



Cisco Unified CallManager Configuration



Note

For the Cisco Unified CallManager versions that Service Monitor supports, see *Release Notes for Cisco Unified Service Monitor 2.0*.

Service Monitor can collect and analyze data from Cisco Unified CallManagers only if you first configure Cisco Unified CallManager systems as described in these topics:

- [Configuration Tasks for Supported Cisco Unified CallManager Versions](#), page B-1
- [Configuring Cisco Unified CallManager](#), page B-2
- [Configuring MicroSoft SQLServer on Cisco Unified CallManager System](#), page B-6
- [Configuring Voice Gateways When VAD is Enabled](#), page B-8

Configuration Tasks for Supported Cisco Unified CallManager Versions


For Service Monitor to obtain CVTQ data from a Cisco Unified CallManager, you first need to perform configuration tasks while logged in to:

- Cisco Unified CallManager—To access Cisco Unified CallManager Administration and Cisco Unified CallManager Serviceability.
- The server where Cisco Unified CallManager is installed—To access Microsoft SQLServer.

Depending on the Cisco Unified CallManager version that you use, you need to perform some subset of the tasks listed in this section. Where tasks themselves differ slightly from one Cisco Unified CallManager version to another, version-specific steps are noted in the procedures.

[Table B-1](#) lists the configuration tasks you must complete for each version of Cisco Unified CallManager that you want Service Monitor to obtain CVTQ data from.

Table B-1 Cisco Unified CallManager and Microsoft SQLServer Configuration Tasks

Configuration Task	Perform Task for These Cisco Unified CallManager Versions:		
	5.x	4.x	3.3.x
Configure Cisco Unified CallManager			
Activating the AXL Web Service on Unified Communications Manager, page B-3	X	—	—
Setting Cisco Unified CallManager Service Parameters, page B-3	X	X	X
Setting Cisco Unified CallManager Enterprise Parameters, page B-4	X	X	X
Adding Service Monitor to Cisco Unified CallManager 5.x as a Billing Server, page B-4	X	—	—
Configure Microsoft SQLServer on the Server with Cisco Unified CallManager			
Enabling Mixed Authentication in Microsoft SQL Server for CallManager 4.x, page B-6	—	X	—
			Note Mixed authentication should be configured for 3.3.x by default. If it is not, you can use this procedure to configure mixed authentication for 3.3.x.
Adding Microsoft SQLServer User Accounts, page B-7	—	X	X
 Caution Failure to complete this task as documented can prevent Unified Communications Manager from writing CDRs.			
Configure Voice Gateways			
Configuring Voice Gateways When VAD is Enabled, page B-8	X	X	—

Configuring Cisco Unified CallManager

This section contains the following topics:

- [Activating the AXL Web Service on Unified Communications Manager, page B-3](#)
- [Setting Cisco Unified CallManager Service Parameters, page B-3](#)
- [Setting Cisco Unified CallManager Enterprise Parameters, page B-4](#)

- [Adding Service Monitor to Cisco Unified CallManager 5.x as a Billing Server, page B-4](#)

Activating the AXL Web Service on Unified Communications Manager

Perform this procedure for Unified Communications Manager versions 5.x and later.

Step 1 Launch Unified Communications Manager Serviceability.

Step 2 Select **Tools > Service Activation**.

Step 3 Select a server.



Note Activate the AXL Web Service on the Publisher node only.

Step 4 Scroll down to Database and Admin Services and select **Cisco AXL Web Service**.

Step 5 Click **Save**.

Setting Cisco Unified CallManager Service Parameters



Note Set these parameters on each Cisco Unified CallManager in a cluster.

Step 1 Log in to Cisco Unified CallManager Administration.

Step 2 Go to the Service Parameters Configuration page as follows:

- For Cisco Unified CallManager 3.3 and 4.x, select **Service > Service Parameters**.
- For Cisco Unified CallManager 5.x, select **System > Service Parameters**.

The Service Parameters Configuration page appears.

Step 3 Select the server and the service:

- a. Select the name of the Cisco Unified CallManager server. This is a Cisco Unified CallManager from which Service Monitor will gather data.
- b. Select the Cisco CallManager service.

Step 4 Set these parameters:

- For Cisco Unified CallManager versions 3.3.x and 4.x:
 - CDR Enabled Flag—Scroll down to System. Set to **True**.
 - Call Diagnostics Enabled—Scroll down to Clusterwide Parameters (Device - General). Set to **True**.
- For Cisco Unified CallManager 5.x:
 - CDR Enabled Flag—Scroll down to System. Set to **True**.
 - Call Diagnostics Enabled—Scroll down to Clusterwide Parameters (Device - General). Set to **Enable Only When CDR Enabled Flag is True**.

Step 5 Click **Update**.

Setting Cisco Unified CallManager Enterprise Parameters

Perform this procedure for Cisco Unified CallManager versions 3.3, 4.x, and 5.x.

Step 1 Log in to Cisco Unified CallManager Administration.

Step 2 Select **System > Enterprise Parameters**. The Enterprise Parameters Configuration page appears.

Step 3 Scroll down to CDR Parameters and set these parameters:

- For Cisco Unified CallManager 3.3 and 4.x:
 - CDR File Time Interval (min)—Set to **1**.
 - CDR Format—Select **CDRs will be inserted into database**.
- For Cisco Unified CallManager 5.x, set CDR File Time Interval (min) to **1**.

Step 4 Click **Update**.

Adding Service Monitor to Cisco Unified CallManager 5.x as a Billing Server



Note

- Perform this task on Cisco Unified CallManager version 5.x only.
 - Perform this task only while Service Monitor is up and running.
-

Step 1 Launch Cisco Unified CallManager Serviceability.

Step 2 Select **Tools > CDR Manageability**.

Step 3 Scroll down to Billing Applications Server Parameters and click **Add New**.

Step 4 Enter the following:

- Host Name / IP Address—Enter the IP address of the system where Cisco Unified Service Monitor is installed.
- User Name—Enter smuser.



Note

Do not enter any username other than smuser.

- Password—Enter a password. The default password is smuser. To change this password:
 - Change it in Service Monitor first. (For more information, see [Configuring Other Settings, page 3-12](#).)
 - Enter the same password that you entered for smuser while configuring other settings in Service Monitor.

**Note**

If you changed the password in Service Monitor and Cisco Unified CallManager does not immediately accept the new password, wait one minute and enter the new password again.

- Select SFTP Protocol.
- Directory Path—Enter /home/smuser/.

**Note**

Do not enter any directory path other than /home/smuser.

Step 5 Click **Add**.

**Note**

In some cases, for CDR/CMR files to be delivered to a newly added billing server, it is necessary to first restart the CDR Repository Management Service.

- Step 1** From Cisco Unified CallManager Serviceability, select **Tools > Control Center - Network Services**.
- Step 2** From the list of Unified Communications servers, select the publisher.
- Step 3** Scroll down to CDR Services.
- Step 4** Select the **Cisco CDR Repository Manager** radio button.
- Step 5** Click the **Restart** button.

Changing the Password for smuser in Cisco Unified CallManager 5.x

**Note**

Perform this task on Cisco Unified CallManager version 5.x only.

The SFTP password for smuser in Service Monitor and the password for the Service Monitor Applications Billing Server smuser in Cisco Unified CallManager 5.x must be identical. Any time you change one, you must change the other to match. To change the SFTP password for smuser in Service Monitor, see [Configuring Other Settings, page 3-12](#).

Use this procedure to change the password for the Service Monitor Applications Billing Server smuser in Cisco Unified CallManager 5.x.

- Step 1** Launch Cisco Unified CallManager Serviceability.
- Step 2** Select **Tools > CDR Manageability**.
- Step 3** Scroll down to Billing Applications Server Parameters and double-click the link for the Service Monitor.
- Step 4** Enter a new password.



Note If you changed the password in Service Monitor and Cisco Unified CallManager does not immediately accept the new password, wait one minute and enter the new password again.

Do not change the values in any other fields; Host Name / IP Address, User Name, SFTP Protocol, and Directory Path must remain the same.

Step 5 Click **Update**.

Configuring Microsoft SQL Server on Cisco Unified CallManager System

Service Monitor needs users accounts configured in Microsoft SQL Server on the Cisco Unified CallManager system to:

- Access CDRs from Cisco Unified CallManager 4.x and 3.3.x
- Access the device database (CCM0300, CCM030n) from Cisco Unified CallManager 3.3.x

Enabling Mixed Authentication in Microsoft SQL Server for CallManager 4.x

Perform this task for Cisco Unified CallManager 4.x only.

- Step 1** Log on to the server where Cisco Unified CallManager is installed.
- Step 2** Select **Start > Programs > Microsoft SQL Server Enterprise Manager**.
- Step 3** Select **Console Root > Microsoft SQL Servers > SQL Server Group** and right-click (**local**). A dialog box appears.
- Step 4** Select the **Security** tab:
- Under Authentication, select **SQL Server and Windows**.
 - Click **OK**. A message appears, asking whether to restart the SQL server. Click **No**.



Note If Cisco Security Agent runs on the Unified Communications Manager server, it might block the message that asks whether to restart the SQL server and the change is not applied. To work around this problem, open Windows Services user interface and stop Cisco Security Agent. After you complete steps 4 b and 5, restart Cisco Security Agent.

Step 5 Restart the SQL server.



Note Because restarting the SQL server interrupts call processing, you should perform these steps after normal business hours or during a window of time set aside for system maintenance.

- a. Select **Start > Settings > Control Panel > Administrative Tools > Services**. The Services window appears.
- b. Right-click MSSQLSERVER and click **Stop**. A list of services that will be stopped in addition to MSSQLSERVER will be displayed. Note them; you will need to start each one in step 5c.
- c. Right-click MSSQLSERVER and click **Start**. For each of the additional services that were stopped during the previous step, right-click the service and click **Start**.

Adding Microsoft SQLServer User Accounts

Add Microsoft SQLServer user accounts for Unified Communications Manager 3.x and 4.x as directed in this topic.

Service Monitor needs a Microsoft SQLServer user account to access local databases on the system with Cisco Unified CallManager. Use this procedure to add user accounts on any of these Cisco Unified CallManager versions:

- 4.x—Add an account to enable Service Monitor to access the CDR database.
- 3.3.x—Add an account to enable Service Monitor to access the CDR database and the device database, named CCM030n; for example, CCM0300. Alternatively, add two accounts: one for the CDR database and another for the CCM030n database.

Step 1 Log on to the server where Cisco Unified CallManager is installed.

Step 2 Select **Start > Programs > Microsoft SQL Server Enterprise Manager > Security**.

Step 3 Right-click **Logins** and select **New Login**. A window appears.

Step 4 On the General tab:

- a. Enter a username.
- b. Select **SQL Authentication** and enter a password.



Note Make sure that SQL Authentication is selected and *not* Windows Authentication, which can sometimes be selected by default.

Step 5 Select the Server Roles tab and select the System Administrators role.



Caution You must complete step 5; otherwise, you might prevent Unified Communications Manager from writing CDRs to the database.

Step 6 Select the Database Access tab and do the following:

a. Select databases as follows:

- For Cisco Unified CallManager version 4.x, check the Permit column for the CDR database.
- For Cisco Unified CallManager version 3.3.x, check the Permit column for the CDR database and for the device database, named CCM030n; for example, CCM0300. Alternatively, select only one database, CDR or the device database, and continue creating the account. After creating one account, repeat the procedure to create another account for the other database.



Note Each time you upgrade Cisco Unified CallManager, the *n* in CCM030*n* is increased by 1 and a new device database is created. If there are multiple device databases, choose the most recent one, the one with the highest number; for example, CCM0302. If you upgrade Cisco Unified CallManager 3.3 after you complete this step, you must return to this procedure and repeat this step (Step 6).



Note Alternatively, select only one database, CDR or the device database, and continue creating the account. After creating one account, repeat the procedure to create another account for the other database.

At the bottom of the window, database roles for the selected databases are displayed; public is checked by default.

b. Check the db_owner role (so that public and db_owner are checked).



Caution

You must complete step 6b; otherwise, you can prevent Unified Communications Manager from writing CDRs to the database.

Step 7 Click **OK**. A confirmation dialog box appears.

Step 8 Confirm the password (previously entered in step 4b) by entering it again in the dialog box.

Configuring Voice Gateways When VAD is Enabled

Note Enabling voice activation detection (VAD) can save bandwidth, but it can also impact Service Monitor MOS calculations and might cause noticeable or unacceptable clipping of words. VAD is enabled by default in Cisco IOS voice (under dial peer configuration), and disabled by default in Cisco Unified CallManager Manager (under System > Service Parameters).

This information applies when using Cisco Unified CallManager versions 4.2 and later. When VAD is enabled on a voice gateway in a cluster, you can see lower MOS values in CVTQ reports for calls between the voice gateway and IP phones. You need to:

- Configure the comfort noise payload type to 13 (from the default of 19) on H.323, SCCP, and SIP gateways. Doing so enables Cisco IP phones and voice gateways to properly adjust the MOS calculation.



Note Performing this configuration does not affect the MOS values that are reported in Cisco 1040 Sensor reports.

- Be aware that low MOS will be reported for calls between Cisco IP phones and MGCP gateways on CVTQ reports. (Comfort noise payload type is not configurable on MGCP gateways.)

