



Gatekeeper Configuration

A gatekeeper device, also known as a Cisco Multimedia Conference Manager (MCM), supports the H.225 Registration, Admission, and Status Protocol (RAS) message set used for call admission control, bandwidth allocation, and dial pattern resolution (call routing). The gatekeeper provides these services for communications between Cisco CallManager clusters. You can configure only one primary gatekeeper device per Cisco CallManager cluster.

Gatekeeper configuration consists of two components:

- Cisco CallManager configuration. Each Cisco CallManager cluster must register with the gatekeeper as a single VoIP gateway. This chapter describes how to configure Cisco CallManager as a VoIP gateway to the gatekeeper.
- Gatekeeper configuration on the router. This type of configuration applies to a Cisco IOS Multimedia Conference Manager (MCM) that acts as the gatekeeper. Recommended platforms for the gatekeeper include Cisco 2600, 3600, or 7200 routers with Cisco IOS Release 12.1(3)T or higher. Refer to the MCM documentation for information on configuring the gatekeeper.

The following topics cover Cisco CallManager configuration for associating Cisco CallManager as a VoIP gateway to the gatekeeper:

- [Adding a Gatekeeper, page 46-2](#)
- [Deleting the Gatekeeper, page 46-3](#)
- [Modifying the Gatekeeper, page 46-3](#)
- [Resetting the Gatekeeper, page 46-4](#)
- [Gatekeeper Configuration Settings, page 46-6](#)

The following topics contain additional information related to gatekeepers:

- [Gatekeeper](#), *Cisco CallManager System Guide*
- *Cisco IP Telephony Network Design Guide*
- Cisco IOS Multimedia Conference Manager (Command Reference) documentation

Adding a Gatekeeper

Perform the following procedure to add a gatekeeper device.

**Note**

You can configure only one primary gatekeeper device per Cisco CallManager cluster.

Procedure

Step 1 Choose **Device > Gatekeeper**.

Step 2 Enter the appropriate settings as described in [Table 46-1](#).

Step 3 Click **Insert** to add the new gatekeeper.

The page updates, and the name of the new gatekeeper displays in the Gatekeepers list.

Related Topics

- [Deleting the Gatekeeper](#), page 46-3
- [Modifying the Gatekeeper](#), page 46-3
- [Resetting the Gatekeeper](#), page 46-4
- [Gatekeeper Configuration Settings](#), page 46-6

Deleting the Gatekeeper

Perform the following steps to delete the gatekeeper.

Procedure

- Step 1** Choose **Device > Gatekeeper**.
- The Gatekeeper Configuration page displays, with the current gatekeeper automatically selected.
- Step 2** Click the **Delete** button.
- A confirmation dialog box displays.
- Step 3** Click **OK** to delete the gatekeeper.
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Related Topics

- [Adding a Gatekeeper, page 46-2](#)
- [Modifying the Gatekeeper, page 46-3](#)
- [Resetting the Gatekeeper, page 46-4](#)
- [Gatekeeper Configuration Settings, page 46-6](#)

Modifying the Gatekeeper

Perform the following steps to modify gatekeeper settings:

Procedure

- Step 1** Choose **Device > Gatekeeper**.
- The Gatekeeper Configuration page displays, with the current gatekeeper automatically selected.
- Step 2** Update the appropriate settings as described in [Table 46-1](#).

Step 3 Click **Update** to save the changes.

The page refreshes to display the new settings.

Step 4 Reset the gatekeeper and the AnonymousDevice as needed to activate the changes. See the “[Resetting the Gatekeeper](#)” section on page 46-4 for details.

Related Topics

- [Adding a Gatekeeper, page 46-2](#)
- [Deleting the Gatekeeper, page 46-3](#)
- [Resetting the Gatekeeper, page 46-4](#)
- [Gatekeeper Configuration Settings, page 46-6](#)

Resetting the Gatekeeper

Perform the following procedure to reset the gatekeeper and the AnonymousDevice.



Caution

Resetting devices can cause them to drop calls.

Procedure

Step 1 Choose **Device > Gatekeeper**.

The Gatekeeper Configuration window displays, with the current gatekeeper automatically selected.

Step 2 If you changed any of the settings for the Gatekeeper Device, click **Reset Gatekeeper**. Otherwise, skip to [Step 4](#).

The Reset Device dialog displays.

- Step 3** Click one of the following choices:
- **Restart**—Restarts the gatekeeper device without shutting it down first.
 - **Reset**—Shuts down, then restarts the internal gatekeeper device. The Cisco CallManager cluster unregisters (URQ) and then reregisters (RRQ) with the gatekeeper.
 - **Close**—Closes the Reset Device dialog without performing any action.
- Step 4** If you changed any of the settings for the Anonymous Calls Device, click **Reset Gateway**. Otherwise, skip the rest of this procedure.
- The Reset Device dialog displays.
- Step 5** Click one of the following choices:
- **Restart**—Restarts the AnonymousDevice without shutting it down first.
 - **Reset**—Shuts down, then restarts the AnonymousDevice.
 - **Close**—Closes the Reset Device dialog without performing any action.
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Related Topics

- [Adding a Gatekeeper, page 46-2](#)
- [Deleting the Gatekeeper, page 46-3](#)
- [Modifying the Gatekeeper, page 46-3](#)
- [Gatekeeper Configuration Settings, page 46-6](#)

Gatekeeper Configuration Settings

Table 46-1 describes the gatekeeper configuration settings.

Table 46-1 Gatekeeper Configuration Settings

Field	Description
Gatekeeper Name	<p>Enter the IP address or DNS name of the gatekeeper.</p> <p>You can register only one gatekeeper per Cisco CallManager cluster.</p>
Description	Enter a descriptive name for the gatekeeper.
Registration Request Time to Live	<p>Do not change this value unless instructed to do so by a Cisco TAC engineer. Enter the time in seconds. The default value is 60 seconds.</p> <p>The Registration Request Time to Live field indicates the length of time that the gatekeeper considers a registration request (RRQ) valid. The system must send a keepalive RRQ to the gatekeeper before the RRQ Time to Live expires.</p> <p>Cisco CallManager sends an RRQ to the gatekeeper to register and subsequently to maintain a connection with the gatekeeper. The gatekeeper may confirm (RCF) or deny (RRJ) the request.</p>
Registration Retry Timer	<p>Do not change this value unless instructed to do so by a Cisco TAC engineer. Enter the time in seconds. The default value is 300 seconds.</p> <p>The Registration Retry Timer field indicates the length of time Cisco CallManager waits before retrying gatekeeper registration after a failed registration attempt.</p>

Table 46-1 Gatekeeper Configuration Settings (continued)

Field	Description
Terminal Type	<p>Use the Terminal Type field to designate the type for all devices controlled by this gatekeeper.</p> <ul style="list-style-type: none">• Choose Gateway if all gatekeeper-controlled devices are gateways (including intercluster trunks).• Choose Terminal if all gatekeeper-controlled devices are H.323 clients (for example, Microsoft NetMeeting devices). <p>Make sure all gatekeeper-controlled devices are of the same type.</p> <p>Set this field to Gateway for normal gatekeeper call admission control.</p>
Device Pool	<p>Choose the appropriate device pool for the gatekeeper. A device pool specifies the collection of properties for the devices in that pool, such as Cisco CallManager group, date/time group, region, media resource group list, and calling search space for auto-registration.</p>

Table 46-1 Gatekeeper Configuration Settings (continued)

Field	Description
Technology Prefix	<p>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:</p> <ul style="list-style-type: none"> • 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 the value entered here exactly matches the <i>type-prefix</i> value specified with the gw-type-prefix command on the gatekeeper. <p>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:</p> <pre>gw-type-prefix 1#* default-technology gw ip 10.1.1.2 gw ip 11.1.1.3</pre> <p>If you enter 1#* in this field, enter the following gw-type-prefix command on the gatekeeper:</p> <pre>gw-type-prefix 1#* default-technology</pre>

Table 46-1 Gatekeeper Configuration Settings (continued)

Field	Description
Zone	<p>Use this optional field to request a specific zone on the gatekeeper with which Cisco CallManager will register. The zone specifies the total bandwidth available for calls between this zone and another zone.</p> <ul style="list-style-type: none">• 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 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 registered with the gatekeeper. <p>Refer to the command reference documentation for your gatekeeper for more information.</p>

Table 46-1 Gatekeeper Configuration Settings (continued)

Field	Description
Allow Anonymous Calls	<p>Check this check box to enable Cisco CallManager to send calls to and receive calls from remote anonymous devices controlled by this gatekeeper. An anonymous device is one that you have not explicitly configured in the Cisco CallManager database.</p> <p>This setting eliminates the need for you to configure a separate H.323 device in the local Cisco CallManager cluster for each remote Cisco CallManager or H.323 gateway that it can call over the IP WAN.</p> <p>When you enable Allow Anonymous Calls, you must also fill in the configuration settings listed subsequently in this table.</p> <p>If you uncheck this check box, you must configure a separate H.323 gateway for each remote device that the local Cisco CallManager can call over the IP WAN.</p> <p>The default setting disables Allow Anonymous Calls.</p> <p>When you enable Allow Anonymous Calls and fill in the remaining fields in this table, you essentially create a device (an intercluster trunk or gateway) named AnonymousDevice that can send calls to and receive calls from any remote Cisco CallManager controlled by the gatekeeper. The AnonymousDevice gets its device characteristics (such as Cisco CallManager group, region, and so on) from the gatekeeper device pool.</p>
Device Protocol	<p>Choose the appropriate protocol for the AnonymousDevice. Choose Inter-Cluster Trunk if the AnonymousDevice is an intercluster trunk (Cisco CallManager), or choose H.225 if the AnonymousDevice is a gateway.</p>

Table 46-1 Gatekeeper Configuration Settings (continued)

Field	Description
Calling Search Space	Choose the appropriate calling search space for the AnonymousDevice. The calling search space specifies the collection of route partitions searched to determine how to route a collected (originating) number.
Location	Choose the appropriate location for the AnonymousDevice. The location specifies the total bandwidth available for calls between this location and the central location, or hub. A location setting of None specifies unlimited available bandwidth.
Caller ID DN	<p>Enter the pattern, from 0 to 24 digits, that you want to use to format the caller ID on outbound calls from the AnonymousDevice.</p> <p>For example, in North America:</p> <ul style="list-style-type: none"> • 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.
Calling Party Selection	<p>Choose the directory number sent on an outbound call on a gateway.</p> <p>The following options specify which directory number is sent:</p> <ul style="list-style-type: none"> • 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.

Table 46-1 Gatekeeper Configuration Settings (continued)

Field	Description
Presentation Bit	<p>Choose whether the CO transmits or blocks caller ID.</p> <p>Choose Allowed if you want the CO to send caller ID.</p> <p>Choose Restricted if you do not want the CO to send caller ID.</p>
Display IE Delivery	<p>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.</p> <p>The default setting leaves this check box unchecked.</p>
Media Termination Point Required	<p>Indicate whether a media termination point (MTP) is used to implement features that H.323 does not support (such as hold and transfer). You must use an MTP if you need a transcoder.</p> <p>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.</p> <p>Use this check box only for H.323 clients and those H.323 devices that do not support the H.245 empty capabilities set.</p>

Table 46-1 Gatekeeper Configuration Settings (continued)

Field	Description
Num Digits	<p>Use this field only if you check the Sig Digits check box. Choose the number of significant digits, from 0 to 32, to collect for incoming calls to the AnonymousDevice.</p> <p>Cisco CallManager counts significant digits from the right (last digit) of the number called.</p> <p>This field processes incoming calls and indicates the number of digits starting from the last digit of the called number used to route calls coming into the H.323 device. See Prefix DN and Sig Digits.</p>
Sig Digits	<p>Check or uncheck this box depending on whether you want to collect significant digits. Choose significant digits to represent the number of final digits retained on inbound calls. A trunk with significant digits enabled truncates all but the final few digits of the address provided by an inbound call.</p> <p>If this box is unchecked, Cisco CallManager does not truncate the inbound number.</p> <p>If this box is checked, you also need to choose the number of significant digits to collect. (See Num Digits.)</p>
Prefix DN	<p>Enter the prefix digits that are appended to the called party number on incoming calls.</p> <p>Cisco CallManager adds prefix digits after first truncating the number in accordance with the Num Digits setting.</p>

Table 46-1 Gatekeeper Configuration Settings (continued)

Field	Description
Redirecting Number IE Delivery—Outbound	<p>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.</p> <p>Uncheck the check box to exclude the first redirecting number and the redirecting reason from the outgoing SETUP message.</p> <p>You use Redirecting Number IE for voice-mail integration only. If your configured voice-mail system supports Redirecting Number IE, you should check the check box.</p> <p>Note Default leaves the check box unchecked.</p>
Redirecting Number IE Delivery—Inbound	<p>Check this check box to accept the Redirecting Number IE in the incoming SETUP message to the Cisco CallManager.</p> <p>Uncheck the check box to exclude the Redirecting Number IE in the incoming SETUP message to the Cisco CallManager.</p> <p>You use Redirecting Number IE for voice-mail integration only. If your configured voice-mail system supports Redirecting Number IE, you should check the check box.</p> <p>Note Default leaves the check box unchecked.</p>

Table 46-1 Gatekeeper Configuration Settings (continued)

Field	Description
Run H225D On Every Node	<p>This setting determines which Cisco CallManager in the cluster establishes the H.225 session. The default setting (checked) establishes the H.225 session on the Cisco CallManager where the calling device has registered. For most systems, the default setting works best.</p> <p>Unchecking this check box establishes the H.225 session on the controlling Cisco CallManager in the same Cisco CallManager group and device pool as the H.225 gateway. Do not uncheck this box unless advised to do so by Cisco Technical Assistance Center (TAC).</p>
Called party IE number type unknown	<p>Choose the format for the type of number in called party directory numbers.</p> <p>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 connecting to PBXs using routing as a non-national type number.</p> <p>Choose one of the following options:</p> <ul style="list-style-type: none"> • CallManager—Cisco CallManager sets the directory number type. • Unknown—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.

Table 46-1 Gatekeeper Configuration Settings (continued)

Field	Description
Calling party IE number type unknown	<p data-bbox="659 293 1244 350">Choose the format for the type of number in calling party directory numbers.</p> <p data-bbox="659 370 1244 683">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 connecting to PBXs using routing as a non-national type number.</p> <p data-bbox="659 703 1244 727">Choose one of the following options:</p> <ul data-bbox="673 747 1244 1002" style="list-style-type: none"> <li data-bbox="673 747 1244 803">• CallManager—Cisco CallManager sets the directory number type. <li data-bbox="673 823 1244 847">• Unknown—The dialing plan is unknown. <li data-bbox="673 867 1244 924">• National—Use when you are dialing within the dialing plan for your country. <li data-bbox="673 943 1244 1002">• International—Use when you are dialing outside the dialing plan for your country.

Table 46-1 Gatekeeper Configuration Settings (continued)

Field	Description
Called Numbering Plan	<p data-bbox="659 285 1244 354">Choose the format for the numbering plan in called party directory numbers.</p> <p data-bbox="659 358 1244 651">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 connecting to PBXs using routing as a non-national type number.</p> <p data-bbox="659 656 1244 699">Choose one of the following options:</p> <ul data-bbox="659 704 1244 1047" style="list-style-type: none"><li data-bbox="659 704 1244 773">• CallManager—Cisco CallManager sets the Numbering Plan in the directory number.<li data-bbox="659 777 1244 846">• ISDN—Use when you are dialing outside the dialing plan for your country.<li data-bbox="659 850 1244 919">• National Standard—Use when you are dialing within the dialing plan for your country.<li data-bbox="659 924 1244 992">• Private—Use when you are dialing within a private network.<li data-bbox="659 997 1244 1047">• Unknown—The dialing plan is unknown.

Table 46-1 Gatekeeper Configuration Settings (continued)

Field	Description
Calling Numbering Plan	<p>Choose the format for the numbering plan in calling party directory numbers.</p> <p>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 connecting to PBXs using routing as a non-national type number.</p> <p>Choose one of the following options:</p> <ul style="list-style-type: none"> • 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—The dialing plan is unknown.

Related Topics

- [Adding a Gatekeeper, page 46-2](#)
- [Deleting the Gatekeeper, page 46-3](#)
- [Resetting the Gatekeeper, page 46-4](#)
- [Modifying the Gatekeeper, page 46-3](#)