

# CallManager Music On Hold Frequently Asked Questions

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## Questions

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**Related Information**

## Introduction

This document answers some of the primary questions about Music On Hold (MoH) in Cisco CallManager 3.x/4.x/5.x and 6.x. Refer to Cisco CallManager Administration and System Guides and the Release Notes for Cisco CallManager Releases for more information. Refer to Cisco Unified Communications Manager (CallManager) Frequently Asked Questions for more information on the latest versions.

## Symptoms

This list of possible symptoms might be encountered when you attempt to start the IP Voice Media Streaming App (CallManager Serviceability > Tools > Service Activation) which is required to configure the MoH service:

- The following Services are not properly configured on the service configuration page error message is reported when you attempt to start or activate IP Voice Media Streaming App. The service that was not configured correctly was the IP Voice Media Streaming App.
- The web page displays a message that it was actually disabling the service when you attempt to activate the IP Voice Media Streaming App service.

Manually remove these entries to resolve these symptoms:

- Software-based conference bridge
- Software-based MTP
- MoH server

After you remove these three entries, the IP Voice Media Streaming App should activate successfully. After you activate the IP Voice Media Streaming App, make sure that you have an entry in the MoH servers, MTP and Conference bridge configuration pages.

## Q. What is Music On Hold?

A. MoH, an application that can be installed to a media convergence server (MCS), streams Real-Time Protocol (RTP) audio in either unicast or multicast streams from the application server to the endpoint device.

Administrators can stream MoH audio to all Cisco IP phones, Cisco Voice over IP (VoIP) gateways, and Cisco IP SoftPhone. Endpoint devices that support receiving multicast for MoH include Cisco IP Phone models 7910, 7940, 7960, Cisco Catalyst 4000 Access Gateway Module (AGM) gateways, Catalyst 4224 gateways, and VG200 gateways.

A dedicated MCS server can stream as many as 250 MoH streams (unicast or multicast). Any server can stream from up to 50 separate logical sources, each with its own continuously looping source .wav file. A 51st source a sound card can provide a real-time streaming source. Audio codec formats for any stream include G.711, G.729A, and high-fidelity audio. A translation utility included with the application allows translation from common formats such as .mp3 to the supported audio codecs.

## Q. Which version of Cisco CallManager supports Music On Hold?

A. MoH is supported in Cisco CallManager version 3.x, 4.x, and later.

## Q. On what servers is Music On Hold deployed?

A. MoH servers are deployed on any media convergence server (MCS) platform. This could be a stand alone MoH server on an MCS platform or an MoH service that is co-located with the Cisco CallManager.

## Q. What are the current capabilities of Music On Hold?

A. The current capabilities and features of MoH include:

- ◆ MoH multicast and unicast streaming service
- ◆ Music streaming service for "user" hold and "network" hold
- ◆ 51 sources per media convergence server (MCS)
- ◆ Fifty continuously looping .wav file sources
- ◆ One real-time streaming source
- ◆ Each source configurable as either unicast or multi-cast stream
- ◆ Support for audio streaming to selected devices
- ◆ Gateways (multicast only):
  - ◇ DT-24+ No
  - ◇ 6608 Not until Seaview 3.3
  - ◇ VG200 (H.323) Yes with Cisco IOS® Software Release 12.2(11)T and later, enable the **ccm-manager music-on-hold** command
  - ◇ VG200 (MGCP) Yes, same as VG200 (H.323)
  - ◇ VG248 Yes
- ◆ Gateways (unicast only) AT-2/-4/-8, AS-2/-4/-8, and all other Cisco IOS® VoIP gateways, including Cisco 1750, 2600/3600, 5300, 58xx, and 72xx
- ◆ Cisco IP phones (unicast, multicast) 9910, 7940, and 7960
- ◆ Cisco IP phones (unicast only) Cisco 7935, 12 SP+, and 30 VIP phones
- ◆ Cisco IP SoftPhone (unicast only)
- ◆ Maximum 250 simultaneous on-hold streaming sessions per server
- ◆ Multiple server instances for application scalability
- ◆ Multiple server instances for server load balancing and redundancy
- ◆ G.711, G.729A, and wide-band audio codec support
- ◆ Off-line audio translation utility

## Q. How do I make the Music on Hold (MOH) as a ringback tone when using Cisco CallManager with IPCC?

A. When an ICD call rings an agent, the caller is put on hold by the CallManager. At this point, the CallManager MOH can be used to play a ringback tone to the ICD caller while waiting for the Agent to answer the phone. In order to set this up, you need to configure all the CTI ports **Network Hold Audio Source** as the wav file (**ringback.wav**) you want to play during the consult transfer.

**Note:** Make sure that the ringback.wav file is in the CallManager server and configured appropriately. Otherwise this can cause CPU spiking in Cisco CallManager.

## Q. Why are remote sites that use Locations-Based Admission Control unable to receive Music On Hold in the initial release of Cisco CallManager 3.x and 4.x?

A. If you use Locations-Based Call Admission Control, users at remote sites (for example, across a WAN link) cannot use MoH. Remote site users cannot use this feature because bandwidth calculations across location boundaries do not take into account MoH streams. In place of MoH, these users receive Tone on Hold (ToH), and bandwidth calculations are then correct.

## **Q. How does Music On Hold work after the Cisco CallManager 3.x and 4.x maintenance release?**

**A.** After the Cisco CallManager 3.1 maintenance release and later, MoH is part of the Locations–Based Bandwidth Calculation. Remote sites are able to receive a MoH stream if there is bandwidth available. If there is not enough bandwidth for the stream, then the user receives Tone on Hold (ToH).

## **Q. Do I need to have a sound card?**

**A.** Not necessarily. A sound card is only needed if you intend to use a fixed audio source, such as a CD–ROM or sound input, such as live radio. Otherwise, the MoH server streams the local .wav files that are on its own hard drive.

## **Q. What sound cards can be used with the Music On Hold server?**

**A.** The media convergence servers (MCSs) do not ship with sound cards. If you choose to use a sound card, you need to purchase it separately. The Sound Blaster protocol control information (PCI) 16 sound card has been tested and is recommended for use with the Cisco MCS 7835 and MCS 7835–1000. The Cisco MCS7825–800 requires a PCI 2.2 card. Therefore, no recommended or supported sound card exists for this server model.

## **Q. What is a Cisco MoH USB audio sound card (MOH–USB–AUDIO=)?**

**A.** The Cisco MoH USB audio sound card (MOH–USB–AUDIO=) can be used for the connection of a fixed or live audio source to the MoH server through the USB port. This USB sound card is only compatible with MCS platforms that support Cisco Unified CM Release 5.x and 6.x that run on Linux Server.

## **Q. How many unicast streams can a stand–alone Music On Hold server support?**

**A.** A stand–alone MoH server can support up to 250 unicast streams.

## **Q. How many unicast streams can be supported on a co–located server?**

**A.** The maximum number of unicast streams is 30 for a co–located server.

## **Q. When do I need a stand–alone Music On Hold server?**

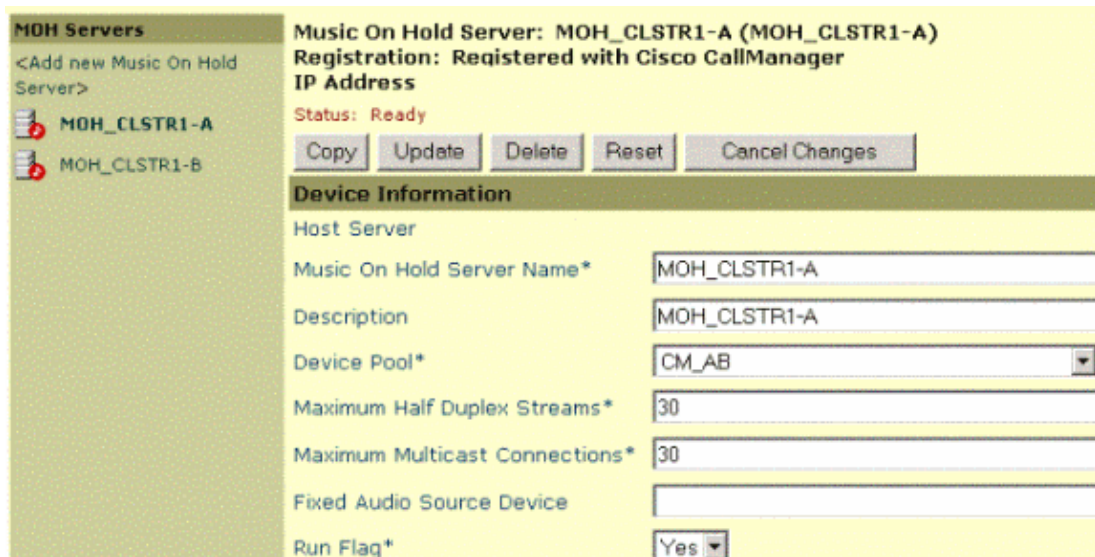
**A.** In general, you can safely assume that 1 percent of the user community is on hold at any one time. (Some Enterprise deployments can require more.) Therefore, it is essential to have at least that many available streams. If, for instance, you had 1,000 phones in a cluster, you would need approximately ten MoH streams available to service these calls.

You can load–share across your cluster with a Media Resource List / Media Resource Groups. For instance, if you have four co–located Cisco CallManager / MoH servers, you can have 25 percent of your users use Cisco CallManager / MoH A, 25 percent using Cisco CallManager / MoH B. When you do this, you can have up to 120 unicast streams across the cluster.

If a similar load-sharing design does not provide the number of unicast streams that are needed, then a stand-alone server can be implemented.

## Q. If I have co-located a Music On Hold Server, how do I make sure that I do not exceed 30 unicast streams?

A. On the MoH Servers Configuration page, you can specify the number of unicast streams to allow. In the Maximum Half Duplex Streams field, enter **30** and click **Update**. Also, the thirty-first call is still placed on hold but only receives Tone On Hold (ToH).



The screenshot shows the Cisco CallManager configuration interface for a Music On Hold (MoH) server. The left sidebar lists 'MOH Servers' with options to add new servers and a list of existing servers: MOH\_CLSTR1-A and MOH\_CLSTR1-B. The main content area is titled 'Music On Hold Server: MOH\_CLSTR1-A (MOH\_CLSTR1-A)' and shows it is 'Registered with Cisco CallManager'. The status is 'Ready'. There are buttons for 'Copy', 'Update', 'Delete', 'Reset', and 'Cancel Changes'. Below this is the 'Device Information' section with the following fields:

Device Information	
Host Server	
Music On Hold Server Name*	MOH_CLSTR1-A
Description	MOH_CLSTR1-A
Device Pool*	CM_AB
Maximum Half Duplex Streams*	30
Maximum Multicast Connections*	30
Fixed Audio Source Device	
Run Flag*	Yes

## Q. What happens if I run out of streams?

A. If you specify thirty unicast streams, and a thirty-first caller is placed on hold, that caller now receives Tone on Hold.

## Q. What codecs are supported for Music On Hold?

A. The Cisco IP Voice Media Stream application can be enabled to stream G.711u-law, G.711a-law, G.729, and Wideband. G.711 is the only codec enabled by default. Additional codecs can be selected under **Service > Service Parameters > <select your server> > Cisco IP Voice Media Streaming Application**.

## Q. How can I configure Music on Hold to use G.711 while voice calls use G.729?

A. Refer to CallManager MoH uses G.711 Codec while Voice Calls use G.729 Codec Configuration Example.

## Q. Why do users hear a beep sound (Tone on Hold) instead of Music on Hold?

A. Cisco CallManager checks these settings in order to play MoH to the users.

1. MoH configuration in Line settings

## Directory Number Configuration

[Configure Device \(SEP000A8A93E0F9\)](#)  
[Dependency Records](#)

<b>Associated With</b> SEP000A8A93E0F9 7960 (Line 1)	<b>Directory Number: 1005 (Internal_Numbers)</b> Status: Ready Note: Any update to this Directory Number automatically resets the associated devices <input type="button" value="Update"/> <input type="button" value="Remove from Device"/> <input type="button" value="Reset Devices"/>
<b>Directory Number</b>	
Directory Number*	1005
Partition	Internal_Numbers
<b>Directory Number Settings</b>	
Voice Mail Profile	< None > (Choose <None> to use default)
Calling Search Space	All_Numbers
AAR Group	< None >
User Hold Audio Source	< None >
Network Hold Audio Source	< None >
Auto Answer	Auto Answer Off

2. MoH configuration in Phone settings

## Phone Configuration

[Add a new phone](#)  
[Add/Update Speed Dials](#)  
[Subscribe/Unsubscribe Services](#)  
[Dependency Records](#)  
[Back to Find/List Phones](#)

<b>Directory Numbers</b> <b>Base Phone</b> Line 1 - 1005 in Internal_Numbers Line 2 - 1010 in Internal_Numbers	<b>Phone: SEP000A8A93E0F9 (1005)</b> Registration: Registered with Cisco CallManager 172.16.2.201 IP Address: <a href="#">172.16.2.101</a> Status: Ready <input type="button" value="Copy"/> <input type="button" value="Update"/> <input type="button" value="Delete"/> <input type="button" value="Reset Phone"/>
<b>Phone Configuration (Model = Cisco 7960)</b>	
<b>Device Information</b>	
MAC Address*	000A8A93E0F9
Description	1005
Owner User ID	(Select User ID)
Device Pool*	Default (View details)
Calling Search Space	All_Numbers
AAR Calling Search Space	< None >
Media Resource Group List	< None >
User Hold Audio Source	< None >
Network Hold Audio Source	< None >
Location	< None >
User Locale	< None >

3. MoH configuration in Device Pool settings

## Device Pool Configuration

[Add new Device Pool](#)  
[Back to Find/List Device Pools](#)  
[Dependency Records](#)

Device Pool: Default (12 members\*\*)

Status: Ready

[Copy](#) [Update](#) [Delete](#) [Reset Devices](#)

### Device Pool Settings

Device Pool Name*	Default
Cisco CallManager Group*	Default
Date/Time Group*	CMLocal
Region*	Default
Softkey Template*	Standard User Callback
SRST Reference*	Disable
Calling Search Space for Auto-registration	< None >
Media Resource Group List	< None >
Network Hold MOH Audio Source	< None >
User Hold MOH Audio Source	< None >
Network Locale	< None >

**Note:** With Cisco CallManager 4.2, the Network Hold MoH Audio Source and User Hold MoH Audio Source is moved under Common Profile Configuration instead of Device Pool Configuration. In other words, with Cisco CallManager 4.2, the different locations to configure the audio source are:

- Directory Number Level.
- Device Level.
- Common Profile Level.

The **DN/Line** level takes the highest priority and the **Common Profile** takes the lowest priority.

4. If all of these settings have a value of **None** for MoH fields, then Cisco CallManager takes the values configured in the Cisco CallManager Service Parameters page.

- Go to Cisco CallManager administration page. Choose the **Service** menu and choose **Service Parameters**.
- Choose the Cisco CallManager server and choose the **Cisco CallManager** service.
- Make sure the MoH parameters are configured with valid values.

Clusterwide Parameters (Service)		
Parameter Name	Parameter Value	Suggested Value
Default Network Hold MOH Audio Source ID*	<input type="text" value="1"/>	1
Default User Hold MOH Audio Source ID*	<input type="text" value="1"/>	1

5. Restart the **Cisco IP Voice Media Streaming App** service in the **Control Center**.

## Control Center

[Service Activation](#)

Servers

Server: 172.16.2.201  
Status: Ready

Start Stop **Restart**

Service Name	Status	Activation Status
NT Service		
<input type="radio"/> Cisco CallManager	▶	Activated
<input type="radio"/> Cisco Tftp	▶	Activated
<input type="radio"/> Cisco Messaging Interface	▶	Activated
<input checked="" type="radio"/> Cisco IP Voice Media Streaming App	▶	Activated
<input type="radio"/> Cisco CTIManager	▶	Activated

6. Another reason is a mismatch between the codec configuration used by the MoH server and the region in which the endpoint is registered. For example, the MoH server advertises only a capability of G.711 mu-law. If an endpoint is in another region that enforces the G.729 codec, the Cisco CallManager chooses Tone On Hold (ToH) because a stream cannot be played to this endpoint. Try to add additional codecs for MoH in Cisco IP Voice Media Streaming App service parameters.
  - a. Go to Cisco CallManager administration page. Choose the **Service** menu and choose **Service Parameters**.
  - b. Select the Cisco CallManager server and select the **Cisco IP Voice Media Streaming App** service.
  - c. Choose additional codecs for MoH. Use **Ctrl** in order to select multiple values.

Clusterwide Parameters (Parameters that apply to all servers)

Parameter Name	Parameter Value	Suggested Value
Supported MOH Codecs*	<input type="text" value="711 mulaw"/> 711 elaw 729 Annex A	711 mulaw
Default TFTP MOH IP Address*	<input type="text" value="CCM-4"/>	

- d. Restart the Cisco IP Voice Media Streaming App service as indicated in step 5.
7. If location-based connection admission control is used and there is no bandwidth available, then Cisco CallManager sends ToH rather than MoH.
8. If Media Resource Groups are used, ensure that the MoH server is part of the Media Resource Group and that the group belongs to a Media Resource List. Also check that your Cisco IP Phone belongs to the Media Resource List.
9. Check the MoH server registration status. Check the Run Flag under the MoH Server Configuration page, and ensure it is set to **Yes**.

# Music On Hold (MOH) Server Configuration

[Add](#)

[Back to Fir](#)

Music On Hold Server: MOH\_172.16.2.20

Registration: Registered with Cisco CallManager 172.16.2.201

IP Address: 172.16.2.201

Status: Ready

Copy

Update

Delete

Reset

## Device Information

Host Server 172.16.2.201

Music On Hold Server Name\* MOH\_172.16.2.20

Description

Device Pool\*

Default

Location

< None >

Maximum Half Duplex Streams\* 250

Maximum Multicast Connections\* 30

Fixed Audio Source Device

Run Flag\*

Yes

## Multicast Audio Source Information

10. ToH can be played if there are no available audio streams. This is because the MoH server has a finite number of unicast streams it can generate. If this limit is exceeded, it causes Cisco CallManager to play ToH. Check PerfMon or the Real-Time Monitoring Tool to see if streams are available.
11. Ensure that the MoH server has connectivity to the held device.
12. If multicast MoH is used, verify that the multicast stream makes it to the network of the endpoint that needs to hear it. It could be that the infrastructure devices, such as routers and switches, no longer forward this multicast stream. A sniffer is the easiest way to verify that the multicast stream has made it to the subnet of the Cisco IP phone. Also, if it is a gateway, ensure that it is multicast-capable for voice.

## Q. How do I restart the MoH service that runs on Cisco CallManager?

A. Complete these steps:

1. Go to the Cisco CallManager Administration page and choose **Application > Cisco CallManager Serviceability > Tools > Control Center**.
2. Choose the Cisco CallManager server.
3. Click the **Cisco IP Voice Media Streaming App** radio button under NT service.
4. Click **Restart**. This restarts the MoH service in Cisco CallManager.

## Q. How do I disable Music on Hold for conference calls?

A. In Cisco CallManager, you can configure MoH so that callers hear music when one of your users places a call on hold. This can be disruptive if a user places a conference call on hold. The music, and possible announcements, can prevent other callers on the conference call from continuing the call until the user who placed the call on hold returns to the call.

You can disable MoH for conference calls when you create a Media Resource Group in Cisco CallManager for all MoH resources, and add all phones for which you want to enable MoH to the Resource Group List with the group. This disables MoH for callers within the same Cisco CallManager cluster, but does not disable MoH for outside callers.

This procedure shows how to create a new Media Resource Group for MoH resources:

1. Choose **Service > Media Resource > Media Resource Group** from the Cisco CallManager administration page. Cisco CallManager opens the Media Resource Group Configuration page.
2. Enter this information:
  - a. **Media Resource Group Name** The name of the group. For example, *MoHGroup*.
  - b. **Devices for this Group** Choose all of the MoH servers in the available resources list and click the down arrow in order to add them to the selected resources list.
3. Click **Insert**. Cisco CallManager adds the group.
4. Select **Service > Media Resource > Media Resource Group List**. Cisco CallManager opens the Media Resource Group List Configuration page.
5. Enter this information:
  - a. **Media Resource Group List Name** The name of the resource group list. For example, *MoHGroupList*.
  - b. **Media Resource Groups for this List** Choose the MoH resource group you just created (*MoHGroup*) in the available Media Resource Group List and click the down arrow to add them to the selected Media Resource Group List.
6. Click **Insert**. Cisco CallManager adds the group list.
7. Configure all phones for which you want to support MoH to use the Media Resource Group list you just created (*MoHGroupList*). You can use the BAT tool to reconfigure many phones at once.

## Q. Why does the IP Media Streaming service cause high CPU utilization?

A. The high CPU utilization by the IP Media Streaming service (IPVMSAPP.exe) can be caused by the MoH audio sources. If the audio files are either corrupted or empty (zero-length audio), and are configured as audio sources, they cause high CPU utilization. Refer to the Creating Audio Sources section of Cisco CallManager Features and Services Guide – Music on Hold in order to create valid audio source files.

## Q. Why is multicast MoH not heard across WAN links or to external users?

- ◆ Verify that the multicast stream makes it to the network of the endpoint that needs to hear it. It could be that the infrastructure devices, such as routers and switches, no longer forward this multicast stream. A sniffer is the easiest way to verify that the multicast stream has made it to the subnet of the Cisco IP phone. Also, if it is a gateway, ensure that it is multicast-capable for voice.
- ◆ Increase the hop count on the MoH source file in the MoH Server configuration page.

Multicast Audio Source Information		
<input checked="" type="checkbox"/> Enable Multicast Audio Sources on this MOH Server		
Base Multicast IP Address	<input type="text" value="239.1.1.1"/>	
Base Multicast Port Number	<input type="text" value="16384"/> (Even numbers only)	
Increment Multicast on	<input type="radio"/> Port Number <input checked="" type="radio"/> IP Address	
Selected Multicast Audio Sources		
No.	Audio Source Name	Max Hops
1	SampleAudioSource	<input type="text" value="2"/>
* indicates required item		

- ◆ **Note:** In most environments it is recommended to increment multicast based on the IP address instead of the port. When the IP address is used, a different multicast IP address is used for each codec that has been configured. When the port is used, all codecs are sent to all phones on different ports. This can result in unnecessary network saturation.

## Q. How to disable Music on Hold?

A. Set the Run Flag to **NO** on all of the available MoH servers to disable MoH for all users. This prevents MoH from being played from any of the servers in the cluster. Go to the Cisco CallManager Administration page and choose **Service > Media Resource > Music on Hold Server** in order to do this.

## Music On Hold (MOH) Server Configuration

[Add](#)

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**Music On Hold Server: MOH\_172.16.2.20 (MOH\_172.16.2.20)**  
**Registration: Registered with Cisco CallManager 172.16.2.201**  
**IP Address: 172.16.2.201**

Status: Ready

### Device Information

Host Server	172.16.2.201
Music On Hold Server Name*	<input type="text" value="MOH_172.16.2.20"/>
Description	<input type="text" value="MOH_172.16.2.20"/>
Device Pool*	<input type="text" value="Default"/>
Location	<input type="text" value=" &lt; None &gt;"/>
Maximum Half Duplex Streams*	<input type="text" value="250"/>
Maximum Multicast Connections*	<input type="text" value="30"/>
Fixed Audio Source Device	<input type="text"/>
Run Flag*	<input type="text" value="No"/>

In order to disable MoH for one user or a group of users, you need to create a silent/blank audio source file and assign it to the phone associated with the user or to the device pool of

the devices for which you need to disable MoH. You can use a sound recorder to create the blank file, and do the recording without the microphone turned on.

Once you have the file, complete these steps to assign the file to the device for which you need to disable MoH.

1. For Cisco CallManager 3.x, copy the blank .wav file to **C:\cisco\dropMOHaudiofiles\** in the Cisco CallManager server.  
  
For Cisco CallManager 4.x, copy the blank .wav file to **C:\Program Files\Cisco\MOH\dropMOHaudiofiles\**.
2. Open the Cisco CallManager Administration page and choose **Service > Media Resource > Music On Hold Audio Source**.
3. Pick a number not in use for MoH Audio Stream Number\*.
4. Choose the blank file you have created for MoH Audio Source File\*.
5. Check **Play continuously (repeat)** for this file.
6. Click **Insert** and **Update**.
7. Choose **Service > Service Parameters > Cisco CallManager > Default Network Hold MoH Audio Source ID** and make sure it has the same number as the MoH Audio Stream Number from step 3.
8. Select **Device > Phone** and pick the phone associated with the user. Make sure the phone is set to the same device pool as the MoH server. Set the **User Hold Audio Source** and **Network Hold Audio Source** to the new file that you have created.

**Phone Configuration**

[Add a new phone](#)  
[Add/Update Speed Dials](#)  
[Subscribe/Unsubscribe Services](#)  
[Dependency Records](#)  
[Back to Find/List Phones](#)

**Directory Numbers**  
**Base Phone**  
Line 1 - 1005 in Internal\_Numbers  
Line 2 - 1010 in Internal\_Numbers

**Phone: SEP000A8A93E0F9 (1005)**  
**Registration: Registered with Cisco CallManager 172.16.2.201**  
**IP Address: 172.16.2.101**  
**Status: Ready**

**Phone Configuration (Model = Cisco 7960)**

**Device Information**

MAC Address*	000A8A93E0F9
Description	1005
Owner User ID	(Select User ID)
Device Pool*	Default (View details)
Calling Search Space	All_Numbers
AAR Calling Search Space	< None >
Media Resource Group List	< None >
User Hold Audio Source	6 - DummySilentAudioSource
Network Hold Audio Source	6 - DummySilentAudioSource
Location	< None >
User Locale	< None >

**Note:** In order to disable MoH for a group of users/devices, you need to assign the blank file to the device pool of the devices for which you need to disable MoH. Choose **System > Device Pool**, choose the Device Pool for the required devices, and set the User Hold Audio Source and Network Hold Audio Source to the new file that you have created.

9. Click **Update** and **Reset** on the phone for the changes to take effect.
10. Make sure that you reset the MoH server and IP Voice Media Streaming App service.

**Note:** Make sure the audio source file is silent and not empty or zero length, as these files can cause high CPU usage. See the [Why does the IP Media Streaming service cause high CPU utilization?](#) section for more information.

**Note:** Complete these steps in order to disable MoH for one user or a group of users:

1. Define a Media Resource Group (MRG) without any MoH resources, and put that group into a Media Resource Group List (MRGL) for the users that you want to deny MoH access.
2. Put the MoH resource into an MRG, and put that group into an MRGL for the users that you want to permit MoH access.

## Q. How do I disable Tone on Hold (ToH)?

**A.** Complete these steps in order to disable ToH:

1. Go to the Cisco CallManager Administration page.
2. Choose **Service > Service Parameters**.
3. Choose **CallManager IP** as the Server and Cisco CallManager as the Service.
4. Go to the **Clusterwide Parameters (Device – General)** section on the Service Parameters configuration page.
5. Change the value of the Tone On Hold Timer to **200000 seconds** and click **Update**.

T322 Timer (msec)*	<input type="text" value="4000"/>	4000
Tone on Hold Timer (sec)*	<input type="text" value="200000"/>	10
Unknown Caller ID Flag*	<input type="text" value="True"/>	True

This parameter specifies the number of seconds between every two hold tones that are played when a call is put on hold. For non-MGCP-based devices, if this value is 0, the held device plays the hold tone only one time when the caller is put on hold. If the value is 200000, no hold tone plays. Otherwise, the held device plays the hold tone every so many seconds (specified by this value) repeatedly. If the specified value is less than 5 seconds, the device raises it to 5 seconds. For MGCP-based devices, the hold tone is disabled if this value is 0 or 200000. Any other value enables the hold tone on MGCP-based devices when the caller is put on hold.

## Q. How do I troubleshoot the issue of tone on hold not playing and I hear complete silence when the call is put on hold in spite of the fact that tone on hold is enabled?

**A.** In order to resolve this issue, choose the CallManager Service Parameters Configuration page at **Service > Service Parameters > CallManager**, and set the **Send H225 User Info Message** parameter to **User Info for Call Progress Tone**.

## Q. Why are calls disconnected a few seconds after a call is placed on hold?

**A.** This issue can occur when the voice codec for a given device, as defined by its region, is not in the list of codecs supported by the server that streams the MoH stream. For example, if

a particular device is set to only use the G.729 codec, but the MoH service is only configured to stream G.711 ¼-law, then this particular problem can occur.

Enable **G.729** in the IP Voice Media Stream App and restart the IP Voice Media Stream App service to resolve this issue.

Complete these steps:

1. Select **Service > Service Parameters** and choose **Cisco IP Voice Media Streaming App** from the Service pull-down menu.
2. Under Clusterwide Parameters, select **G.729** codec for **Supported MoH Codecs**.
3. Click **Update**.
4. Select **IP Voice Media Stream App** under **Application > Cisco CallManager Serviceability > Tools > Control Center** and click **Restart** to restart the IP Voice Media Stream App Service.

## Q. How do I adjust the volume of the MoH audio source on Cisco CallManager?

**A.** The volume of a custom-created MoH source is defined by a Cisco CallManager service parameter and occurs when you create the audio source using the Cisco MoH Audio Translator service. You must modify the service parameter and then re-translate the audio source in order to adjust the volume of the MoH audio source.

Complete these steps to modify the service parameter that affects MoH audio source volume.

1. Open up the Cisco CallManager Admin web page in Internet Explorer.
2. Select **Service > Service Parameters**.
3. Select a Cisco CallManager server from the Server drop-down box. The parameter you change affects all Cisco CallManager servers in the cluster, so it does not matter which server you select.
4. Select **Cisco MoH Audio Translator** on the Service drop-down box.
5. Click **Advanced** to see all service parameters.
6. The Default MoH volume level is the parameter you can change. The default is  $-24$  and the volume is measured in *decibels (dB)*. You can enter a value in the range of  $-48$  (soft) to  $0$  (loudest), but the change in volume affects only audio files processed after the change. For example, change to  $-28$  for a softer source, or  $-20$  for a louder source.

The service parameters setting works only for MoH audio files as the audio source. If you use a live feed or USB device as the audio source, you need to complete these steps to reduce the MoH volume.

1. Select **Start > Settings > Control Panel**.
2. Click **Sounds and Multimedia**.
3. Go to the Audio tab.
4. Under Sound Recording, click **Volume** to adjust the volume. The changes should take effect immediately after you click **OK**.

## Q. How do you set up the MoH Live-Feed on Survivable Remote Site Telephony (SRST) gateways?

**A.** For information on how to set up an MoH Live-Feed on SRST gateways, refer to Configuring SRST MoH Live-Feed Support.

**Note:** SRST MoH Live–Feed is currently not supported with Session Initiation Protocol (SIP) gateways. It is supported only on H.323 and MGCP gateways.

## **Q. How do you apply the MOH globally in the Cisco CallManager?**

**A.** Choose **Service > Service Parameters > Cisco Call Manager > Default Network Hold MOH Audio Source ID** in order to apply the MOH audio stream globally for all the devices.

## **Q. How to configure Cisco CallManager to make MOH play the music files continuously?**

**A.** Complete these steps in order to configure Music on Hold (MOH) to play continuously:

1. Choose **Service > Media Resource > Music on Hold Audio Source**.
2. On the MOH Audio Source Configuration, choose the Audio Source file you want to use and check the **Play Continuously** (repeat) check box. Restart the Cisco Media Streaming Application service and the MOH server, after you update the configuration page for that file.

## **Related Information**

- **[Troubleshooting Cisco Unified Communications Manager MOH Error Message](#)**
- **[Voice Technology Support](#)**
- **[Voice and Unified Communications Product Support](#)**
- **[Troubleshooting Cisco IP Telephony](#)**
- **[Technical Support & Documentation – Cisco Systems](#)**

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