Ad Hoc Conferencing

Ad Hoc Conferencing Overview

Ad Hoc conferences allow the conference controller (or in some cases, another participant) to add participants to the conference.

Ad Hoc conferences comprise two types: basic and advanced. In basic ad hoc conferencing, the originator of the conference acts as the controller of the conference and is the only participant who can add or remove other participants. In advanced Ad Hoc conferencing, any participant can add or remove other participants. Advanced Ad Hoc conferencing also allows you to link multiple ad hoc conferences together.

Advanced Ad Hoc conferencing allows you to link multiple Ad Hoc conferences together by adding an Ad Hoc conference to another Ad Hoc conference as if it were an individual participant. If you attempt to link multiple conferences together when the Advanced Ad Hoc Conference Enabled service parameter is set to False, the IP phone displays a message. You can also use the methods that are available for adding individual participants to an Ad Hoc conference to add another conference to an Ad Hoc conference.

Ad Hoc Conferencing Task Flow

Procedure

	Command or Action	Purpose
Step 1	Configure Softkey Template for Conferencing, on page 2	Add the Conference List, Join, and Remove Last Conference Party softkeys to a softkey template.
Step 2	To Associate Softkey Template Common Device, on page 3, complete the following subtasks:	**Optional**. To make the softkey template available to phones, you must complete either this step or the following step. Follow this step

	Command or Action	Purpose
	• Add a Softkey Template to a Common Device Configuration, on page 4 • Associate a Common Device Configuration with a Phone, on page 5	if your system uses a **Common Device Configuration** to apply configuration options to phones. This is the most commonly used method for making a softkey template available to phones.
Step 3	Associate a Softkey Template with a Phone, on page 5	**Optional**. Use this procedure either as an alternative to associating the softkey template with the Common Device Configuration, or in conjunction with the Common Device Configuration. Use this procedure in conjunction with the Common Device Configuration if you need assign a softkey template that overrides the assignment in the Common Device Configuration or any other default softkey assignment.
Step 4	Configure Ad Hoc Conferencing, on page 5	Enable advanced conferencing, specify the maximum number of participants, and specify when to drop a conference connection.
Step 5	Configure Join Across Lines, on page 8	Enable Join Across Lines to create a conference.

Configure Softkey Template for Conferencing

Use this procedure to make the following conferencing softkeys available:

Softkey	Description	Call States
Conference List (**ConfList**)	View a list of participant directory numbers that are in an Ad Hoc conference. The name of the participant is displayed if it is configured in Cisco Unified Communications Manager Administration.	On Hook Connected
Join	Join up to 15 established calls (for a total of 16) to create a conference.	On Hold
Remove Last Conference Party (**Remove**)	The conference controller can invoke the conference list and remove any participant in the conference by using the **Remove** softkey.	On Hook Connected

Procedure

Step 1	From Cisco Unified CM Administration, choose **Device** > **Device Settings** > **Softkey Template**.
Step 2	Perform the following steps to create a new softkey template; otherwise, proceed to the next step.

a) Click **Add New**.
b) Select a default template and click **Copy**.
c) Enter a new name for the template in the **Softkey Template Name** field.
d) Click **Save**.

Step 3	Perform the following steps to add softkeys to an existing template.

a) Click **Find** and enter the search criteria.
b) Select the required existing template.

Step 4	Check the **Default Softkey Template** check box to designate this softkey template as the default softkey template.

> **Note**   If you designate a softkey template as the default softkey template, you cannot delete it unless you first remove the default designation.

Step 5	Choose **Configure Softkey Layout** from the **Related Links** drop-down list in the upper right corner and click **Go**.
Step 6	From the **Select a Call State to Configure** drop-down list, choose the call state for which you want the softkey to display.
Step 7	From the **Unselected Softkeys** list, choose the softkey to add and click the right arrow to move the softkey to the **Selected Softkeys** list. Use the up and down arrows to change the position of the new softkey.
Step 8	Repeat the previous step to display the softkey in additional call states.
Step 9	Click **Save**.
Step 10	Perform one of the following tasks:

- Click **Apply Config** if you modified a template that is already associated with devices to restart the devices.
- If you created a new softkey template, associate the template with the devices and then restart them. For more information, see *Add a Softkey Template to a Common Device Configuration* and *Associate a Softkey Template with a Phone* sections.

What to do next

Complete one of the following procedures:

- Associate Softkey Template Common Device, on page 3
- Associate a Softkey Template with a Phone, on page 5

Associate Softkey Template Common Device

Optional. There are two ways to associate a softkey template with a phone:

- Add the softkey template to the **Phone Configuration**.

- Add the softkey template to the **Common Device Configuration**.

The procedures in this section describe how to associate the softkey template with a **Common Device Configuration**. Follow these procedures if your system uses a **Common Device Configuration** to apply configuration options to phones. This is the most commonly used method for making a softkey template available to phones.

To use the alternative method, go to Associate a Softkey Template with a Phone, on page 5

Before you begin

Configure Softkey Template for Conferencing, on page 2

Procedure

	Command or Action	Purpose
Step 1	Add a Softkey Template to a Common Device Configuration, on page 4	Perform this step to add a conferencing softkey template to the Common Device Configuration.
Step 2	Associate a Common Device Configuration with a Phone, on page 5	Perform this step to link the conferencing softkey Common Device Configuration to a phone.

Add a Softkey Template to a Common Device Configuration

Procedure

Step 1 From Cisco Unified CM Administration, choose **Device** > **Device Settings** > **Common Device Configuration**.

Step 2 Perform the following steps to create a new Common Device Configuration and associate the softkey template with it; otherwise, proceed to the next step.

a) Click **Add New**.
b) Enter a name for the Common Device Configuration in the **Name** field.
c) Click **Save**.

Step 3 Perform the following steps to add the softkey template to an existing Common Device Configuration.

a) Click **Find** and enter the search criteria.
b) Click an existing Common Device Configuration.

Step 4 In the **Softkey Template** drop-down list, choose the softkey template that contains the softkey that you want to make available.

Step 5 Click **Save**.

Step 6 Perform one of the following tasks:

- If you modified a Common Device Configuration that is already associated with devices, click **Apply Config** to restart the devices.
- If you created a new Common Device Configuration, associate the configuration with devices and then restart them.

Associate a Common Device Configuration with a Phone

Procedure

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

Step 2 Click **Find** and select the phone device to add the softkey template.

Step 3 From the **Common Device Configuration** drop-down list, choose the common device configuration that contains the new softkey template.

Step 4 Click **Save**.

Step 5 Click **Reset** to update the phone settings.

Associate a Softkey Template with a Phone

Optional. Use this procedure as an alternative to associating the softkey template with the Common Device Configuration. This procedure also works in conjunction with the Common Device Configuration. You can use it when you need to assign a softkey template that overrides the assignment in the Common Device Configuration or any other default softkey assignment.

Procedure

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

Step 2 Click **Find** to select the phone to add the softkey template.

Step 3 From the **Softkey Template** drop-down list, choose the template that contains the new softkey.

Step 4 Click **Save**.

Step 5 Press **Reset** to update the phone settings.

Configure Ad Hoc Conferencing

Configure advanced Ad Hoc conferencing to allow non-controller participants to add and remove other participants and the ability of all participants to link ad hoc conferences together.

Procedure

Step 1 From Cisco Unified CM Administration, choose **System** > **Service Parameters**.

Step 2 From the **Server** drop-down list, choose the server.

Step 3 From the **Service** drop-down list, choose **Cisco CallManager**.

Step 4 Configure the fields in the **Clusterwide Parameters (Features - Conference)** area. For parameter descriptions, see Ad Hoc Conferencing Service Parameters, on page 6.

Step 5 Click **Save.**

What to do next

Configure Join Across Lines, on page 8

Ad Hoc Conferencing Service Parameters

The following table lists the main service parameters for Ad Hoc conferencing. For additional conferencing service parameters, refer to the **Service Parameter Configuration** window's **Advanced** option. Conferencing service parameters appear under **Clusterwide Parameters** (**Feature - Conference**).

Table 1: Ad Hoc Conference Service Parameters

Service Parameters	Description
Drop Ad Hoc Conference	Drop Ad Hoc Conference, prevents toll fraud (where an internal conference controller disconnects from the conference while outside callers remain connected). The service parameter settings specify conditions under which an ad hoc conference gets dropped. • **Never**—The conference does not get dropped. (We recommend that you use the default option to avoid unintentional termination of a conference). • **When No OnNet Parties Remain in the Conference**—The system drops the active conference when the last on-network party in the conference hangs up or drops out of the conference. Unified Communications Manager releases all resources that are assigned to the conference. **Note** Drop Ad Hoc Conference feature in an ILS deployment will not drop the parties when it set at **When No OnNet Parties Remain in the Conference** because the route patterns learned are classified as On Net. • **When Conference Controller Leaves**—The active conference terminates when the primary controller (conference creator) hangs up. Unified Communications Manager releases all resources that are assigned to the conference. **Note** We recommend that you set this service parameter to **Never**. Any other setting can result in unintentional termination of a conference. The Drop Ad Hoc Conference service parameter works differently for conference calls that are initiated from a Cisco Unified IP Phone 7940 or 7960 that is running SIP, or a third-party phone that is running SIP .
Maximum Ad Hoc Conference	This parameter specifies the maximum number of participants that are allowed in a single Ad Hoc conference. Default Value: 4

Service Parameters	Description
Advanced Ad Hoc Conference Enabled	This parameter determines whether advanced Ad Hoc conference features are enabled. This includes the ability of non-controller participants to add and remove other participants and the ability of all participants to link ad hoc conferences together.
Non-linear Ad Hoc Conference Linking Enabled	This parameter determines whether more than two Ad Hoc conferences can be linked directly to an Ad Hoc conference in a non-linear fashion (three or more conferences linked to any one conference).
Choose Encrypted Audio Conference Instead Of Video Conference	This parameter determines whether Unified Communications Manager chooses an encrypted audio conference bridge or an unencrypted video conference bridge for an Ad-Hoc conference call when the conference controller's Device Security Mode is set to either Authenticated or Encrypted and at least two conference participants are video-capable. Because encrypted video conference bridges are not supported in this release, Unified Communications Manager must choose between an encrypted audio conference bridge and an unencrypted video conference bridge. The default value is **True**.
Minimum Video Capable Participants To Allocate Video Conference	This parameter specifies the number of video-capable conference participants that must be present in an Ad Hoc conference to allocate a video conference bridge. If the number of video-capable participants is less than the number specified in this parameter, Unified Communications Manager allocates an audio conference bridge. If the number of video-capable participants is equal to, or greater than, the number specified in this parameter, Unified Communications Manager allocates a video conference bridge, when available, from the configured media resource group list (MRGL). Specifying a value of zero means that video conference bridges will always be allocated, even when none of the participants on the conference are video-capable. When a conference has been established using an audio bridge and then additional video-capable participants join the conference, the conference will remain on the audio bridge and will not convert to video. The default value is **2**.
Allocate Video Conference Bridge For Audio Only Conferences When The Video Conference Bridge Has Higher Priority	This parameter determines whether Unified Communications Manager chooses a video conference bridge, when available, for an Ad Hoc audio-only conference call when the video conference bridge has a higher priority than an audio conference bridge in the media resource group list (MRGL). If an audio conference bridge has higher priority than any video conference bridge in the MRGL, Unified Communications Manager ignores this parameter. This parameter proves useful in situations where the local conference bridge is a video bridge (and configured in the MRGL with the highest priority) and audio conference bridges are only available in remote locations; in that situation, enabling this parameter means thatUnified Communications Manager would attempt to use the local video conference bridge first, even for audio-only conference calls. The default value is **False**.

Service Parameters	Description
Enable Click-to-Conference for Third-Party Applications	This parameter determines whether the Click-to-Conference functionality over the SIP trunk is enabled on Unified Communications Manager. The Click-to-Conference feature allows third-party applications to setup a conference using the SIP out of dialog REFER method and subscribe to the SIP trunk for Conference Event Package through SIP SUBSCRIBE/NOTIFY. **Warning** Enabling this parameter could negatively affect CTI applications that are not coded to support this feature. Default value: False
Cluster Conferencing Prefix Identifier	This parameter defines a number, up to 8 digits (e.g. 0001), that is prefixed to a conference identifier generated for Adhoc and Meet-Me conferences that will be hosted on a SIP conference bridge such as Cisco Telepresence MCU or Cisco Telepresence Conductor. This field should be populated by the administrator when there are multiple clusters in a network that will be sharing the SIP conference bridges that Unified Communications Manager manages. Every cluster should be configured with a unique prefix to ensure that the conference identifier for Adhoc and Meet-Me conferences is unique. If conference resources are not being shared across clusters, then this field may not be populated.

Configure Join Across Lines

The Join Across Lines feature allows a user to join calls on multiple phone lines (either on different directory numbers or on the same directory number but on different partitions) to create a conference.

Before you begin

- Ensure the phone model supports Join Across Lines Generate a Phone Feature List

- Configure Ad Hoc Conferencing, on page 5

Procedure

Step 1   From Cisco Unified CM Administration, choose **Device** > **Device Settings** > **Default Device Profile**. The **Default Device Profile Configuration** window is displayed.

Step 2   From the **Device Profile Type** drop-down list, choose the phone model.

Step 3   From the **Device Protocol** drop-down list, choose the relevant SCCP or SIP protocol.

Step 4   Set the **Join Across Lines** to **On**.

Step 5   Click **Save**.

Conference Interactions

Feature	Interaction
Conference by Using **cBarge**	Initiate a conference by pressing the **cBarge** softkey, or if the Single Button cBarge feature is enabled, by pressing the shared-line button of the active call. When cBarge is initiated, a barge call gets set up by using the shared conference bridge, if available. The original call gets split and then joined at the conference bridge. The call information for all parties gets changed to Conference.
	The barged call becomes a conference call with the barge target device as the conference controller. It can add more parties to the conference or can drop any party.
	When any party releases from the call, leaving only two parties in the conference, the remaining two parties experience a brief interruption and then get reconnected as a point-to-point call, which releases the shared conference resource.
Interaction with Call Park, Call Transfer, and Redirect	If the conference controller transfers, parks, or redirects the conference to another party, the party that retrieves the call acts as the virtual controller for the conference. A virtual controller cannot add new parties to the conference nor remove any party that was added to the conference, but a virtual controller can transfer, park, or redirect the conference to another party, who would, in turn, become the virtual controller of the conference. When this virtual controller hangs up the call, the conference ends.
Softkey display on SIP phones	The ConfList and the Remove softkey feature is available only on SCCP phones. The SIP phones have a Show Details button with similar functionality.

Conference Restrictions

The following restrictions apply to ad hoc conferencing:

Feature	Restrictions
Ad Hoc conference	Unified Communications Manager supports a maximum of 100 simultaneous Ad Hoc conferences for each Unified Communications Manager server.
	Cisco Unified Communications Manager supports a maximum of 64 participants per Ad Hoc conference (provided adequate conference resources are available). In the case of linked Ad Hoc conferences, the system considers each conference as one participant.

Feature	Restrictions
Ad Hoc conference on SIP phones: • Cisco Unified IP Phone 7911 • Cisco Unified IP Phone 7941 • Cisco Unified IP Phone 7961	Unified Communications Manager uses" beep" and "beepbeep" tones when a new party is added and when the new party drops from the Ad Hoc conference, respectively. When a party is added to an Ad Hoc conference, a user on a phone that is running SIP may not hear the beep; when a participant drops from the Ad Hoc conference, a user on a phone that is running SIP may not hear the "beepbeep". Users might not hear the beeps because of the time it takes Unified Communications Manager to set up and tear down connections during the conferencing process. You can invoke Ad Hoc conference linking for phones that are running SIP only by using the Conference and Transfer functions. The system does not support Direct Transfer and Join. Supported phones that are running SIP comprise Cisco Unified IP Phone 7911, 7941, 7961.
Ad Hoc conference on SIP phones: • Cisco Unified IP Phone 7940 • Cisco Unified IP Phone 7960 • Third-Party Phone	• Phones display individual calls as conference calls. Cisco Unified IP Phones 7940 and 7960 can create local conference calls but not Ad Hoc conference calls. • Conference list (ConfList), is not available. • Remove last conference participant (RmLstC), is not available. • Drop Ad Hoc conference is not supported. • The SIP Profile parameter Conference Join Enabled controls behavior of the phone that is running SIP when the conference controller exits a locally hosted conference. If the Conference Join Enabled check box is unchecked, all legs disconnect when the conference controller exits the Ad Hoc conference call. If the Conference Join Enabled check box is checked, the remaining two parties stay connected. • To achieve the same level of control that the Drop Ad Hoc Conference parameter settings provide for conference calls that a phone that is running SCCP initiates, the administrator can use a combination of the Conference Join Enabled SIP profile parameter and the Block OffNet to OffNet Transfer service parameter for conferences that are initiated on the phone that is running SIP (Cisco Unified IP Phone 7940 or 60). (Because the phone that is running SIP performs a transfer when it drops out of the conference call, the Block OffNet to OffNet Transfer can prevent toll fraud by not allowing two offnet phones to remain in the call.) • Unified Communications Manager uses "beep" and "beepbeep" tones when a new party is added and when the new party drops from the Ad Hoc conference, respectively. When a party is added to an Ad Hoc conference, a user on a phone that is running SIP may not hear the beep when a participant drops from the Ad Hoc conference, a user on a phone that is running SIP may not hear the "beepbeep". Users might not hear the beeps because of the time it takes Unified Communications Manager to set up and tear down connections during the conferencing process.

Feature	Restrictions
Phone displaying "To Conference" even when two parties are connected	Configure a Call Manager cluster with Publisher (CmA11) and Subscribers (CmA2). Phones A, B, C are registered with CmA1. Phones D is registered with CmA2. • Setup an consultative or blind ad-hoc conference between A(1000), B(4000), C(5000), D(6000) with A as the controller. • Shutdown Cma2. • Phone D will go to Preservation mode & press end call softkey . • Phone A,B & C are in conference. • Phone A,B & C are in conference. • Disconnect Phone A ,then Phone B & C should be in a Direct call. Issue: Phone B & C are still in conference • Disconnect Phone A ,then Phone B & C should be in a Direct call. Issue: Phone B & C are still in conference • Disconnect Phone B, there should be no call on phone C. Phone B & C are still in conference. Issue: Phone C is still in Conference .