



## Conference Bridges

---

Conference Bridge for Cisco CallManager designates a software and hardware application designed to allow both Ad Hoc and Meet-Me voice conferencing. Each conference bridge can host several simultaneous, multiparty conferences.

Conference Bridge includes the following features:

- Adding new participants to an existing conference call
- Ending a conference call
- Canceling a conference call
- Parking a conference call
- Transferring a conference call



**Note**

---

The hardware model type for Conference Bridge contains a specific Media Access Control (MAC) address and device pool information.

---

This section covers the following topics:

- [Understanding Conference Devices, page 17-2](#)
- [Conference Bridge Guidelines and Tips, page 17-5](#)
- [Updating Conference Bridge Configurations, page 17-7](#)

# Understanding Conference Devices

Cisco CallManager supports multiple conference devices to distribute the load of mixing audio between the conference devices. A component of Cisco CallManager called Media Resource Manager (MRM) locates and assigns resources throughout a cluster. The MRM resides on every Cisco CallManager and communicates with MRMs on other Cisco CallManagers.

Both hardware and software conference bridges can be active at the same time. Software and hardware conference devices differ in the number of streams and the types of codec they support. For software conference devices, you can adjust the number of streams. Hardware conference devices, however, support a fixed number of streams.

For conferencing, you must determine the total number of concurrent users (or audio streams) required at any given time. Then, you create and configure a software conference device to support the calculated number of streams. One large conference, or several small conference, can use these audio streams.

**Caution**

---

Although a single software conference device can be installed on the same PC as the Cisco CallManager, we strongly recommend against this. Installation of a conference device service on the same PC as the Cisco CallManager can adversely affect performance on the Cisco CallManager.

---

**Note**

---

Conference devices that are configured for software support G.711 codecs by default. Conference devices configured for hardware provide transcoding for G.711, G.729, G.723, G711 GSM Full Rate (FR), and G711 GSM Enhanced Full Rate (EFR) codecs.

---

## Hardware Conference Devices

Hardware-enabled conferencing provides the ability to support voice conferences in hardware. Digital Signaling Processors (DSPs) convert multiple Voice over IP Media Streams into TDM streams that are mixed into a single conference call stream. The DSPs support both Meet-Me and Ad Hoc conferences by the Cisco CallManager.

## MTP WS-X6608 DSP Service Card

The Media Termination Point (MTP) WS-X6608 DSP service card provides DSP resources for both conference applications and transcoding applications. Hardware conference devices are fixed at 32 full-duplex streams per MTP WS-X6608 port; therefore, hardware conference devices support 32 divided by three (32/3), or 10, conferences. Users cannot change this value.

## NM-HDV Network Modules

NM-HDV network modules (NM) provide DSP conferencing resources, which includes a maximum of 15 T1-549 DSPs (3 T1-549 DSPs in each of 5 SPMM slots.) The NM-HDV NM utilizes the VG200 platform.

### NM-HDV-2E1-60 Module

NM-HDV-2E1-60 currently supports 30 channels of a high-complexity codec (such as G.729) and 60 channels of a medium-complexity codec (such as G.711). NM-HDV-2E1-60 supports a maximum of 90 channels of conferencing ports per module.

### NM-HDV-2T1-48 Module

NM-HDV-2T1-48 supports 24 channels of high-complexity codecs and 48 channels of medium-complexity codecs. NM-HDV-2T1-48 supports a maximum of 72 channels of conferencing ports per module.

**Note**

---

A conference requires three participants as the minimum participant size.

---

## Software Conferences Devices

Software conference devices support a variable number of audio streams. You can create and configure a software conference device and select the number of full-duplex audio streams that the device supports. To calculate the total number of conferences that a device supports, divide the number of audio streams by three. The maximum number of audio streams is 128.

# Using Different Types of Conferences: Meet-Me and Ad Hoc

Cisco CallManager supports both Meet-Me conferences and Ad Hoc conferences. Meet-Me conferences allow users to dial in to a conference. Ad Hoc conferences allow the conference controller to let only certain participants into the conference.

Meet-Me conferences require that a range of directory numbers be allocated for exclusive use of the conference. When a Meet-Me conference is set up, the conference controller selects a directory number and advertises it to members of the group. The users call the directory number to join the conference. Anyone who calls the directory number while the conference is active joins the conference. (This situation applies only when the maximum number of participants specified for that conference type has not been exceeded and when sufficient streams are available on the conference device.)

## Initiating an Ad Hoc Conference Bridge

The conference controller controls Ad Hoc conferences. When you initiate an Ad Hoc conference, Cisco CallManager considers you the conference controller. In an Ad Hoc conference, only a conference controller can add participants to a conference. The conference controller can add any number of parties to the conference up to the maximum number of participants specified for Ad Hoc conferences and provided that sufficient streams are available on the conference device.

When the conference controller initiates a conference call, the Cisco CallManager places the current call on hold, flashes the conference lamp, and provides dial tone to the user. At the dial tone, the conference controller dials the next conference participant and, when the user answers, presses Conference again to complete the conference. The Cisco CallManager then connects the conference controller, the first participant, and the new conference participant to a conference bridge. Each participant Cisco IP phone display reflects the connection to the conference.

Participants can leave a conference by simply hanging up. A conference continues even if the conference controller hangs up, although the remaining conference participants cannot add new participants to the conference.

## Initiating a Meet-Me Conference Bridge

Meet-Me conferences require that a range of directory numbers be allocated for exclusive use of the conference. When a Meet-Me conference is set up, the conference controller selects a directory number and advertises it to members of the group. The users call the directory number to join the conference. Anyone who calls the directory number while the conference is active joins the conference. (This situation applies only when the maximum number of participants specified for that conference type has not been exceeded and when sufficient streams are available on the conference device.)

When you initiate a Meet-Me conference by pressing Meet-Me on the phone, Cisco CallManager considers you the conference controller. The conference controller provides the directory number for the conference to all attendees, who can then dial that directory number to join the conference. If other participants in a Meet-Me conference press Meet-Me and the same directory number for the conference bridge, the Cisco CallManager ignores the signals.

The conference controller selects a directory number from the range specified for the conference device. The Cisco CallManager Administrator provides the Meet-Me conference directory number range to users, so they can access the feature.

A conference continues even if you, the conference controller, hang up.

## Conference Bridge Guidelines and Tips

The following system requirements and limitations apply to conference bridges:

- Conference devices configured for software support G.711 codecs by default.
- If the Cisco IP Voice Media Streaming App service runs on the same server as the Cisco CallManager service, a software conference cannot exceed the maximum limit of 48.
- If the Cisco IP Voice Media Streaming App service runs on a different server than the Cisco CallManager service, a software conference cannot exceed the maximum limit of 128.

- Conference devices configured for hardware provide transcoding for G.711, G.729, G.723, G711 GSM Full Rate (FR), and G711 GSM Enhanced Full Rate (EFR) codecs.
- Full-duplex streams per MTP WS-X6608 port cannot exceed the maximum limit of 32.

## Conference Bridge Configuration Checklist

Table 17-1 provides a checklist to configure conference bridge.

**Table 17-1 Conference Bridge Configuration Checklist**

Configuration Steps		Related procedures and topics
<b>Step 1</b>	Configure the conference device(s).	<a href="#">Adding a Software Conference Device</a> , <i>Cisco CallManager Administration Guide</i>  Adding a Hardware Conference Device, <i>Cisco CallManager Administration Guide</i>
<b>Step 2</b>	Configure the Meet-Me Number/Pattern.	<a href="#">Adding a Meet-Me Number/Pattern</a> , <i>Cisco CallManager Administration Guide</i>
<b>Step 3</b>	Add a Conf button for Ad Hoc or MMConf button for the Meet-Me conference to the phone templates, if needed.  You only need to do this for older Cisco IP Phone models 12 SP, 12 SP+, and 30 VIP.	<a href="#">Modifying Phone Button Templates</a> , <i>Cisco CallManager Administration Guide</i>
<b>Step 4</b>	Notify users that the Conference Bridge feature is available.	Refer to the phone documentation for instructions on how users access conference bridge features on their Cisco IP phone.

# Updating Conference Bridge Configurations

For the changes to take effect, you must reset each Conference Bridge device after making updates. To do this, click **Update** and a message displays stating that the Conference Bridge device must be reset for the changes to take effect. Click **OK**, and the window refreshes showing the updated device information.

## Where to Find More Information

### Related Topics

- [Server Configuration](#), *Cisco CallManager Administration Guide*
- [Phone Button Template Configuration](#), *Cisco CallManager Administration Guide*
- [Cisco IP Phone Configuration](#), *Cisco CallManager Administration Guide*
- [Partition Configuration](#), *Cisco CallManager Administration Guide*
- [Conference Bridge Configuration](#), *Cisco CallManager Administration Guide*

### Additional Cisco Documentation

- *Cisco IP Phone Administration Guide for Cisco CallManager*
- Cisco IP Phone user documentation and release notes (all models)

■ Where to Find More Information