Barge

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Barge Overview

Barge allows a user to be added to a remotely active call that is on a shared line. Remotely active calls for a line are the active (connected) calls that are made to or from another device that shares a directory number with the line.

If you configure party entrance tone, a tone plays on the phone when a basic call changes to a barged call or cbarged call. In addition, a different tone plays when a party leaves the multiparty call.

Phones support Barge in the following conference modes:

- Built-in conference bridge at the phone that is barged—This mode uses the Barge softkey. Most Cisco Unified IP Phones include the built-in conference bridge capability.
- Shared conference bridge—This mode uses the cBarge softkey.

By pressing the Barge or cBarge softkey in the remote-in-use call state, the user is added to the call with all parties, and all parties receive a barge beep tone (if configured). If Barge fails, the original call remains active. If no conference bridge is available (built-in or shared), the barge request gets rejected, and a message displays on the Barge initiator device. When network or Unified Communications Manager failure occurs, the Barge call is preserved.

Note To display the softkey option for both Barge and cBarge, disable the **Privacy** option in Unified Communications Manager user interface for those devices that have shared line appearances.

For a list of Cisco Unified IP Phones that support Barge, log in to Cisco Unified Reporting and run the Unified CM Phone Feature List report. Make sure to select Built In Bridge as the feature. For details, see Generate a Phone Feature List.

Single-Button Barge and Single-Button cBarge

The Single-Button Barge and Single-Button cBarge features allow a user to press the shared-line button of the remotely active call, to be added to the call. All parties receive a barge beep tone (if configured). If barge fails, the original call remains active.

Phones support Single-Button Barge and Single-Button cBarge in two conference modes:

- Built-in conference bridge at the phone that is barged—This mode uses the Single-Button Barge feature.
- Shared conference bridge—This mode uses the Single-Button cBarge feature.

By pressing the shared-line button of the remote-in-use call, the user is added to the call with all parties, and all parties receive a barge beep tone (if configured). If barge fails, the original call remains active. If no conference bridge is available (built-in or shared), the barge request gets rejected, and a message is displayed at the Barge initiator device.

Built-In Conference

When the user presses the Barge softkey or a shared-line button, a Barge call is set up by using the built-in conference bridge, if available. A built-in conference bridge is advantageous because neither a media interruption nor display changes to the original call occur when the Barge is being set up.

Shared Conference

When the user presses the cBarge softkey, or a shared-line button, a barge call is set up by using the shared conference bridge, if available. The original call is split and then joined at the conference bridge, which causes a brief media interruption. The call information for all parties changes to “Barge”. 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 the call, the remaining two parties experience a brief interruption and then get reconnected as a point-to-point call, which releases the shared conference resource.

Built-In and Shared Conference Differences

This table describes the differences between barge with built-in conference bridge and shared conference.

Feature	Barge with Built-In Conference	Barge with Shared Conference
The standard softkey template includes the Barge/cBarge softkey. **Note** If the single button Barge/cBarge feature is enabled, the softkey is not used.	Yes	No
A media break occurs during barge setup.	No	Yes
If configured, a user receives a barge setup tone.	Yes	Yes

Feature	Barge with Built-In Conference	Barge with Shared Conference
Text displays at the barge initiator phone.	To barge XXX	To Conference
Text displays at the target phone.	To/From Other	To Conference
Text displays at the other phones.	To/From Target	To Conference
Bridge supports a second barge setup to an already barged call.	No	Yes
Initiator releases the call.	No media interruption occurs for the two original parties.	Media break occurs to release the shared conference bridge when only two parties remain and to reconnect the remaining parties as a point-to-point call.
Target releases the call.	Media break occurs to reconnect initiator with the other party as a point-to-point call.	Media break occurs to release the shared conference bridge when only two parties remain and to reconnect the remaining parties as a point-to-point call.
Other party releases the call.	All three parties get released.	Media break occurs to release the shared conference bridge when only two parties remain and to reconnect the remaining parties as a point-to-point call.
Target puts call on hold and performs Direct Transfer, Join, or Call Park.	Initiator gets released.	Initiator and the other party remain connected.

Barge Configuration Task Flow

Procedure

	Command or Action	Purpose
Step 1	Configure Softkey Template for Built-In Conferencing, on page 4	Add the Barge softkey to a softkey template. Follow this procedure when you are configuring barge for built-in conference bridges.
Step 2	Configure Softkey Template for Shared Conferencing, on page 5	Add the cBarge softkey to a softkey template. Follow this procedure when you are configuring barge for shared conference bridges.
Step 3	To Associate a Softkey Template with Common Device Configuration, on page 6, 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 if your system uses a Common Device

	Command or Action	Purpose
	• Add a Softkey Template to Common Device Configuration, on page 7 • Associate Common Device Configuration with Phone, on page 7	Configuration to apply configuration options to phones. This is the most commonly used method for making a softkey template available to phones.
Step 4	Associate Softkey Template with Phone, on page 6	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.
Step 5	Configure Barge for Built-In Conferencing, on page 8	Configure barge for built-in conference bridges.
Step 6	Configure Barge for Shared Conferencing, on page 9	Configure barge for shared conference bridges.
Step 7	Associate User with Device	Associate users with devices.

Configure Softkey Template for Built-In Conferencing

Configure a softkey template for Barge and assign the Barge softkey to that template. You can configure the Barge softkey in the **Remote In Use** call state.

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

Perform one of the following procedures:

- Add a Softkey Template to Common Device Configuration, on page 7
- Associate Common Device Configuration with Phone, on page 7

Configure Softkey Template for Shared Conferencing

Configure a softkey template for shared conferencing and assign the cBarge softkey to that template. You can configure the cBarge softkey in the **Remote In Use** call state.

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.

Associate Softkey Template with Phone

Procedure

Step 1 From Cisco Unified CM Administration, choose **Device** > **Phone**.
The **Find and List Phones** window is displayed.

Step 2 Find the phone to which you want to add the softkey template.

Step 3 Perform one of the following tasks:

- From the **Common Device Configuration** drop-down list, choose the common device configuration that contains the required softkey template.
- In the **Softkey Template** drop-down list, choose the softkey template that contains the Barge or cBarge softkey.

Step 4 Click **Save**.
A dialog box is displayed with a message to press **Reset** to update the phone settings.

Associate a Softkey Template with Common Device Configuration

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, see Associate Softkey Template with Phone, on page 6.

Procedure

Step 1 Add a Softkey Template to Common Device Configuration

Step 2 Associate a Common Device Configuration with a Phone

Add a Softkey Template to Common Device Configuration

Before you begin

Perform one or both of the following as needed:

- Configure Softkey Template for Built-In Conferencing, on page 4
- Configure Softkey Template for Shared Conferencing, on page 5

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 Common Device Configuration with Phone

Before you begin

Perform one or both of the following as needed:

- Configure Softkey Template for Built-In Conferencing, on page 4
- Configure Softkey Template for Shared Conferencing, on page 5

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.

What to do next

Perform one or both of the following:

- Configure Barge for Built-In Conferencing, on page 8
- Configure Barge for Shared Conferencing, on page 9

Configure Barge for Built-In Conferencing

Most Cisco Unified IP Phones include the built-in conference bridge capability; that is, these Cisco IP Phones have an internal DSP that acts as a small conference bridge to support the barge feature. It can support only a maximum of three parties that include the phone itself. Starting from firmware version 11.x, Cisco IP Phone 8800 Series have the capability to daisy chain the built-in bridge (BIB) feature.

Procedure

Step 1 From Cisco Unified CM Administration, choose **System** > **Service Parameters** and set the **Built In Bridge Enable** clusterwide service parameter to **On**.

Note
If this parameter is set to **Off**, configure barge for each phone by setting the **Built in Bridge** field in the **Phone Configuration** window.

Step 2 Set the **Party Entrance Tone** clusterwide service parameter to **True** (required for tones) or configure the **Party Entrance Tone** field in the **Directory Number Configuration** window.

Step 3 Set the **Single Button Barge/CBarge Policy** to **Barge**.

Note
If this parameter is set to **Off**, configure single-button barge for each phone by setting the **Single Button Barge** field in the **Phone Configuration** window.

Step 4 Set the **Allow Barge When Ringing** service parameter to **True**.

Step 5 Click **Save**.

Configure Barge for Shared Conferencing

Cisco recommends that you do not configure Barge for shared conferencing (cBarge) for a user who has Barge configured. Choose only one barge method for each user.

Procedure

Step 1 From Cisco Unified CM Administration, choose **System** > **Service Parameters** and set the **Built In Bridge Enable** clusterwide service parameter to **On**.

Note
If this parameter is set to **Off**, configure cBarge for each phone by setting the **Built in Bridge** field in the **Phone Configuration** window.

Step 2 Set the **Party Entrance Tone** clusterwide service parameter to **True** (required for tones) or configure the **Party Entrance Tone** field in the **Directory Number Configuration** window.

Step 3 Set the **Single Button Barge/CBarge Policy** to **cBarge**.

Note
If this parameter is set to **Off**, configure Single-button cBarge for each phone by setting the **Single Button cBarge** field in the **Phone Configuration** window.

Step 4 Set the **Allow Barge When Ringing** service parameter to True.

Step 5 Click **Save**.

Associate User with Device

Before you begin

Perform one or both of the following:

- Configure Barge for Built-In Conferencing, on page 8
- Configure Barge for Shared Conferencing, on page 9

Procedure

Step 1 From Cisco Unified CM Administration, choose **User Management** > **End User**.

Step 2 Specify the appropriate filters in the **Find User Where** field to and then click **Find** to retrieve a list of users.

Step 3 Select the user from the list.
The **End User Configuration** window appears.

Step 4 Locate the **Device Information** section.

Step 5 Click **Device Association**.
The **User Device Association** window appears.

Step 6 Find and select the CTI remote device.

Step 7 To complete the association, click **Save Selected/Changes**.

Step 8 From **Related Links** drop-down list, choose **Back to User**, and then click **Go**.
The **End User Configuration** window appears, and the associated device that you chose appears in the **Controlled Devices** pane.

Barge Interactions

Feature	Interaction
cBarge	Cisco recommends that you assign either the Barge or cBarge softkey to a softkey template. By having only one of these softkeys for each device, you can prevent confusion for users and avoid potential performance issues. **Note** You can enable Single-Button Barge or Single-Button cBarge for a device, but not both.
Call Park	When the target parks the call, the barge initiator gets released (if using the built-in bridge), or the barge initiator and the other party remain connected (if using the shared conference).
Join	When the target joins the call with another call, the barge initiator gets released (if using the built-in bridge), or the barge initiator and the other party remain connected (if using the shared conference).
Private Line Automatic Ringdown (PLAR)	A Barge, cBarge, or Single-Button Barge initiator can barge into a call through a shared line that is configured for Barge and Private Line Automatic Ringdown (PLAR). The initiator can barge into the call if the barge target uses the preconfigured number that is associated with the PLAR line while on the call. Cisco Unified Communications Manager does not send the barge invocation to the PLAR line before connecting the barge call, so the barge occurs regardless of the state of the PLAR destination. To make Barge, cBarge, or Single-Button Barge function with PLAR, you must configure Barge, cBarge, or Single-Button Barge. In addition, you must configure the PLAR destination, a directory number that is used specifically for PLAR.

Barge Restrictions

Restriction	Description
Additional callers	The Barge initiator cannot conference in additional callers.
Computer Telephony Interface (CTI)	CTI does not support Barge through APIs that TAPI and JTAPI applications invoke. CTI generates events for Barge when it is invoked manually from an IP phone by using the Barge or cBarge softkey.

Restriction	Description
G.711 codec	The original call requires G.711 codec. If G.711 is not available, use cBarge instead.
Cisco Unified IP Phones	You can assign a softkey template that contains the Barge softkey to any IP phone that uses softkeys; however, some IP phones do not support the Barge feature.
Encryption	If you configure encryption for Cisco Unified IP Phones 7960 and 7940, those encrypted devices cannot accept a barge request when they are participating in an encrypted call. When the call is encrypted, the barge attempt fails. A tone plays on the phone to indicate that the Barge failed.
Maximum number of calls	If the number of shared-line users in the conference is equal to or greater than the configuration for the Maximum Number of Calls setting for the device from which you are attempting to barge, the phone displays the message, `Error: Past Limit`.

Barge Troubleshooting

No Conference Bridge Available

When the Barge softkey is pressed, the message `No Conference Bridge Available` is displayed on the IP phone.

The **Built In Bridge** field in the **Phone Configuration** window for the target phone is not set properly.

To resolve the problem, perform the following steps:

1. From Cisco Unified CM Administration, choose **Device** > **Phone** and click **Find the phone** to find the phone configuration of the phone that is having the problem.
2. Set the **Built In Bridge** field to **On**.
3. Click **Update**.
4. Reset the phone.

Error: Past Limit

The phone displays the message, `Error: Past Limit`.

The number of shared-line users in the conference is equal to or greater than the configuration for the **Maximum Number of Calls** field for the device from which you are attempting to barge.

- Go to **Service Parameter Configuration** window and locate the **Clusterwide Parameters (Feature - Conference)** section. Increase the value of **Maximum Ad Hoc Conference** parameter as required.
- Check the **Maximum Number of Calls** value for the shared lines on the device from which you are attempting to barge and increase the value as required.

Error: Past Limit