Region Configuration

Use regions to specify the bandwidth that is used for audio and video calls within a region and between existing regions. The audio codec determines the type of compression and the maximum amount of bandwidth that is used per audio call. The video call bandwidth comprises the sum of the audio bandwidth and video bandwidth but does not include overhead.

Note The default audio codec for all calls through Cisco CallManager is G.711. If you do not plan to use any other audio codec, you do not need to use regions.

Note Cisco CallManager allows addition of a maximum of 500 regions.

Use the following procedures to add, update, or delete regions:

- Finding a Region, page 7-2
- Adding a Region, page 7-3
- Updating a Region, page 7-5
- Deleting a Region, page 7-6
- Region Configuration Settings, page 7-8

Refer to the "Regions" section in the *Cisco CallManager System Guide* for more information about configuring regions and selecting audio codecs.

Finding a Region

Because you might have several regions in your network, Cisco CallManager Administration lets you locate specific regions on the basis of specific criteria. Use the following procedure to locate regions.

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

Procedure

Step 1 Choose **System > Region**.

The Find and List Regions window displays. Use the drop-down list box to search for a region.

Step 2 From the Find Regions where drop-down list box, choose one of the following criteria:

- begins with
- contains
- ends with
- is exactly

Step 3 Specify the appropriate search text, if applicable, and click **Find**. You can also specify how many items per page to display.

Tip To find all regions that are registered in the database, click **Find** without entering any search text.

A list of discovered regions displays by

- Region icon
- Region Name

Note You can delete multiple regions from the Find and List Regions window by checking the check boxes next to the appropriate regions and clicking **Delete Selected**. You can delete all regions in the window by checking the check box in the Matching records title bar and clicking **Delete Selected**.

Step 4 From the list of records, click the region icon or name that matches your search criteria.

The window displays the region that you choose.

Related Topics

- Finding a Region, page 7-2
- Adding a Region, page 7-3
- Updating a Region, page 7-5
- Deleting a Region, page 7-6
- Region Configuration Settings, page 7-8

Adding a Region

This section describes how to add a new region to the Cisco CallManager database.

Note Addition of regions occurs in a matrixlike fashion. If you add regions A, B, and C, a matrix with region A, region B, and region C as both columns and rows results, as shown in the following matrix:

	Region A	Region B	Region C
Region A			
Region B			
Region C			

If you assign 20 regions, the database adds 400 entries (20 x 20). Some performance limitations exist when large numbers of regions are assigned.

Note Cisco CallManager allows addition of a maximum of 500 regions.

Procedure

Step 1 Choose **System** > **Region**.

Step 2 In the upper, right corner of the window, click the **Add a New Region** link.

The Region Configuration window displays.

Step 3 In the Region Name field, enter the name that you want to assign to the new region.

Step 4 Choose a default codec to use between this region and other regions by choosing a value from the drop-down list box. Click **Insert**.

Step 5 In the Audio Codec column, use the drop-down list boxes to choose the audio codec to use for calls within the new region and between the new region and existing regions. The audio codec determines the type of compression and the maximum amount of bandwidth that is allocated for these calls.

See Table 7-2 for a summary of the available codec types and bandwidth usage.

Step 6 In the Video Call Bandwidth column, specify the video bandwidth for video calls within the new region and between the new region and existing regions. If you specify *None*, video calls between this region and the specified region are not allowed.

Step 7 Click **Update** to save the new region in the database.

Note The Region Configuration window displays an Items per page drop-down list box allowing you to list 10, 20, 50, 100, or All configured regions. If you choose to display 100 or more regions, Cisco CallManager may experience performance degradation.

Next Step

After adding a new region to the database, you can use it to configure device pools. Devices acquire a region setting from the device pool to which they are assigned. See the "Adding a Device Pool" section on page 8-4 for information on configuring device pools.

Related Topics

- Finding a Region, page 7-2
- Updating a Region, page 7-5
- Deleting a Region, page 7-6
- Region Configuration Settings, page 7-8
- Adding a Device Pool, page 8-4

Updating a Region

This section describes how to update the configuration for a region.

Procedure

Step 1 Find the region by using the procedure in the "Finding a Region" section on page 7-2.

Step 2 From the list of matching records, choose the region that you want to update.

Update the audio codec and video bandwidth settings for calls within the region and between other regions. See Table 7-2 for a summary of the available audio codec types and bandwidth usage.

Step 3 To save the changes in the database, click **Update**.

Step 4 To apply the changes to all devices that use the updated region, click **Restart Devices**.

Note The Region Configuration window displays an Items per page drop-down list box allowing you to list 10, 20, 50, 100, or All configured regions. If you choose to display 100 or more regions, Cisco CallManager may experience performance degradation.

Related Topics

- Finding a Region, page 7-2
- Adding a Region, page 7-3
- Deleting a Region, page 7-6
- Region Configuration Settings, page 7-8

Deleting a Region

This section describes how to delete a region from the Cisco CallManager database.

Before You Begin

You cannot delete a region that any device pools are using. To find out which device pools are using the region, click the **Dependency Records** link from the Region 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 region that is in use, Cisco CallManager displays an error message. Before deleting a region that is currently in use, you must perform either or both of the following tasks:

- Update the device pools to use a different region. See the "Updating a Device Pool" section on page 8-5.
- Delete the device pools that are using the region that you want to delete. See the "Deleting a Device Pool" section on page 8-6.

Procedure

Step 1 Find the region by using the procedure in the "Finding a Region" section on page 7-2.

Step 2 From the list of matching records, choose the region that you want to delete.

Step 3 Click **Delete**.

Note The Region Configuration window displays an Items per page drop-down list box allowing you to list 10, 20, 50, 100, or All configured regions. If you choose to display 100 or more regions, Cisco CallManager may experience performance degradation.

Related Topics

- Finding a Region, page 7-2
- Adding a Region, page 7-3
- Updating a Region, page 7-5
- Region Configuration Settings, page 7-8

Region Configuration Settings

Table 7-1 summarizes the audio codec and video bandwidth settings that can be specified for regions. The total bandwidth that is used per call stream depends on the audio codec type as well as factors such as data packet size and overhead (packet header size). The bandwidth figures shown in Table 7-2 apply for 30-ms data packets and include IP headers. Each call comprises two call streams.

Table 7-1 Region Configuration Settings

Field	Description
Region Information	
Region Name	Enter a unique name for this region. This name can comprise up to 30 characters. Valid characters include letters, numbers, dashes, dots (periods), blanks, and underscores.
Default Codec with Other Regions	From the drop-down list box, choose a default codec to use for calls between this region and other regions. Due to bandwidth constraints at most remote-site deployments, the recommended default codec setting between a new region and existing regions is G.729.
Call Information	
Region	The entries in this column specify all existing regions, including the Default region, the region that you are configuring, and all other regions.

Table 7-1 Region Configuration Settings (continued)

Field	Description
Audio Codec	For each region specified in the left column, click the corresponding drop-down list box in this column and choose the audio codec for calls between this region and the region specified at left.
Video Call Bandwidth	For each region specified in the left column, click one of the radio buttons in this column as specified below: • None—Click this button if no video call bandwidth is allotted between this region and the region specified in the left column. • kbps—Click this button to allot video call bandwidth between this region and the region specified in the left column. Enter the bandwidth available for each video call between these two regions. The default value is 384 kbps. Valid values are 1 to 8128.

Table 7-2 Bandwidth Used by Audio Codecs

Audio Codec	Bandwidth Used Per Call (Including IP Headers) With 30-ms Data Packets	Description
G.711	80 kbps	Default codec for all calls in Cisco CallManager.
G.722	80 kbps	Video endpoints typically prefer this codec.
G.723	24 kbps	Low-bit-rate codec supported for use with older Cisco IP Phone model 12 SP Series and Cisco IP Phone model 30 VIP.
G.728	16 kbps	Video endpoints support this low-bit-rate codec.
G.729	24 kbps	Low bit-rate codec supported for Cisco IP Phone 7900 family models.

Table 7-2 Bandwidth Used by Audio Codecs (continued)

Audio Codec	Bandwidth Used Per Call (Including IP Headers) With 30-ms Data Packets	Description
Wideband	272 kbps	High-quality, high-bandwidth audio codec for IP-phone to IP-phone calls supported by Cisco IP Phone 7900 family models.
GSM	29 kbps	Global System for Mobile Communications (GSM) codec that enables the MNET system for GSM wireless handsets to interoperate with Cisco CallManager.

Related Topics

- Finding a Region, page 7-2
- Adding a Region, page 7-3
- Updating a Region, page 7-5
- Deleting a Region, page 7-6