Headset Management

Headset Management Overview

Headset Management enhances your Cisco headset deployment, letting administrators manage headset serviceability from Cisco Unified Communications Manager. From Cisco Unified CM Administration, administrators can:

- Remotely configure headset settings such as wireless power range, audio bandwidth, and Bluetooth on/off.

- Define and control the headset firmware.

- Get a detailed inventory of all the headsets in your deployment.

- Diagnose and troubleshoot headsets with Remote PRT, headset metrics in Call Management Records (CMR), and alarms.

Feature Compatibility for Headset Management

Cisco Headset Management is supported in Unified Communications Manager from the following releases:

- Release 11.5(1)SU7 for 11.x releases

- Release 12.5(1)SU1 for 12.x releases

Along with the Unified Communications Manager version, feature support is dependent on the firmware versions of Cisco Headsets, Cisco IP Phone and Cisco Jabber. The following table lists the available headset management features depending on the headset, phone, and Unified Communications Manager versions you use.

> **Note** The Cisco Headset Management feature is not supported in 12.0(x) or 12.5(1). For earlier versions, you may have a limited support for sending headset configuration templates for IP phones manually via the `defaultheadsetconfig.json` configuration file and TFTP.

Table 1: Headset Serviceability Features for Cisco IP Phones

New Serviceability Feature	Unified CM 12.5(1) or earlier + Phone Firmware 12.1(1) or earlier	Unified CM 12.5(1)SU1 and above** + Phone Firmware 12.1(1) or earlier	Unified CM 12.5(1) or earlier + Phone Firmware 12.5(1)	Unified CM 12.5(1)SU1 and above** + Phone Firmware 12.5(1)	Unified CM 12.5(1) or earlier + Phone Firmware 12.5(1)SR3	Unified CM 12.5(1)SU1 and above** + Phone Firmware 12.5(1)SR3
COP file installation required	X	X	X	X	X	—
Manual remote configuration	—	—	X	N/A	X	—
Headset firmware management on Unified CM	—	—	—	—	—	X
Remote headset configuration through Unified CM	—	—	—	—	—	X
Headset inventory on Unified CM	—	—	—	—	—	X*
Configuration Reset on the phone UI	—	—	—	—	X	X
Headset Call Management Records (CMR)	—	—	—	—	—	X*

- * This feature is only available on headsets with Headset Firmware 1.5 or later.

- **This feature is not supported in the 12.0.x and 12.5(1) releases.

- N/A When you upgrade to Unified CM 11.5(1)SU7 or higher from an earlier version, most Cisco IP Phones will upgrade automatically to Phone Firmware 12.5(1)SR3 or higher versions.

Table 2: Headset Serviceability Features for Cisco Jabber

New Serviceability Feature	Unified CM 12.5(1) or earlier + Jabber version 12.5(1) or earlier	Unified CM 12.5(1)SU1 and above** + Jabber version 12.5(1) or earlier	Unified CM 12.5(1) or earlier + Jabber version 12.6(1)	Unified CM 12.5(1)SU1 and above** + Jabber version 12.6(1)	Unified CM 12.5(1) or earlier + Jabber version 12.6(1)MR	Unified CM 12.5(1)SU1 and above** + Jabber version 12.6(1)MR
COP file installation required	X	X	X	X	X	X
Headset firmware management through Unified CM	—	—	—	—	—	X
Remote headset configuration through Unified CM	—	—	—	X	—	X
Headset inventory on Unified CM	—	—	—	X*	—	X*
Local configuration reset	—	—	—	—	X	X
Local UI configuration	—	—	X	X	X	X
Local headset version display	—	—	—	—	X	X

- • * This feature can only detect headsets with Headset Firmware 1.5 or later.

- • **This feature is not supported in the 12.0.x and 12.5(1) releases.

Third-Party Headset Support

If you are deploying third-party headsets, Cisco Unified Communications Manager supports headset inventory management with limited information for the third-party headsets right from the Cisco Unified CM Administration interface. Cisco Unified Communications Manager does not support headset configuration templates, firmware, diagnostics, and headset CMRs for third-party headsets.

Workflow: Configure Headset Serviceability

Use the following workflow to guide you through the setup of your Cisco Headset Serviceability feature.

After you complete this workflow, you can configure headset settings, maintain headset latest firmware loads, headset association to users, enable headset-based Extension Mobility, and maintain inventory.

Procedure

	Command or Action	Purpose
Step 1	Activate Cisco Headset Service, on page 4	Turn on **Cisco Headset Service** in Cisco Unified Serviceability.

	Command or Action	Purpose
Step 2	Prepare Your Headset COP Files, on page 5	Make sure you install and upgrade the latest headset firmware using a COP file.
Step 3	Configure User Profiles for Headset Users, on page 5	If you haven't yet configured User Profiles, use this procedure to set up profiles for your users. If all User Profiles are configured, you can skip this task.
Step 4	Apply User Profiles to End Users, on page 6	Assign User Profiles to your end users. If you've already assigned User Profiles, you can skip this task.
Step 5	Configure a Headset Template, on page 10	Configure default settings and firmware for a Cisco headset template. Associate User Profiles to the template such that users whom use that User Profile are assigned to this headset template.
Step 6	View Headset Inventory, on page 13	Check that you can see your deployed headset inventory through the Cisco Unified CM interface.

Activate Cisco Headset Service

Before you can begin administering Cisco Headsets and Accessories through the Cisco Unified CM Administration interface, turn on in Cisco Unified Communications Manager Serviceability.

Note Cisco Headset service should be activated on all the Unified Communications Manager nodes wherever Cisco CallManager service is already running. Ensure that you activate the Cisco Headset service on the Unified Communications Manager nodes where you want to administer headsets using the Cisco Unified CM Administration interface. The Cisco CallManager service will be automatically activated when you enable the Cisco Headset service. Deactivate the Cisco CallManager service if you do not need it.

Procedure

Step 1 From Cisco Unified CM Administration, navigate to **Cisco Unified Serviceability** and click **Go**.

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

Step 3 Check the **Cisco Headset Service** check box from the CM Services section and select **Save**.

What to do next

Prepare your Headset COP Files.

Prepare Your Headset COP Files

You can install and upgrade the latest headset firmware using a COP file. A headset COP file contains all the firmware versions of different headset models along with their configuration data.

Note

Ensure that the Cisco Headset service is up and running before the COP file is installed.

Ensure that the headset COP file is installed on all nodes of Unified Communications Manager.

1. Install or upgrade the COP file to the Unified Communications Manager system before you can start using your Cisco headsets .

When you connect your headset to the endpoints, the headset template configuration changes are applied. If you make any updates to the headset template configurations on Unified Communications Manager, the endpoints apply these configuration updates on the connected headsets .

All configuration updates depend on the version of the headset template in the COP file. If the headset template version is higher in the latest COP file, the configuration file on Unified Communications Manager is updated. If the configuration file in the COP file is upgraded, the headset template version in Unified Communications Manager is updated irrespective of the version of the template and vice versa. The following list shows the various template version update scenarios after a COP file upgrade:

- If the Unified Communications Manager is currently installed with the headset template version 1-10 and you upgrade your Unified Communications Manager server that has headset template version 1-12, then the chosen headset template version is 1-12. Unified Communications Manager opts for the higher headset template version.

- If the Unified Communications Manager is currently installed with the headset template version 1-10 and you upgrade your Unified Communications Manager server that has headset template version 1-9, then the chosen headset template version is 1-10. Unified Communications Manager opts for the higher headset template version.

- If the Unified Communications Manager is currently installed with the headset template version 1-10 and you install a COP file that has headset template version 1-12, then the chosen headset template version is 1-12. Headset template installed with the COP files is the preferred option.

- If the Unified Communications Manager is currently installed with the headset template version 1-10 and you install a COP file that has headset template version 1-9, then the chosen headset template version is 1-9. Headset template installed with the COP files is the preferred option.

- If you had a COP file installed that has headset template version 1-12 and you upgrade your Unified Communications Manager server having headset template version 1-10, then the chosen headset template version is 1-12. Unified Communications Manager opts for the higher headset template version.

Configure User Profiles for Headset Users

If you haven't yet configured User Profiles for your users, use this procedure to set up profiles. Your headset templates will be assigned to users via their User Profile. If you've already configured User Profiles, you can skip this task.

Note Configure multiple User Profiles for different groups of users as per your deployment needs. By default, all User Profiles get assigned to the System default headset template. You can assign them to customized templates when you configure your headset template.

Procedure

Step 1 From Cisco Unified CM Administration, choose **User Management** > **User/Phone Add** > **User Profile**.

Step 2 Click **Add New**.

Step 3 Enter a **Name** and **Description** for the user profile.

Step 4 Assign a **Universal Device Template** to apply to users' **Desk Phones**, **Mobile and Desktop Devices**, and **Remote Destination/Device Profiles**.

Step 5 Assign a **Universal Line Template** to apply to the phone lines for users in this user profile.

Step 6 If you want the users in this user profile to be able to use the self-provisioning feature to provision their own phones, do the following:

　　a) Check the **Allow End User to Provision their own phones** check box.

　　b) In the **Limit Provisioning once End User has this many phones** field, enter a maximum number of phones the user is allowed to provision. The maximum is 20.

Step 7 Click **Save**.

Apply User Profiles to End Users

Associate your users to the User Profiles that you've created. The User Profile must be associated with the end user, and the MAC of the device must be added under the controlled devices to apply the headset template configuration changes.

Note If you've already assigned all users to the appropriate User Profiles, you can skip this task.

Procedure

Step 1 To add a new end user to the Unified Communications Manager database manually, perform the following:

　　a) In Cisco Unified CM Administration, choose **User Management > End User**.

　　b) Click **Add New**.

　　c) Enter the **User ID** and **Last name**.

　　d) Choose the **User Rank** from the drop-down list.

　　e) Complete the fields in the **End User Configuration** window. For field descriptions, see the online help.

　　f) Click **Save**.

Step 2 To associate the end user with the device, perform the following:

　　a) In Cisco Unified CM Administration, choose **Device > Phone**.

b) Select the Cisco IP Phone or device.

c) Under Device Information, select **User** as the Owner and select the **Owner User ID**.

d) Click **Save** and **Apply Config** for the configuration changes to take effect.

Headset Template Management

You can assign headset templates to user profiles in Cisco Unified Communications Manager to configure default headset settings for your users. The headset template provides the option to associate User Profiles. Unified Communications Manager supports the following types of headset templates:

Standard Default Headset Configuration Template

This is the system default template that contains the factory default settings for all headset model series. This template contains the headset settings supported by the latest headset firmware installed on your system for all your headset model series. You cannot edit the default settings though you can change the profile configuration setting.

Note The Standard Default Headset Configuration template is created only when the **Cisco Headset Service** is activated in the Cisco Unified Serviceability user interface.

By default, all User Profiles are associated to the standard headset template unless the administrator associates these user profiles to any of the custom defined headset templates. You can make copies of the standard default headset template to create custom template with customized values of the parameters including the headset firmware version.

System Generated Custom Headset Template

For some earlier releases that did not support the full Cisco Headset Serviceability feature, administrators could configure and deploy headset templates manually via the `defaultheadsetconfig.json` configuration file and TFTP. If you used this method on a previous release, and then upgrade to this release, the config file is converted to the **System Generated Custom Headset Template** and displays in the **Headset Template Configuration** window. Following the upgrade, users and devices that used the config file are associated to this custom template.

Custom Headset Configuration Template

From Cisco Unified CM Administration, use the **Device** > **Headset** > **Headset Template** window to customize headset templates as per your deployment needs. You can assign different headset parameters to different models in the same template. You can also assign different firmware loads to different headset models. The custom headset settings can be assigned to specific sets of users by associating the User Profile(s) to the Custom Headset Template.

Table 3: Headset Template Configuration Settings

Field	Description
Headset Template Configuration	

Field	Description
Name	Enter a unique name to identify the headset template.
Description	Enter a description that identifies use of the template.
Model and Firmware Settings	
Choose Model Series	Choose any supported headset model that offers reliable, high-quality sound for your device.
Add	For a standard template, you can view the default pre-defined firmware versions and settings of the headset models. You cannot edit the default values. For customized templates, click **Add** to add a new headset model and corresponding settings. You cannot add another existing headset model in the same template. You can add different headset models in a customized template; however, you can only use one firmware per headset model. For more information on headset parameters, see the "Headset Configuration Parameters" table below. For Standard Default Headset Template Configuration, you can only edit settings by installing a headset COP file.
Firmware	Select the required firmware version. • Remain on current version—Choose this option if you want the headset to remain on the existing firmware version (that is, the headset firmware version is not upgraded to the latest firmware version on the system). • Latest—Choose this option if you want to upgrade the headset firmware version to the latest firmware version on the system.
Delete	For customized templates, click **Delete** to remove the headset model from the headset template.
Profile Configuration	
Available User Profiles	Lists the configured User Profiles that are available to use with this headset template. To associate a User Profile to this template, select the profile and click the down arrow to move the template to Assigned User Profiles. **Note** By default, all User Profiles get assigned to the Standard Default Headset Configuration Template. To associate a User Profile to a different template, create the new template and assign the User Profile to the new template.
Assigned User Profiles	Lists the User Profiles that will use this headset configuration template. For users assigned to this profile, the settings in this headset configuration template are applied to their Cisco headsets during registration. Click the arrows to add new User Profiles from the Available User Profiles list.

The following table describes the parameters in each headset template.

> ✎
>
> **Note**   On-premises and multiplatform headset serviceability features are unavailable through an RJ-9 connection.

Table 4: Cisco Headset 500 Series Parameters

Parameter	Range	Default	Notes
Speaker Volume	0 – 15	7	Controls the level of sound in the headset. 0 is very low while 15 is loud. Configure this setting based on the ambient noise in the office environment. This parameter applies to all headsets in the Cisco Headset 500 Series.
Microphone Gain	Softer – Louder	Default	Gain controls how loud the user sounds to other people on the call. **Softer** means users sound quiet while **Louder** means users sound much louder. Configure this setting based on the ambient noise in the office environment. This parameter applies to all headsets in the Cisco Headset 500 Series.
Sidetone	Off – High	Low	Controls how much of a user's own voice they can hear through their headset.**Off** turns off the sidetone while **High** means that users receive much more feedback from their headset microphones. This parameter applies to all headsets in the Cisco Headset 500 Series.
Equalizer	Warmest – Brightest	Default	Controls the Equalizer settings. Warmer settings mean users hear more bass in their headsets, while a brighter setting means users hear more treble. This parameter applies to all headsets in the Cisco Headset 500 Series.
Audio Bandwidth	Wide Band, Narrow Band	Wide Band	Controls the Digital Enhanced cordless Telecommunications (DECT) codec in the Cisco Headset 560 Series. In a dense DECT environment, set the field to **Narrow Band** to limit the Cisco Headset 560 Series to the G.727 codec.

Parameter	Range	Default	Notes
Bluetooth	On, Off	On	Controls the use of Bluetooth on the Cisco Headset 560 Series with Multibase. When this parameter is set to **Off**, the base deletes all devices paired with it. **Note** You can disable Bluetooth if your users are operating in an environment in which information security is at a premium.
Conference	On, Off	On	Controls the use of the conferencing feature on the Cisco Headset 560 Series. Conferencing allows up to three guest headsets to pair with the same base at once. See *Cisco Headset 500 Series User Guide* for more information on conferencing.
Firmware Source	Allow from UCM or Cisco Cloud (firmware will upgrade only), Restrict to UCM only (firmware may upgrade or downgrade)	Allow from UCM or Cisco Cloud	Controls the headset's firmware upgrade source. By default, users can upgrade their headset through a Cisco IP Phone connected to Unified Communications Manager or through Cisco Jabber for Windows or Mac. You can restrict your headsets to only accept firmware changes through a Unified Communications Manager source.
DECT Radio Range	Autorange, Medium Range, Short Range	Medium Range	Controls the maximum distance between the Cisco Headset 560 Series and its base. By default, the bases have a DECT range of over 330 feet (100 meters) in ideal conditions. If you configure the DECT radio range to **Medium Range** or **Short Range**, the headset base consumes less power but users can't move as far from the base while on a call. Configure DECT radio range to **Short Range** for high density headset deployment. For more detailed information on DECT deployment, refer to the white paper on Cisco Headset deployment, How to Deploy DECT at Work for the Cisco Headset 560 Series.

Configure a Headset Template

Use this procedure to configure a headset template with customized settings that you can apply to Cisco headsets. You can create a customized template or use the system-defined Standard Default Headset Template.

Note   The Standard Default Headset Configuration Template is a system-defined template. You can assign new User Profiles to the Standard Default Headset Template but you can't edit the template. By default, all user profiles are assigned to this template. To disassociate a user profile from this template, you must assign the profile to a new template.

Procedure

Step 1   From Cisco Unified CM Administration, choose **Device > Headset > Headset Template**.

Step 2   Do either of the following:

- To edit an existing template, select the template.
- To create a new template, select any existing template and click **Copy**. The existing settings are applied to your new template.

Step 3   Add a **Name** and **Description** for the template.

Step 4   Under **Model and Firmware Settings**, assign any customized headset settings that you want to apply to this template. To add a new setting, click the **Add** button and configure the settings.

Step 5   Use the up and down arrows to move the User Profiles that you want to assign to this template to the **Assigned Users Profiles** list box. All users whom are assigned to those profiles will also be assigned to this headset template.

Step 6   Click **Save**.

Step 7   Use the **Set to Default** button to return to the default template settings.

Step 8   Click **Apply Config**.

For a Standard Default Headset Configuration Template, the **Apply Config** button takes effect for the following:

- Devices owned by users you added to the Assigned User Profile list

- Anonymous devices

For a Customized Headset Configuration Template, the **Apply Config** button takes effect only for devices owned by users you added to the **Assigned User Profiles** list.

Firmware Management

Most phones and devices connected to the Unified Communications Manager support the Cisco Headset 500 Series and Cisco Headset 700 Series. Install the latest phone firmware release and device package before connecting your headset to a phone. When the headset first connects, it downloads the required firmware and begins the upgrade process.

For a given headset model, the following two firmware options are supported:

- **Remain on current version**—Choose this option if you want the headset to remain on the existing firmware version (that is, the headset firmware version is not upgraded to the latest system firmware version).

- **Latest**—Choose this option to upgrade or downgrade the headset. The system installs and runs the chosen software, even if that firmware is an older release from what the headset currently has.

  For example, if you choose **1-5-1-10** as the latest, that firmware will be installed on the headset regardless of whether the headset currently has **1-5-1-9** or **1-5-1-11**.

Firmware Considerations

- Users assigned to the standard headset template will always receive the latest headset firmware and settings.

- Settings shown in the Headset Template Configuration (both Standard and Custom) are always set to the **Latest firmware** for all headset model series.

Headset Inventory Management

Cisco IP Phones send headset inventory data to Unified Communications Manager whenever the headset is in a connected or disconnected state. Unified Communications Manager stores the inventory data so you can generate an Inventory Summary Report or Custom Inventory Report for all headsets deployed in this server.

Report information includes: headset serial and model number, docking station details, firmware, configuration templates used, vendor details, and headset connection status to devices.

Headset Inventory Settings

From Cisco Unified CM Administration, use the **Device** > **Headset** > **Headset Inventory** window to view a full list of all headsets deployed on your server. You can use this information to generate reports for all deployed headsets. If you click the Serial Number of the device, you can view details of individual headsets in a pop-up window.

Table 5: Headset Inventory Settings

Field	Description
Serial Number	Serial Number of the headset. This number is unique for every individual headset.
	The Cisco Headset 520 and 530 Series report the serial number found on the USB controller. The Cisco Headset 560 and 700 Series report the headset serial number found on inside of the left armband.
	Note For non-Cisco headsets, the Device Name is used as the Serial Number. Using the same non-Cisco headset with multiple phones creates duplicate headset records.
Model	Model number of the headset.
Vendor	Displays vendor details.
Type	Indicates the type of headset connection: Wired, DECT Wireless, or Unknown.
Firmware	Displays the most current firmware load of the headset.

Field	Description
User	Displays information of the end user using the phone or device.
Template	Display the name of the headset configuration template.
Status (since)	Displays the status of the headset activities. It can be: Connected or Disconnected.
Dock Model	Displays the type of docking model station.
Device Name	Name of the device to which the headset is connected to.
Device Model	Displays the Cisco IP Phone or Cisco Jabber model number. For example, CP-8865 is a Cisco IP Phone model. CSF is a device type for either Cisco Jabber for Mac or Cisco Jabber for Windows.
Software Version	Displays the latest version of the software used. It can be a phone firmware or a Jabber software version.
Headset Age (days)	Displays the age of the headset. If the record is deleted, the headset age is reset.

View Headset Inventory

You can view a full list of all headsets deployed on your server. You can use this information to generate reports for all deployed headsets.

Procedure

Step 1 From Cisco Unified CM Administration, choose **Device** > **Headset** > **Headset Inventory**.

Step 2 Do either of the following:

- Select **Find** to see a full list of headsets deployed on your server.
- Enter a one or more search criteria into the search box and select **Find**.

Headset Inventory Summary

From Cisco Unified CM Administration, you can use the **Device** > **Headset** > **Headset Inventory Summary** window to view an aggregate summary of your deployed headsets in the **Headset Inventory Summary** window.

Headset Inventory by Model

Field	Description
Headset Model	The headset model number.

Field	Description
Quantity	Lists the number of headsets for each model type in your deployment. **Note** Click the link in the **Quantity** column to navigate to the detailed Headset Inventory page, filtered by model type.

Headset Inventory by Status

Click the hyperlinks in the **Headset Model**, **Active**, **Inactive**, or **Unassigned** columns to navigate to the detailed Headset Inventory page for each status.

Field	Description
Headset Model	The headset model number.
Active	The headset has connected within the last 30 days.
Inactive	The headset hasn't connected in the last 30 days.
Unassigned	The user ID doesn't exist in the system or the inventory record doesn't have a user ID mapping.

Get an Aggregate Summary of Your Deployed Headsets

You can view an aggregate summary of your deployed headsets in the **Headset Inventory Summary** window.

Procedure

In Cisco Unified CM Administration, select **Device** > **Headset** > **Headset Inventory Summary**.

You can view a breakdown of headset inventory by model or by headset status.

Headset Troubleshooting and Diagnostics

You can configure Unified Communications Manager or Cisco Unified Real-Time Monitoring Tool (RTMT) to collect Problem Report Tool (PRT) logs for headsets connected to Cisco IP Phones. The PRT includes data on call quality, codecs used, audio settings, wireless settings, and alert logs.

Unified Communications Manager stores the call diagnostics details for Headsets. Cisco IP Phones send headset diagnostics data in Headset-Stat header either in a BYE message or a 200 OK response to BYE message to update the CMRs in Unified Communications Manager.

Cisco IP Phones share the headset diagnostics data with Unified Communications Manager and this information is stored in the following fields in the CMR record:

- SN—Serial number of the headset.

- Metrics—Headset metrics such as RSSI frame errors, connection drop reason, beacon moves, audio settings, and DECT bandwidth.

For detailed information on how to export and view CMR records, see the *Call Reporting and Billing Administration Guide for Cisco Unified Communications Manager*.

Note Headset CMR records apply to Cisco Headset 500 series, but not to 700 series.

Generate PRT for Endpoints on Unified CM

Use this procedure to trigger the Problem Reporting Tool (PRT) on the endpoints.

Procedure

Step 1 From Cisco Unified CM Administration, choose **Device > Phone**.

Step 2 Click **Find** and select one or more phones that the headset connects to.

Step 3 Click **Generate PRT for Selected** to collect PRT logs for the headsets used by the selected phones.

Step 4 Click **Save**.

Cisco Unified Communications Manager sends SIP Notify messages to remotely trigger the log collection on the phone and upload it to the log server configured in the "Customer support upload URL" parameter.

Generate PRT for Endpoints on RTMT

Devices or endpoints generate alarms for each critical event for diagnostics and troubleshooting. These alarms are generated using the Problem Reporting Tool (PRT) available in the Trace Collection menu or the Device Monitoring menu of the Cisco Unified Real-Time Monitoring Tool (RTMT) user interface.

Procedure

Step 1 Open the Trace and Log Central options.

Step 2 In the Trace & Log Central tree hierarchy, choose **Generate PRT**.
The Generate PRT wizard appears.

Step 3 Enter the Device name as configured in the Find and List Phones page in the Cisco Unified CM Administration user interface.

Step 4 Click **Generate PRT**.

The generated report is uploaded at the **Customer support upload URL**. The download option is available only if the **Customer support upload URL** parameter is configured at the Enterprise, Profile, or Device level in the Cisco Unified CM Administration user interface.

Note   Check the **Customer support upload URL** parameter in the Enterprise, Profile, or Device level configuration page settings. Else, PRT generation fails.