CHAPTER 58

Trunk Configuration

Use a trunk device to configure a logical route to a gatekeeper (that is, the wholesale network or an intercluster trunk with gatekeeper control), to an intercluster trunk without a gatekeeper, or to a SIP network. Choose from the following available trunk types:

- H.225 trunk (gatekeeper controlled)
- Intercluster trunk (gatekeeper controlled)
- Intercluster trunk (non-gatekeeper controlled)
- SIP trunk

The following topics cover Cisco CallManager trunk configuration:

The following topics contain additional information that is related to trunks:

- Call Admission Control, *Cisco CallManager System Guide*
- Gatekeepers and Trunks, *Cisco CallManager System Guide*
- Gatekeeper and Trunk Configuration in Cisco CallManager, *Cisco CallManager System Guide*
- *Cisco IP Telephony Network Design Guide*

Finding a Trunk

Because you might have multiple trunks in your network, Cisco CallManager lets you search for trunks on the basis of specified criteria. Follow these steps to search for a specific trunk in the Cisco CallManager database.

Note During your work in a browser session, Cisco CallManager Administration retains your trunk search preferences. If you navigate to other menu items and return to this menu item, Cisco CallManager Administration retains your trunk search preferences until you modify your search or close the browser.

Procedure

Step 1 Choose **Device > Trunk**.

The Find and List Trunks window displays.

Step 2 Choose the field that you want to use to locate a trunk.

Note To find all trunks that are registered in the database, choose Device Name from the list of fields and choose “is not empty” from the list of patterns; then, click **Find**.

Step 3 Choose the appropriate search pattern for your text search. If you do not want to perform a text search, choose “is empty.”

Step 4 Enter your search text, if any, in the Find field.

Step 5 If you choose calling search space or device pool in Step 2, the options available in the database display. From the drop-down list box below the **Find** button, you can choose one of these options.

Step 6 Click **Find**.

A list of devices that match the criteria displays. The field that you chose in Step 2 determines how the devices in the list are sorted.

This window also lists the total number of devices and windows in this window.

Step 7 To view the next set of discovered devices, click **Next**.

Note You can delete or reset multiple trunks from the Find and List Trunks window by checking the check boxes next to the appropriate trunks and clicking **Delete Selected** to delete the trunks or clicking **Reset Selected** to reset the trunks. You can choose all of the trunks in the window by checking the check box in the Matching records title bar.

Related Topics

- Adding a Trunk, page 58-3
- Deleting a Trunk, page 58-4
- Modifying a Trunk, page 58-6
- Resetting a Trunk, page 58-7
- Trunk Configuration Settings, page 58-8
- Gatekeepers and Trunks, *Cisco CallManager System Guide*
- Gatekeeper and Trunk Configuration in Cisco CallManager, *Cisco CallManager System Guide*

Adding a Trunk

Perform the following procedure to add a trunk device.

Note You can configure multiple trunk devices per Cisco CallManager cluster.

Procedure

Step 1 Choose **Device > Trunk**.

Step 2 Choose **Add a New Trunk**.

Step 3 From the drop-down list, choose the type of trunk to add and click **Next**.

Step 4 On the Trunk Configuration window that displays, enter the appropriate settings for gatekeeper-controlled H.225 trunks, gatekeeper-controlled intercluster trunks, and non-gatekeeper-controlled intercluster trunks as described in Table 58-1. For SIP trunks, enter the appropriate settings as described in Table 58-2.

Step 5 To add the new trunk, click **Insert**.

The page updates, and the name of the new trunk displays in the Trunks list.

Related Topics

- Finding a Trunk, page 58-2
- Deleting a Trunk, page 58-4
- Modifying a Trunk, page 58-6
- Resetting a Trunk, page 58-7
- Trunk Configuration Settings, page 58-8
- Gatekeepers and Trunks, *Cisco CallManager System Guide*
- Gatekeeper and Trunk Configuration in Cisco CallManager, *Cisco CallManager System Guide*

Deleting a Trunk

Perform the following steps to delete a trunk.

Before You Begin

You cannot delete a trunk that is assigned to one or more route patterns. To find out which route patterns are using the trunk, click the **Dependency Records** link from the Trunk Configuration window. If the dependency records are not enabled for the system, the dependency records summary window displays a message. For more information about dependency records, see the "Accessing Dependency

Records" section on page A-3. If you try to delete a trunk that is in use, Cisco CallManager displays a message. Before deleting a trunk that is currently in use, you must perform either or both of the following tasks:

- Assign a different trunk to any route patterns that are using the trunk that you want to delete. See the "Updating a Route Pattern" section on page 22-5.
- Delete the route patterns that are using the trunk that you want to delete. See the "Deleting a Route Pattern" section on page 22-7.

Procedure

Step 1 Choose **Device > Trunk**.

The Find and List Trunks window displays.

Step 2 To locate a specific trunk, enter search criteria and click **Find**.

A list of trunks that match the search criteria displays.

Step 3 Perform one of the following actions:

- Check the check boxes next to the trunks that you want to delete and click **Delete Selected**.
- Delete all trunks in the window by checking the check box in the Matching records title bar and clicking **Delete Selected**.
- From the list, choose the name of the trunk that you want to delete to display its current settings and click **Delete**.

A confirmation dialog displays.

Step 4 To delete the trunk, click **OK**.

Related Topics

- Finding a Trunk, page 58-2
- Adding a Trunk, page 58-3
- Modifying a Trunk, page 58-6
- Resetting a Trunk, page 58-7
- Trunk Configuration Settings, page 58-8

- Gatekeepers and Trunks, *Cisco CallManager System Guide*
- Gatekeeper and Trunk Configuration in Cisco CallManager, *Cisco CallManager System Guide*

Modifying a Trunk

Perform the following steps to modify trunk settings:

Procedure

Step 1 Choose **Device > Trunk**.

The Find and List Trunks window displays.

Step 2 To locate a specific trunk, enter search criteria and click **Find**.

A list of trunks that match the search criteria displays.

Step 3 From the list, click the name of the trunk that you want to update.

The Trunk Configuration window displays.

Step 4 Update the appropriate settings as described in Table 58-1 for H.225 trunks and intercluster trunks or in Table 58-2 for SIP trunks.

Step 5 Click **Update**.

The page refreshes to display the new settings.

Step 6 Click **Reset Trunk** to reset or restart the trunk and apply the new settings.

Note Resetting a trunk **drops** any calls in progress that are using that trunk. Restarting a gateway tries to preserve the calls in progress that are using that gateway, if possible. Other devices wait until calls complete before restarting or resetting. Resetting/restarting an H.323 or SIP device does not physically reset/restart the hardware; it only reinitializes the configuration that is loaded by Cisco CallManager

Related Topics

- Finding a Trunk, page 58-2
- Adding a Trunk, page 58-3
- Deleting a Trunk, page 58-4
- Resetting a Trunk, page 58-7
- Trunk Configuration Settings, page 58-8
- Gatekeepers and Trunks, *Cisco CallManager System Guide*
- Gatekeeper and Trunk Configuration in Cisco CallManager, *Cisco CallManager System Guide*

Resetting a Trunk

Perform the following procedure to reset the trunk.

Caution Resetting devices can cause them to drop calls.

Procedure

Step 1 Choose **Device** > **Trunk**.

The Find and List Trunks window displays.

Step 2 To locate a specific trunk, enter search criteria and click **Find**.

A list of trunks that match the search criteria displays.

Step 3 From the list, click the name of the trunk that you want to reset.

The Trunk Configuration window displays.

Step 4 After you change any settings for the Trunk Device, click **Reset Trunk.**

The Reset Device dialog displays.

Step 5 Click one of the following choices:

- **Restart**—Restarts the trunk device without shutting it down first.
- **Reset**—Shuts down, then restarts the internal trunk device. The Cisco CallManager cluster unregisters (URQ) and then reregisters (RRQ) with the trunk if the trunk is gatekeeper controlled.
- **Close**—Closes the Reset Device dialog without performing any action.

Related Topics

- Finding a Trunk, page 58-2
- Adding a Trunk, page 58-3
- Deleting a Trunk, page 58-4
- Modifying a Trunk, page 58-6
- Trunk Configuration Settings, page 58-8
- Gatekeepers and Trunks, *Cisco CallManager System Guide*
- Gatekeeper and Trunk Configuration in Cisco CallManager, *Cisco CallManager System Guide*

Trunk Configuration Settings

Table 58-1 describes the trunk configuration settings for gatekeeper-controlled H.225 trunks, gatekeeper-controlled intercluster trunks, and non-gatekeeper-controlled intercluster trunks. (Table 58-2 describes the trunk configuration settings for SIP trunks.)

Table 58-1 Trunk Configuration Settings for H.225 and Intercluster Trunks

Field	Description
Device Information	
Device Name	Enter a unique identifier for the trunk.
Description	Enter a descriptive name for the trunk.

Table 58-1 Trunk Configuration Settings for H.225 and Intercluster Trunks (continued)

Field	Description
Device Pool	Choose the appropriate device pool for the trunk. For trunks, device pools specify a list of Cisco CallManagers that the trunk uses to distribute the call load dynamically. **Note** Calls that are initiated from a phone that is registered to a Cisco CallManager that does not belong to the trunk's device pool use different Cisco CallManagers of this device pool for different outgoing calls. Selection of Cisco CallManager nodes occurs in a random order. A call that is initiated from a phone that is registered to a Cisco CallManager that does belong to the trunk's device pool uses the same Cisco CallManager node for outgoing calls if the Cisco CallManager is up and running.
Call Classification	This parameter determines whether an incoming call through this trunk is considered off the network (OffNet) or on the network (OnNet). When the Call Classification field is configured as Use System Default, the setting of the Cisco CallManager clusterwide service parameter, Call Classification, determines whether the trunk is OnNet or OffNet. This field provides an OnNet or OffNet alerting tone when the call is OnNet or OffNet, respectively. This parameter is used in conjunction with the settings on the Route Pattern Configuration window to classify an outgoing call as OnNet or OffNet.

Table 58-1 Trunk Configuration Settings for H.225 and Intercluster Trunks (continued)

Field	Description
Media Resource Group List	This list provides a prioritized grouping of media resource groups. An application chooses the required media resource, such as a Music On Hold server, from among the available media resources according to the priority order that a Media Resource Group List defines.
Location	Choose the appropriate location for the trunk. The location specifies the total bandwidth that is available for calls between this location and the central location, or hub. A location setting of None specifies unlimited available bandwidth.
AAR Group	Choose the automated alternate routing (AAR) group for this device. The AAR group provides the prefix digits that are used to route calls that are otherwise blocked due to insufficient bandwidth. An AAR group setting of None specifies that no rerouting of blocked calls will be attempted.
Tunneled Protocol	This drop-down list box displays for gatekeeper-controlled and non-gatekeeper-controlled trunks. Choose the **QSIG** option if you want to use intercluster trunks to transport (tunnel) non-H.323 protocol information in H.323 signaling messages from Cisco CallManager to other Annex M.1-compliant H.323 PINXs. QSIG tunneling supports the following features: Call Completion, Call Diversion, Call Transfer, Identification Services, Message Waiting Indication, and Path Replacement. **Note** The default setting specifies None.

Table 58-1 Trunk Configuration Settings for H.225 and Intercluster Trunks (continued)

Field	Description
Media Termination Point Required	Indicate whether a media termination point (MTP) is used to implement features that H.323 does not support (such as hold and transfer). Check the Media Termination Point Required check box if you want to use a media termination point to implement features. Uncheck the Media Termination Point Required check box if you do not want to use a media termination point to implement features. Use this check box only for H.323 clients and those H.323 devices that do not support the H.245 Empty Capabilities Set or if you want media streaming to terminate through a single source. If you check this check box to require an MTP and one or both parties are a video endpoint, the call operates as audio only.
Retry Video Call as Audio	This check box applies only to video endpoints that receive a call. For trunks, this check box pertains to calls that are received from Cisco CallManager but not to calls that are received from the wide-area network (WAN). By default, the system checks this check box to specify that this device should immediately retry a video call as an audio call (if it cannot connect as a video call) prior to sending the call to call control for rerouting. If you uncheck this check box, a video call that fails to connect as video does not try to establish as an audio call. The call then fails to call control, and call control routes the call via Automatic Alternate Routing (AAR) and/or route/hunt list.

Table 58-1 Trunk Configuration Settings for H.225 and Intercluster Trunks (continued)

Field	Description
Path Replacement Support	This check box, which displays for gatekeeper-controlled and non-gatekeeper-controlled trunks, applies if you choose the QSIG option from the Tunneled Protocol drop-down list box. This setting works with QSIG tunneling (Annex M.1) to ensure that non-H3.23 information gets sent on the leg of the call that uses path replacement. **Note** The default setting leaves the check box unchecked. When you choose the QSIG Tunneled Protocol option, the system automatically checks the check box.
Wait for Far-End H.245 Terminal Capability Set (H.225 trunks only)	This field applies only to H.323 devices. This check box specifies that Cisco CallManager waits to receive the far-end H.245 Terminal Capability Set before it sends its H.245 Terminal Capability Set. By default, the system checks this check box. To specify that Cisco CallManager should initiate capabilities exchange, uncheck this check box.
Call Routing Information	
Inbound Calls	
Significant Digits	Significant digits represent the number of final digits that are retained on inbound calls. Use for the processing of incoming calls and to indicate the number of digits that are used to route calls that are coming in to the H.323 device. Choose the number of significant digits to collect, from 0 to 32. Cisco CallManager counts significant digits from the right (last digit) of the number that is called.

Table 58-1 Trunk Configuration Settings for H.225 and Intercluster Trunks (continued)

Field	Description
Calling Search Space	From the drop-down list box, choose the appropriate calling search space for the trunk. The calling search space specifies the collection of route partitions that are searched to determine how to route a collected (originating) number. You can configure the number of calling search spaces that display in this drop-down list box by using the Max List Box Items enterprise parameter. If more calling search spaces exist than the number that are configured in the Max List Box Items enterprise parameter, the ellipsis button (**...**) displays next to the drop-down list box. Click the **...** button to display the Select Calling Search Space window. Enter a partial calling search space name in the **List items where Name contains** field. Click the desired calling search space name in the list of calling search spaces that displays in the **Select item to use** box and click **OK**. **Note** To set the maximum list box items, choose **System > Enterprise Parameters** and choose **CCMAdmin Parameters**.
AAR Calling Search Space	Choose the appropriate calling search space for the device to use when performing automated alternate routing (AAR). The AAR calling search space specifies the collection of route partitions that are searched to determine how to route a collected (originating) number that is otherwise blocked due to insufficient bandwidth.
Prefix DN	Enter the prefix digits that are appended to the called party number on incoming calls. Cisco CallManager adds prefix digits after first truncating the number in accordance with the Significant Digits setting.

Table 58-1 Trunk Configuration Settings for H.225 and Intercluster Trunks (continued)

Field	Description
Redirecting Number IE Delivery - Inbound	Check this check box to accept the Redirecting Number IE in the incoming SETUP message to the Cisco CallManager. Uncheck the check box to exclude the Redirecting Number IE in the incoming SETUP message to the Cisco CallManager. You use Redirecting Number IE for voice-messaging integration only. If your configured voice-messaging system supports Redirecting Number IE, you should check the check box. **Note** Default leaves the check box unchecked. You cannot check this check box if you choose the QSIG option from the Tunneled Protocol drop-down list box.
Enable Inbound FastStart	Check this check box to enable the H.323 FastStart call connections on incoming calls. By default, the check box remains unchecked for the H.323 gateway. For intercluster calls, you must check the Enable Inbound FastStart check box on Cisco CallManager servers in other clusters for the outbound FastStart feature to work. If you updated Cisco CallManager 3.3(2) servers in other clusters with support patch B, do not enable inbound FastStart because 3.3(2)spB does not support the inbound FastStart feature over intercluster trunks

Table 58-1 Trunk Configuration Settings for H.225 and Intercluster Trunks (continued)

Field	Description
Outbound Calls	
Calling Party Selection	Choose the directory number that is sent on an outbound call on a gateway. The following options specify which directory number is sent: • Originator—Send the directory number of the calling device. • First Redirect Number—Send the directory number of the redirecting device. • Last Redirect Number—Send the directory number of the last device to redirect the call. • First Redirect Number (External)—Send the external directory number of the redirecting device. • Last Redirect Number (External)—Send the external directory number of the last device to redirect the call.
Calling Line ID Presentation	Cisco CallManager uses calling line ID presentation (CLIP) as a supplementary service to control the display of the calling party's number on the called party's phone display screen. Choose Default if you do not want to change the presentation setting. Choose Allowed if you want calling number information to display. Choose Restricted if you do not want the calling number information to display.

Table 58-1 Trunk Configuration Settings for H.225 and Intercluster Trunks (continued)

Field	Description
Called party IE number type unknown	Choose the format for the type of number in called party directory numbers. Cisco CallManager sets the called directory number (DN) type. Cisco recommends that you do not change the default value unless you have advanced experience with dialing plans, such as NANP or the European dialing plan. You may need to change the default in Europe because Cisco CallManager does not recognize European national dialing patterns. You can also change this setting when you are connecting to a PBX that expects the called directory number to be encoded to a non-national numbering plan type. Choose one of the following options: • Cisco CallManager—Cisco CallManager sets the directory number type. • Unknown—This option indicates that the dialing plan is unknown. • National—Use when you are dialing within the dialing plan for your country. • International—Use when you are dialing outside the dialing plan for your country. • Subscriber—Use when you are dialing a subscriber by using a shortened subscriber number.

Table 58-1 Trunk Configuration Settings for H.225 and Intercluster Trunks (continued)

Field	Description
Calling party IE number type unknown	Choose the format for the type of number in calling party directory numbers. Cisco CallManager sets the calling directory number (DN) type. Cisco recommends that you do not change the default value unless you have advanced experience with dialing plans, such as NANP or the European dialing plan. You may need to change the default in Europe because Cisco CallManager does not recognize European national dialing patterns. You can also change this setting when you are connecting to a PBX that expects the calling directory number to be encoded to a non-national numbering plan type. Choose one of the following options: • Cisco CallManager—Cisco CallManager sets the directory number type. • Unknown—This option indicates that the dialing plan is unknown. • National—Use when you are dialing within the dialing plan for your country. • International—Use when you are dialing outside the dialing plan for your country. • Subscriber—Use when you are dialing a subscriber by using a shortened subscriber number.

Table 58-1 Trunk Configuration Settings for H.225 and Intercluster Trunks (continued)

Field	Description
Called Numbering Plan	Choose the format for the numbering plan in called party directory numbers. Cisco CallManager sets the called DN numbering plan. Cisco recommends that you do not change the default value unless you have advanced experience with dialing plans, such as NANP or the European dialing plan. You may need to change the default in Europe because Cisco CallManager does not recognize European national dialing patterns. You can also change this setting when you are connecting to a PBX that expects the called numbering plan to be encoded to a non-national numbering plan. Choose one of the following options: • Cisco CallManager—Cisco CallManager sets the Numbering Plan in the directory number. • ISDN—Use when you are dialing outside the dialing plan for your country. • National Standard—Use when you are dialing within the dialing plan for your country. • Private—Use when you are dialing within a private network. • Unknown—This option indicates that the dialing plan is unknown.

Table 58-1 Trunk Configuration Settings for H.225 and Intercluster Trunks (continued)

Field	Description
Calling Numbering Plan	Choose the format for the numbering plan in calling party directory numbers. Cisco CallManager sets the calling DN numbering plan. Cisco recommends that you do not change the default value unless you have advanced experience with dialing plans, such as NANP or the European dialing plan. You may need to change the default in Europe because Cisco CallManager does not recognize European national dialing patterns. You can also change this setting when you are connecting to a PBX that expects the calling numbering plan to be encoded to a non-national numbering plan. Choose one of the following options: • Cisco CallManager—Cisco CallManager sets the Numbering Plan in the directory number. • ISDN—Use when you are dialing outside the dialing plan for your country. • National Standard—Use when you are dialing within the dialing plan for your country. • Private—Use when you are dialing within a private network. • Unknown—This option indicates that the dialing plan is unknown.

Table 58-1 Trunk Configuration Settings for H.225 and Intercluster Trunks (continued)

Field	Description
Caller ID DN	Enter the pattern, from 0 to 24 digits, that you want to use to format the caller ID on outbound calls from the trunk. For example, in North America • 555XXXX = Variable Caller ID, where X represents an extension number. The Central Office (CO) appends the number with the area code if you do not specify it. • 5555000 = Fixed Caller ID. Use this form when you want the Corporate number to be sent instead of the exact extension from which the call is placed. The CO appends the number with the area code if you do not specify it.
Display IE Delivery	Check this check box to enable delivery of the display information element (IE) in SETUP and CONNECT messages for the calling and called party name delivery service. **Note** The default setting leaves this check box unchecked. You cannot check this check box if you choose the QSIG option from the Tunneled Protocol drop-down list box.

Table 58-1 Trunk Configuration Settings for H.225 and Intercluster Trunks (continued)

Field	Description
Redirecting Number IE Delivery - Outbound	Check this check box to include the Redirecting Number IE in the outgoing SETUP message from the Cisco CallManager to indicate the first Redirecting Number and the redirecting reason of the call when the call is forwarded. Uncheck the check box to exclude the first Redirecting Number and the redirecting reason from the outgoing SETUP message. You use Redirecting Number IE for voice-messaging integration only. If your configured voice-messaging system supports Redirecting Number IE, you should check the check box. **Note** The default setting leaves this check box unchecked. You cannot check this check box if you choose the QSIG option from the Tunneled Protocol drop-down list box.
Enable Outbound FastStart	Check this check box to enable the H.323 FastStart feature on outgoing calls. By default, the check box remains unchecked for the H.323 gateway or trunk. When you check the Enable Outbound FastStart check box, you must set the Media Termination Point Required, Media Resource Group Lists, and Codec for Outbound FastStart.

Table 58-1 Trunk Configuration Settings for H.225 and Intercluster Trunks (continued)

Field	Description
Codec For Outbound FastStart	Choose the codec for use with the H.323 device for an outbound FastStart call: • G711 mu-law 64K (default) • G711 a-law 64K • G723 • G729 • G729AnnexA • G729AnnexB • G729AnnexA-AnnexB When you check the Enable Outbound FastStart check box, you must choose the codec for supporting outbound FastStart calls.
Gatekeeper Information (for gatekeeper-controlled H.225 trunks and intercluster trunks)	
Gatekeeper Name	Choose the gatekeeper that controls this trunk.
Terminal Type	Use the Terminal Type field to designate the type for all devices that this trunk controls. Always set this field to Gateway for normal trunk call admission control.

Table 58-1 Trunk Configuration Settings for H.225 and Intercluster Trunks (continued)

Field	Description
Technology Prefix	Use this optional field to eliminate the need for entering the IP address of every Cisco CallManager when configuring the **gw-type-prefix** on the gatekeeper: • If you leave this field blank (the default setting), you must specify the IP address of each Cisco CallManager that can register with the gatekeeper when you enter the **gw-type-prefix** command on the gatekeeper. • When you use this field, make sure that the value that you enter exactly matches the *type-prefix* value that is specified with the **gw-type-prefix** command on the gatekeeper. For example, if you leave this field blank and you have two Cisco CallManagers with IP addresses of 10.1.1.2 and 11.1.1.3, enter the following **gw-type-prefix** command on the gatekeeper: **gw-type-prefix 1#* default-technology gw ip 10.1.1.2 gw ip 11.1.1.3** If you enter **1#*** in this field, enter the following **gw-type-prefix** command on the gatekeeper: **gw-type-prefix 1#* default-technology**

Table 58-1 Trunk Configuration Settings for H.225 and Intercluster Trunks (continued)

Field	Description
Zone	Use this optional field to request a specific zone on the gatekeeper with which Cisco CallManager will register. The zone specifies the total bandwidth that is available for calls between this zone and another zone: • If you do not enter a value in this field, the **zone subnet** command on the gatekeeper determines the zone with which Cisco CallManager registers. Cisco recommends the default setting for most configurations. • If you want Cisco CallManager to register with a specific zone on the gatekeeper, enter the value in this field that exactly matches the zone name that is configured on the gatekeeper with the **zone** command. Specifying a zone name in this field eliminates the need for a **zone subnet** command for each Cisco CallManager that is registered with the gatekeeper. Refer to the command reference documentation for your gatekeeper for more information.
Remote Cisco CallManager Information (for non-gatekeeper-controlled intercluster trunks)	
Server 1 IP Address/Host Name	Enter the IP address or host name of the first remote Cisco CallManager that this trunk accesses.

Table 58-1 Trunk Configuration Settings for H.225 and Intercluster Trunks (continued)

Field	Description
Server 2 IP Address/Host Name	Enter the IP address or host name of the second remote Cisco CallManager that this trunk accesses. **Note** If this non-gatekeeper-controlled intercluster trunk accesses the device pool of a remote non-gatekeeper-controlled intercluster trunk and that device pool has a second Cisco CallManager node, you must enter the second remote Cisco CallManager IP address/host name in this field.
Server 3 IP Address/Host Name	Enter the IP address or host name of the third remote Cisco CallManager that this trunk accesses. **Note** If this non-gatekeeper-controlled intercluster trunk accesses the device pool of a remote non-gatekeeper-controlled intercluster trunk and that device pool has a third Cisco CallManager node, you must enter the third remote Cisco CallManager IP address/host name in this field.
Multilevel Precedence and Preemption	
MLPP Domain	Enter a hexadecimal value between 0 and FFFFFF for the MLPP domain that is associated with this device. If you leave this field blank, this device inherits its MLPP domain from the value that was set for the device's device pool. If the device pool does not have an MLPP Domain setting, this device inherits its MLPP Domain from the value that was set for the MLPP Domain Identifier enterprise parameter.

Table 58-1 Trunk Configuration Settings for H.225 and Intercluster Trunks (continued)

Field	Description
MLPP Indication	If available, this setting specifies whether a device that is capable of playing precedence tones will use the capability when it places an MLPP precedence call. From the drop-down list box, choose a setting to assign to this device from the following options: • **Default**—This device inherits its MLPP indication setting from its device pool. • **Off**—This device does not handle nor process indication of an MLPP precedence call. • **On**—This device does handle and process indication of an MLPP precedence call. **Note** Do not configure a device with the following combination of settings: MLPP Indication is set to *Off or Default* (when default is *Off*) while MLPP Preemption is set to *Forceful*.

Table 58-1 Trunk Configuration Settings for H.225 and Intercluster Trunks (continued)

Field	Description
MLPP Preemption (not available for 323 ICT)	If available, this setting specifies whether a device that is capable of preempting calls in progress will use the capability when it places an MLPP precedence call. From the drop-down list box, choose a setting to assign to this device from the following options: • **Default**—This device inherits its MLPP preemption setting from its device pool. • **Disabled**—This device does not allow preemption of lower precedence calls to take place when necessary for completion of higher precedence calls. • **Forceful**—This device allows preemption of lower precedence calls to take place when necessary for completion of higher precedence calls. **Note** Do not configure a device with the following combination of settings: MLPP Indication is set to *Off or Default* (when default is *Off*) while MLPP Preemption is set to *Forceful*. **Note** MLPP Preemption flag currently is not available on the Trunk page. The preemption logic is controlled by the location based MLPP preemption flag.

Table 58-2 describes the trunk configuration settings for SIP trunks.

Table 58-2 Trunk Configuration Settings for SIP Trunks

Field	Description
Device Information	
Device Name	Enter a unique identifier for the trunk.
Description	Enter a descriptive name for the trunk.
Device Pool	Choose the appropriate device pool for the trunk. For trunks, device pools specify a list of Cisco CallManagers that the trunk uses to distribute the call load dynamically. **Note** Calls that are initiated from a phone that is registered to a Cisco CallManager that does not belong to the trunk's device pool use different Cisco CallManagers of this device pool for different outgoing calls. Selection of Cisco CallManager nodes occurs in a random order. A call that is initiated from a phone that is registered to a Cisco CallManager that does belong to the trunk's device pool uses the same Cisco CallManager node for outgoing calls if the Cisco CallManager is up and running.

Table 58-2 Trunk Configuration Settings for SIP Trunks (continued)

Field	Description
Call Classification	This parameter determines whether an incoming call through this trunk is considered off the network (OffNet) or on the network (OnNet). When the Call Classification field is configured as Use System Default, the setting of the Cisco CallManager clusterwide service parameter, Call Classification, determines whether the trunk is OnNet or OffNet. This field provides an OnNet or OffNet alerting tone when the call is OnNet or OffNet, respectively. This parameter is used in conjunction with the settings on the Route Pattern Configuration window to classify an outgoing call as OnNet or OffNet.
Media Resource Group List	This list provides a prioritized grouping of media resource groups. An application chooses the required media resource, such as a Music On Hold server, from among the available media resources according to the priority order that a Media Resource Group List defines.
Location	Choose the appropriate location for the trunk. The location specifies the total bandwidth that is available for calls between this location and the central location, or hub. A location setting of None specifies unlimited available bandwidth.
AAR Group	Choose the automated alternate routing (AAR) group for this device. The AAR group provides the prefix digits that are used to route calls that are otherwise blocked due to insufficient bandwidth. An AAR group setting of None specifies that no rerouting of blocked calls will be attempted.

Table 58-2 Trunk Configuration Settings for SIP Trunks (continued)

Field	Description
Media Termination Point Required	The system checks this check box by default, and you cannot uncheck it. SIP functionality and compliance with RFC 2833 *RTP Payload for DTMF Digits, Telephony Tones and Telephony Signals* requires an RFC 2833 compliant media termination point (MTP).
Destination Address	This field indicates the IP address, fully qualified domain name (FQDN), or DNS SRV address of the proxy server. It applies to outgoing calls only; incoming calls do not use the destination address.
Destination Address is an SRV	Check the check box if the destination address specifies a Domain Name System Server (DNS SRV) address.
Destination Port	Choose the destination port. Ensure that the value that you enter specifies any unique port from 1024 - 65535. Entry of a value is not required if the destination address is an DNS SRV port. The default 5060 indicates the SIP port.
Incoming Port	Choose the incoming port. Enter a value that can be any unique port from 1024 - 65535. The default port value for incoming TCP and UDP SIP messages specifies 5060.
Outgoing Transport Type	Indicate the preferred outgoing transport mode of UDP or TCP.
Preferred Originating Codec	Indicate the preferred outgoing codec.

Table 58-2 Trunk Configuration Settings for SIP Trunks (continued)

Field	Description
Call Routing Information	
Inbound Calls	
Significant Digits	Significant digits represent the number of final digits that are retained on inbound calls. Use for the processing of incoming calls and to indicate the number of digits that are used to route calls that are coming in to the SIP device. Choose the number of significant digits to collect, from 0 to 32. Cisco CallManager counts significant digits from the right (last digit) of the number that is called.
Connected Line ID Presentation	Cisco CallManager uses connected line ID presentation (COLP) as a supplementary service to provide the calling party with the connected party's number. The SIP trunk level configuration takes precedence over the call-by-call configuration. Choose Allowed, which is the default, if you want Cisco CallManager to send connected line information. Choose Restricted if you do not want Cisco CallManager to send connected line information.
Connected Name Presentation	Cisco CallManager uses connected name ID presentation (CONP) as a supplementary service to provide the calling party with the connected party's name. The SIP trunk level configuration takes precedence over the call-by-call configuration. Choose Allowed, which is the default, if you want Cisco CallManager to send connected name information. Choose Restricted if you do not want Cisco CallManager to send connected name information.

Table 58-2 Trunk Configuration Settings for SIP Trunks (continued)

Field	Description
Calling Search Space	From the drop-down list box, choose the appropriate calling search space for the trunk. The calling search space specifies the collection of route partitions that are searched to determine how to route a collected (originating) number. You can configure the number of calling search spaces that display in this drop-down list box by using the Max List Box Items enterprise parameter. If more calling search spaces exist than the number that are configured in the Max List Box Items enterprise parameter, the ellipsis button (**...**) displays next to the drop-down list box. Click the **...** button to display the Select Calling Search Space window. Enter a partial calling search space name in the **List items where Name contains** field. Click the desired calling search space name in the list of calling search spaces that displays in the **Select item to use** box and click **OK**. **Note** To set the maximum list box items, choose **System > Enterprise Parameters** and choose **CCMAdmin Parameters**.
AAR Calling Search Space	Choose the appropriate calling search space for the device to use when performing automated alternate routing (AAR). The AAR calling search space specifies the collection of route partitions that are searched to determine how to route a collected (originating) number that is otherwise blocked due to insufficient bandwidth.
Prefix DN	Enter the prefix digits that are appended to the called party number on incoming calls. Cisco CallManager adds prefix digits after first truncating the number in accordance with the Significant Digits setting.

Table 58-2 Trunk Configuration Settings for SIP Trunks (continued)

Field	Description
Redirecting Number Delivery - Inbound	Check this check box to accept the Redirecting Number in the incoming INVITE message to the Cisco CallManager. Uncheck the check box to exclude the Redirecting Number in the incoming INVITE message to the Cisco CallManager. You use Redirecting Number for voice-messaging integration only. If your configured voice-messaging system supports Redirecting Number, you should check the check box. **Note** Default leaves the check box unchecked.
Outbound Calls	
Calling Party Selection	Choose the directory number that is sent on an outbound call on a gateway. The following options specify which directory number is sent: • Originator—Send the directory number of the calling device. • First Redirect Number—Send the directory number of the redirecting device. • Last Redirect Number—Send the directory number of the last device to redirect the call. • First Redirect Number (External)—Send the external directory number of the redirecting device. • Last Redirect Number (External)—Send the external directory number of the last device to redirect the call.

Table 58-2 Trunk Configuration Settings for SIP Trunks (continued)

Field	Description
Calling Line ID Presentation	Cisco CallManager uses calling line ID presentation (CLIP) as a supplementary service to provide the calling party's number. The SIP trunk level configuration takes precedence over the call-by-call configuration. Choose Allowed, which is the default, if you want Cisco CallManager to send calling number information. Choose Restricted if you do not want Cisco CallManager to send the calling number information.
Calling Name Presentation	Cisco CallManager uses calling name ID presentation (CNIP) as a supplementary service to provide the calling party's name. The SIP trunk level configuration takes precedence over the call-by-call configuration. Choose Allowed, which is the default, if you want Cisco CallManager to send calling name information. Choose Restricted if you do not want Cisco CallManager to send the calling name information.

Table 58-2 Trunk Configuration Settings for SIP Trunks (continued)

Field	Description
Caller ID DN	Enter the pattern, from 0 to 24 digits, that you want to use to format the caller ID on outbound calls from the trunk. For example, in North America • 555XXXX = Variable Caller ID, where X represents an extension number. The Central Office (CO) appends the number with the area code if you do not specify it. • 5555000 = Fixed Caller ID. Use this form when you want the Corporate number to be sent instead of the exact extension from which the call is placed. The CO appends the number with the area code if you do not specify it.
Caller Name	This field choice overrides the caller name that is received from the originating Cisco CallManager device.
Redirecting Number Delivery - Outbound	Check this check box to include the Redirecting Number in the outgoing INVITE message from the Cisco CallManager to indicate the original called party number and the redirecting reason of the call when the call is forwarded. Uncheck the check box to exclude the first Redirecting Number and the redirecting reason from the outgoing INVITE message. You use Redirecting Number for voice-messaging integration only. If your configured voice-messaging system supports Redirecting Number, you should check the check box. **Note** The default setting leaves this check box unchecked.

Table 58-2 Trunk Configuration Settings for SIP Trunks (continued)

Field	Description
Multilevel Precedence and Preemption	
MLPP Domain	Enter a hexadecimal value between 0 and FFFFFF for the MLPP domain that is associated with this device. If you leave this field blank, this device inherits its MLPP domain from the value that is set for the device's device pool. If the device pool does not have an MLPP Domain setting, this device inherits its MLPP Domain from the value that is set for the MLPP Domain Identifier enterprise parameter.

Related Topics

- Finding a Trunk, page 58-2
- Adding a Trunk, page 58-3
- Deleting a Trunk, page 58-4
- Resetting a Trunk, page 58-7
- Modifying a Trunk, page 58-6
- Gatekeepers and Trunks, *Cisco CallManager System Guide*
- Gatekeeper and Trunk Configuration in Cisco CallManager, *Cisco CallManager System Guide*