabled in Unified CCX can be saved by clicking **Save Current Trace Settings** so that it can be enabled at a later date. For example, you might be asked to enable certain trace levels or a log profile during troubleshooting. In such a scenario, before doing the troubleshooting, you can save the current trace settings of your system as a profile so that you can enable the same trace settings after resolving the issue.

Use the procedure mentioned below to save the current trace settings in the system as a profile:

Step 1 From the Unified CCXServiceability menu bar, choose **Trace** > **Profile**. The Log Profiles Management web page displays.

Step 2 Click **Save Current Trace Settings** icon in the tool bar or the **Save Current Trace Settings** button at the bottom of the window.

Step 3 The Explorer User Prompt dialog box opens. Enter a name for your log profile.

Step 4 Click **OK** to save this profile. All the existing trace settings in your system is saved as a profile. Click **Cancel** to cancel this operation.

You should be able to view this new log profile along with the existing profiles in the Log Profiles Management web page. You can select and click **Enable** to enable the same profile at a later date.

Related Topics

Upload Profile

To upload a log profile, perform the following steps:

Step 1 From thUnified CCXServiceability menu bar, choose **Trace** > **Profile**. The Log Profiles Management web page displays.

Step 2 To locate the log profile, click the **Browse** button next to **Enter a Profile File to Upload** field, navigate to the directory in which the profile (.xml file) is located, and click **Open**. The path for the profile appears in this field.

Step 3 Click **Upload** to upload the profile.

Step 4 You should be able to view the uploaded profile along with the existing profiles in the Log Profiles Management web page.

Related Topics

Update Profile

You can update only custom log profiles. To view and update an existing log profile, perform the following steps:

Step 1 From the Unified CCXServiceability menu bar, choose **Trace** > **Profile**. The Log Profiles Management web page displays.

Step 2 Click the hyperlink of the profile you wish to view or update.

The Log Profile Configuration web page for the selected profile is displayed where you can view the existing profile settings.

Step 3 Click MIVR, MCVD, and MADM tabs to view and modify the trace settings.

Step 4 Click **Save** to save the updated profile settings or **Save and Enable** to enable the updated profile. You will see a message confirming successful saving or enabling of the updated profile. Click **Cancel** to go back to Log Profiles Management web page.

Related Topics

Serviceability Tools

Access Control Center — Network Services Menu

Control Center in Cisco Unified CCX Serviceability lets you do the following tasks:

- Start, stop, and restart Unified CCX services

- View the status the status of Unified CCX services

- Refresh the status of Unified CCX services

Unified CCX Serviceability provides Control Center - Network Services menu option, which is essential for your system to function.

Choose **Tools** > **Control Center - Network Services** from the Unified CCXServiceability menu bar to perform the above-mentioned actions.

Tip   You may need to manage services in both Unified CCX Serviceability and Cisco Unified Serviceability to troubleshoot a problem. For information on Unified Serviceability services, see the *Cisco Unified Serviceability Administration Guide* available at: https://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/products-maintenance-guides-list.html.

Network Services

Installed automatically, network services include services that the system requires to function; for example, database and system services. Because these services are required for basic functionality, you cannot activate them in the Service Activation window.

After the installation of your application, network services start automatically. The list of services displayed in the Control Center—Network Services web page depends on the license package of your Unified CCX. If you have a Unified CCX Premium license, Unified CCX Serviceability categorizes the network services into the following categories, which are explained in the subsequent sections:

- System Services, on page 18
- Admin Services, on page 19
- DB Services, on page 19

The Control Center—Network Services web page displays the following information for the network services:

- Name of the network services, their dependant subsystems, managers, or components
- Status of the service (IN SERVICE, PARTIAL SERVICE, or SHUT DOWN; for individual subsystems, the status could be OUT OF SERVICE or NOT CONFIGURED).
- Start Time of the service
- Up Time of the service

Note   • Unified CCX Engine Services information will be removed from UCCX Serviceability page, when an invalid license is uploaded.

- Only System and Admin Services Information will be visible in Unified CCX Node Services Information.

System Services

The Unified CCX Serviceability service supports starting and stopping of the following System Services:

- Cisco Unified CCX Perfmon Counter Service

- Cisco Unified CCX Cluster View Daemon—List of Managers

- Cisco Unified CCX Engine—List of Subsystems and Managers

- Cisco Unified CCX Voice Subagent

- Cisco Unified CCX Notification Service

- Cisco Unified CCX SNMP Java Adapter

- Cisco Unified Intelligence Center Reporting Service

- Cisco Unified Intelligence Center Serviceability Service

- Cisco Unified CCX DB Perfmon Counter Service

- Cisco Unified CCX Socket IO Service

- Cisco Identity Service

- Cisco Unified Web Proxy Service

Admin Services

The Unified CCX Serviceability service supports starting and stopping of the following Admin Services:

- Cisco Unified CCX Administration

- Cisco Unified CCX Serviceability - List of Managers

Note You cannot start or stop this service from the Unified CCX Serviceability web interface and you need to use CLI.

- Cisco Unified CCX WebServices

DB Services

You can start and stop Cisco Unified CCX Database service.

Finesse Services

The Unified CCX Serviceability service supports starting and stopping of the following Cisco Finesse Services:

- Cisco Finesse Tomcat

Manage Network Services

Control Center in Cisco Unified CCX Serviceability allows you to view status, refresh the status, and to start, stop, and restart network services.

Perform the following procedure to start, stop, restart, or view the status of services for a server (or for a server in a cluster in a Unified CCXCisco VVB cluster configuration). You can start, stop, or refresh only one service

at a time. Be aware that when a service is stopping, you cannot start it until the service is stopped. Likewise, when a service is starting, you cannot stop it until the service starts.

Step 1 Choose **Tools** > **Control Center—Network Services** from the Unified CCXServiceability menu bar.

Step 2 From the **Server** drop-down list box, choose the sever and then click **Go**.

The window displays the following items:

a) The service names for the server that you chose.
b) The service status; for example, In Service, Shutdown, Partial Service and so on. (Status column)
c) The exact time that the service started running. (Start Time column)
d) The amount of time that the service has been running. (Up Time column)

Step 3 Perform one of the following tasks:

a) Click the radio button before the service that you want to start and click the **Start** button.

   The Status changes to reflect the updated status.

b) Click the radio button before the service that you want to stop and click the **Stop** button.

   The Status changes to reflect the updated status.

c) Click the radio button before the service that you want to restart and click the **Restart** button.

   A message indicates that restarting may take a while. Click **OK**.

d) To get the latest status of the services, click the **Refresh** button. The status information is updated to reflect the current status.

Command Line Interface

You can start and stop some services though the Command Line Interface (CLI). For a list of services that you can start and stop though the CLI and for information on how to perform these tasks, refer to the *Cisco Unified Contact Center Express Command Line Interface Reference Guide*.

Unified CCX Datastore

Datastores are components that allow you to manage and monitor historical, repository, and configuration data across all servers in the Unified CCX cluster.

Note Support for High Availability and remote servers is available only in multiple-server deployments.

The Unified CCX Cluster uses the publisher/subscriber database model for data replication across the system. Under normal circumstances, the database master acts as the source of data and the other node acts as the target for the data. In other words, the database master is the *publisher* and the other node is the *subscriber*.

Note In the **Tools** > **Datastore Control Center** > **Datastores** web page, the first node installed in the cluster is marked as publisher (with an icon marked P). This should not be confused with the publisher/ subscriber model being discussed here. The term publisher is used to denote only the first node in the cluster and does not indicate that node to be the source of the data. The publisher/subscriber mentioned in these pages refer to the source and destination of the data respectively. Typically, the database master node acts as the source and the other node acts as the destination.

The publisher/subscriber database model enables Unified CCX to provide high-availability and failover support. To support this on the database level, the data must be available on multiple nodes of the cluster. To have such data availability, replication is used for the Historical, and Repository datastore. The Configuration datastore does not use replication; instead, it uses atomic transactions to commit data changes to all active Configuration datastores in the cluster.

The database master is the main database. All data is written to this database, with the other database synchronizing with it. If the database master fails, then data can be written to the database on the second node. When the database master is back online, it returns to accepting writes. It also synchronizes with the other database to ensure data consistency is maintained in the cluster.

Network Outage

By default, replication between two nodes is removed if they are not able to synchronize with each other due to network outage for a substantial period of time. If the replication is dropped due to network outage, an alert is sent to the administrator so that the administrator can take corrective action.

Note Even though the replication between the nodes is removed, data could still be written to the database, which is accessible to the Unified CCX engine.

If the replication is removed, the administrator can go to **Tools** > **Datastore Control Center** > **Replication Servers** submenu from the Cisco Unified CCX Serviceability menu bar and click **Reset Replication**. This ensures that the replication is established between the nodes and the data synchronization (repair) process is initiated. Click **Check Details** icon in this web page to monitor the status of the repair.

If the network outage did not result in the replication setup being removed, once the network is up, the synchronization of data between the databases will happen automatically. For outages that last a few seconds, typically the administrator need not take any action and the system will be able to synchronize automatically.

Datastore Replication Status

Unified CCX Cluster configuration is not complete until Historical, and Repository publishers are configured. The Datastore Control Center in Unified CCX displays the status of datastore replication, allows you to synchronize data, and reset replication functions.

Note Support for High Availability is available only in multiple-server deployments.

Use the Datastore Control Center to perform the following functions:

• Obtain an overview of the datastores in the cluster and their relationships.

• Manage the datastore read/write access.

• Monitor and control the replication state (available only for Historical, and Repository datastores.)

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Tip   The Datastore Control Center page is available even in single-node deployments but you can only monitor the read and write access. You cannot synchronize data, reset replication, or control the replication state.

The Datastore Control Center will have the following two submenus:

The following table describes the datastores available and what they contain.

Datastore Name	Description
Historical	This datastore contains Historical Report data.
Repository	This datastore contains user prompts tables, grammar tables, and document tables.
Configuration	This datastore contains Unified CCX system configuration information.

Reset Replication Between Nodes

The Replication Servers menu option in Datastore Control Center allows you to view replication status and reset the replication between two nodes for the above-mentioned three datastores across all servers in the cluster. This menu will be available only in a High Availability deployment.

Follow the procedure below to access the Replication Servers web page:

Step 1   Choose **Tools** > **Datastore Control Center** > **Replication Servers** from the Unified CCXServiceability menu bar.

The Replication Servers web page opens displaying the list of servers and the following fields in a High Availability deployment.

Datastore Name	Description
Server	Host name of the server.
Node ID	Node ID of the server in the Unified CCX cluster.

State	The current connectivity status of the node in the replication network, which can be one of the following values:
	
	DROPPED/ TIMED OUT
	    The server cannot be reached and is not available in the replicated network.
	ACTIVE/ CONNECTED
	    The server is connected in the replication network and sends or receives updates.

Datastore Name	Description
Job Status	The current state of this database.
Last Changed	The time the connection state was last changed.

Step 2 Click **Reset Replication** to reset the replication if the replication is not functional between the two nodes.

The **Reset Replication** button will be enabled only when the database on both the nodes are enabled.

When the subscriber goes down and it is required to make configuration updates from the publisher, you can disable Config Datastore (CDS) and Historical Datastore (HDS) on the subscriber using **Disable CDS and HDS** icon or button. The database information for the cluster is displayed at the bottom of the window. Once the subscriber is up, you can enable CDS and HDS on the subscriber using the same toggle button.

Caution Any configuration in Application Administration and Historical data on the Subscriber node would get over written, when CDS is enabled again.

Related Topics

Datastores

Step 1 Choose **Tools** > **Datastore Control Center**.

Step 2 Click **Datastores** from the Unified CCXServiceability menu bar to view replication status of all the Unified CCX datastores and to synchronize data.

Step 3 Click **Synchronize Data** to synchronize data for each datastore except for the Configuration datastore between the two nodes in case of mismatch.

Related Topics

Datastore Control Center contents

The following table describes the Datastore Control Center contents common to all the Unified CCX datastores.

Field	Description
Server	Server machine name.
Replication Type	One of the following Enterprise Replication (ER) values in a High Availability deployment: • ER—Publication • ER—Subscription
Node ID	Node ID of server/node in Unified CCX cluster.

Read Access	Indicates whether data can be read from the datastore. Options: Yes, No.
Write Access	Indicates whether data can be written to the datastore. Options: Yes, No.
Replicate Status	Can be one of the following values: **RUNNING** All the necessary database services are up and the datastore is functioning as expected. **RETRYING** The datastore is in partial service and might be in the state of restart. **SHUTDOWN** The datastore is shutdown. **UNKNOWN** Unable to determine the current status of the datastore. This value is shown in a single-node deployment only.
Last Update Time	Indicates the last action the replication agent was performing.
Info	Use these icons to view further information in a new window: **Check Details** Click this icon to view information about data synchronization or repair jobs that might have been initiated. **History** Click this icon to view information about the replication latency (the time it takes to replicate transactions).

Related Topics

Update Parameters

Use the Service Parameters page to view and update different services in Unified CCX servers. Ensure the following prerequisites are met before configuring the parameters:

- The servers are configured.
- The service is available on the servers.

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Caution   Some changes to service parameters may cause system failure, thus do not make any changes to service parameters unless you fully understand the feature that you are changing or unless the Cisco Technical Assistance Center (TAC) specifies the changes.

Use the following procedure to configure the service parameters for a particular service on a particular Unified CCX server.

Step 1   From the Unified CCXServiceability menu bar, choose **Tools** and click **Service Parameters**.

Step 2   Choose a server from the Server drop-down list box. If parameters are available for that server, the service drop down list box appears displaying the following services:

- Cisco AMC Service.
- Cisco Log Partition Monitoring Tool.
- Cisco Trace Collection Service.
- Cisco RIS Data Collector.
- Cisco Serviceability Reporter.
- Cisco DRF local.
- Cisco DRF Master.

Note   Only the common platform services mentioned above are supported currently for Unified CCX.

Step 3   Choose the service that contains the parameter that you want to update from the Service drop-down list box.

Note   The Service Parameter Configuration window displays all services (active or not active).

Step 4   The parameters for the selected service are displayed and the suggested values (if available) are listed against each one of them. Update the appropriate parameter value.

Step 5   Click **Save**.

The modified values are saved and the new values are reflected on subsequent access to the service's parameters.

Click **Set to Default** to set all service parameters for this instance of the service to the default value. A warning is displayed that this action cannot be undone and only on confirmation, the parameter values for the selected service is set to the default values.

Note   Currently, you cannot configure any parameters for the following platform services: Cisco Trace Collection Service and Cisco Log Partition Monitoring Tool.

Configure Performance Monitoring of Unified CCX Servers

Use the Performance Configuration and Logging page to configure JVM parameters and dump Thread and Memory traces for performance monitoring of Unified CCX servers. You can configure settings only for the following services of Unified CCX:

- Cisco Unified CCX Cluster View Daemon
- Cisco Unified CCX Engine
- Cisco Unified CCX Serviceability

Use the following procedure to configure JVM parameters for a particular service on a particular server.

Step 1   From the Cisco Unified CCXServiceability menu bar, choose **Tools** > **Performance Configuration and Logging**.

Step 2   Choose a server from the Server drop-down list box and click **Go**.

The first node is selected by default and JVM options for the Unified CCX Engine service in the first node is displayed.

Step 3   Choose a service for which you want to see the JVM options from the Service drop-down list box. You should be able to select any one of the following services from this list box:

       • Cisco Unified CCX Cluster View Daemon
       • Cisco Unified CCX Engine
       • Cisco Unified CCX Serviceability

The following JVM options are displayed for each service:

       • PrintClassHistogram

       • PrintGCDetails

       • PrintGC

       • PrintGCTimeStamps

Step 4   Click the **Dump Thread Trace** icon or button to dump the thread traces for the selected service in the selected server. You can collect the corresponding jvm.log from the log folder for that facility using Real-Time Monitoring Tool (RTMT).

Step 5   Click the **Dump Memory Trace** icon or button to dump the memory traces. This creates the following two logs in the log folder for that facility.

    a)   Memory-<facility name>-<time stamp>.hprof (for heap dump)
    b)   histo-<facility name> <time stamp>.log (for histogram)

Step 6   You can change the JVM options by clicking **Enable** or **Disable** radio buttons in this page.

           Click the **Update JVM Options** icon or button to update the new settings for selected service on selected node.