



Configuring Gateways

Cisco IP telephony gateways enable Cisco CallManager to communicate with non-IP telecommunications devices. Cisco CallManager supports several types of gateways as described in Table 45-1.

Table 45-1 Gateway Model Overview

Gateway Model	Communication Protocol	Device Protocol	Port Types
Cisco Access Analog Station Gateway (AS-2, AS-4, AS-8)	Skinny Gateway Protocol	Analog	Foreign Exchange Station (FXS) (loop start)
Cisco Access Analog Trunk Gateway (AT-2, AT-4, AT-8)	Skinny Gateway Protocol	Analog	Foreign Exchange Office (FXO) (loop start)
Cisco Access Digital Trunk Gateway DE-30+	Skinny Gateway Protocol	Digital PRI E1	PRI E1
Cisco Access Digital Trunk Gateway DT-24+	Skinny Gateway Protocol	Digital PRI T1	PRI T1
Cisco Catalyst 6000 24 Port FXS Analog Interface Module	Skinny Gateway Protocol	Analog	Foreign Exchange Station (FXS)
Cisco Catalyst 6000 8 Port E1/T1 and Services Module	Skinny Gateway Protocol	Digital E1/T1 PRI	PRI E1/T1

Table 45-1 Gateway Model Overview (continued)

Gateway Model	Communication Protocol	Device Protocol	Port Types
Cisco Voice Gateway 200 (VG200)	Media Gateway Control Protocol (MGCP); works as an H.323 gateway with T1-CAS ports	Analog	Foreign Exchange Office (FXO) Foreign Exchange Station (FXS)
All H.323 Gateways, including Cisco VG200 and Cisco IOS-based gateways	H.323	H.225, Inter-cluster Trunk	Depends on model

These sections provide information about working with and configuring Cisco gateways with Cisco CallManager

- Understanding Supported Gateways, page 45-2
- Adding Gateways to Cisco CallManager, page 45-7
- Configuring Gateway Ports in Cisco CallManager, page 45-27
- Modifying Gateways, page 45-41
- Finding Specific Gateways, page 45-44

Understanding Supported Gateways

Cisco CallManager supports several types of Cisco and third-party IP telephony gateways. These sections provide an overview of these supported gateways:

- Understanding Cisco Access Gateways, page 45-3
- Understanding Catalyst 6000 Gateways, page 45-4
- Cisco VG200 Gateway, page 45-6
- Understanding Other H.323 Devices, page 45-6

Understanding Cisco Access Gateways

Cisco Access gateways make it possible for the Cisco CallManager to communicate with non-IP telecommunications devices.

The following Cisco Access gateways are available:

- Cisco Access Analog Gateways—Trunk and station analog gateways
- Cisco Access Digital Trunk Gateways—Digital trunk gateways

Cisco Access Analog Gateways

There are two categories of Cisco Access Analog gateways: trunk gateways and station gateways.

Cisco Access Analog Station Gateways

Station gateways let you connect the Cisco CallManager to Plain Old Telephone Service (POTS) analog telephones, interactive voice response (IVR) systems, fax machines, and voice mail systems. Station gateways provide Foreign Exchange Station (FXS) ports. The AS-2, AS-4, and AS-8 models accommodate two, four, and eight Voice over IP (VoIP) gateway channels, respectively.

Access Analog Trunk Gateways

Analog trunk gateways let you connect the Cisco CallManager to standard public switched telephone network (PSTN) central office (CO) or PBX trunks. Trunk gateways provide Foreign Exchange Office (FXO) ports. The AT-2, AT-4, and AT-8 models accommodate two, four, and eight VoIP gateway channels. The signalling type is loop start.

Related Topics

- Adding an Analog Gateway, page 45-7
- Configuring Ports on Analog Gateways, page 45-27
- Modifying Gateways, page 45-41
- Finding Specific Gateways, page 45-44
- Understanding Device Loads, page 7-6

Cisco Access Digital Trunk Gateways

A Cisco Access Digital Trunk Gateway allows you to connect a Cisco CallManager system to the PSTN or to a PBX.

These models of Cisco Access Digital Trunk gateways are available: Cisco Access Digital Trunk DT-24+ Gateway and Cisco Access Digital Trunk DE-30+ (E1) Gateway.

Access Digital Trunk DT-24+ T1 Gateway

The DT-24+ gateway connects VoIP networks to a PBX or the PSTN. The DT-24+ supports ISDN PRI at a T1 rate.

Access Digital Trunk DE-30+ E1 Gateway

The DE-30+ (E1) gateway connects VoIP networks to a PBX or the PSTN. The DE-30+ supports ISDN PRI at an E1 rate.

Related Topics

- Adding Digital Gateways, page 45-9
- Modifying Gateways, page 45-41
- Finding Specific Gateways, page 45-44
- Understanding Device Loads, page 7-6

Understanding Catalyst 6000 Gateways

Several telephony modules are available for the Cisco Catalyst 6000 Family. These modules act as telephony gateways enabling you to implement IP telephony in your network using existing Cisco Catalyst 6000 Family devices.

The Catalyst 6000 gateways are line cards you can install in any Catalyst 6000 or 6500 series switch.

Catalyst 6000 Family Analog Line Card

The Catalyst 6000 Family Analog Line Cards include the following:

- Cisco Catalyst 6000 24 Port FXS Analog Interface Module

Related Topics

- Adding an Analog Gateway, page 45-7
- Configuring Ports on Analog Gateways, page 45-27
- Modifying Gateways, page 45-41
- Finding Specific Gateways, page 45-44
- Understanding Device Loads, page 7-6

Catalyst 6000 Family T1/E1 Line Cards

The Cisco Catalyst 6000 Family T1 Line Card provides eight ports allowing T1 PRI ISDN ports on connections to the PSTN or a PBX.

The Cisco Catalyst 6000 Family E1 Line Card provides eight ports allowing E1 PRI ISDN ports on connections to the PSTN or a PBX.

Related Topics

- Adding an Analog Gateway, page 45-7
- Configuring Ports on Analog Gateways, page 45-27
- Modifying Gateways, page 45-41
- Finding Specific Gateways, page 45-44
- Understanding Device Loads, page 7-6

Catalyst 6000 Family DSP Services Card

The Catalyst 6000 Family DSP Services Card is the same hardware as the Catalyst 6000 Family T1/E1 Line Cards. However, the DSP Services Card is configured with a different firmware load. This special configuration enables the card to function as a conference bridge or transcoder. When used in these configurations, this card does not act as a gateway and is not described in detail in this chapter.

Related Topics

- Understanding Device Loads, page 7-6

Cisco VG200 Gateway

The Cisco VG200 gateway allows you to connect standard POTS devices to the Cisco IP Telephony Solution.

The Cisco VG200 gateway provides a 10/100BaseT Ethernet port for connection to the data network. The following telephony connections are available:

- 1 to 4 Foreign Exchange Office (FXO) ports for connecting to a central office or PBX
- 1 to 4 Foreign Exchange Station (FXS) ports for connecting to POTS telephony devices
- 1 to 2 T1 digital ports for connecting to the PSTN

The Cisco VG200 gateway supports MGCP on FXO and FXS analog ports, and it supports H.323 on digital (T1) ports.

Related Topics

- Adding an MGCP Gateway, page 45-21
- Configuring Ports on a Cisco MGCP Gateway, page 45-35
- Modifying Gateways, page 45-41
- Finding Specific Gateways, page 45-44

Understanding Other H.323 Devices

H.323 devices comply with the H.323 communications standards and enable video conferencing over LANs and other packet-switched networks. You can add third-party H.323 devices or other Cisco devices that support H.323 (such as the Cisco 2600 series, 3600 series, or 5300 series gateways). H.323 gateways used to interlink Cisco CallManagers in different clusters are configured as inter-cluster trunks.

Related Topics

- Adding an H.323 Gateway, page 45-23
- Finding Specific Gateways, page 45-44
- “Configuring a Gatekeeper” section on page 44-1

Adding Gateways to Cisco CallManager

To enable Cisco CallManager to manage IP telephony gateways in your network, you must first add each gateway to the Cisco CallManager system. Refer to these sections for detailed procedures:

- Adding an Analog Gateway, page 45-7
- Adding Digital Gateways, page 45-9
- Adding an MGCP Gateway, page 45-21
- Adding an H.323 Gateway, page 45-23

Adding an Analog Gateway

Use the following procedure to add these Cisco analog gateways to Cisco CallManager:

- Cisco AS-2, AS-4, and AS-8 Gateways
- Cisco AT-2, AT-4, and AT-8 Gateways
- Cisco Catalyst 6000 24 Port FXS Gateway

Procedure

- Step 1** Open Cisco CallManager Administration.
- Step 2** Select **Device > Add a New Device**.
The Add a New Device screen appears.
- Step 3** Select Gateway from the Device type drop-down list box.
The Add a New Gateway screen appears.
- Step 4** Select an analog gateway from the Gateway type drop-down list box.
Supported analog gateways include the following:
- Cisco AS-2, AS-4, and AS-8 Gateways
 - Cisco AT-2, AT-4, and AT-8 Gateways
 - Cisco Catalyst 6000 24 Port FXS Gateway

When you select a Gateway type, the appropriate Device Protocol for the selected gateway (in this case, Analog Access) is automatically selected.

Step 5 Click **Next**.

The Gateway Configuration screen appears.

Step 6 Enter the appropriate settings, as described in Table 45-2.

Step 7 Click **Insert**.

Table 45-2 Access Analog Gateway Configuration Settings

Field	Description	Usage Notes
MAC Address	Identifies hardware-based devices.	Value must be 12 hexadecimal characters.
Description	Clarifies the purpose of the device.	
Device Pool	Specifies the collection of properties for this device including CallManager Group, Date/Time Group, Region, and Calling Search Space for auto-registration of devices.	
Load Information	Specifies the custom software for gateway.	Values entered here override the default values for this gateway.
Country Code	The country in which the gateway is located.	Select the country in which the gateway is located from the drop-down list box.
Location	Specifies the remote location accessed using restricted bandwidth connections.	
Calling Search Space	Specifies the collection of Route Partitions searched to determine how a collected (originating) number should be routed.	

Table 45-2 Access Analog Gateway Configuration Settings (continued)

Field	Description	Usage Notes
Port Selection Order	<p>Specifies the order in which ports are selected.</p> <ul style="list-style-type: none"> • TOP_DOWN selects ports in descending order, from port 1 to port 8. • BOTTOM_UP selects ports in ascending order, from port 8 to port 1. 	<p>Valid entries are TOP_DOWN or BOTTOM_UP. If you're not sure which port order to use, choose TOP_DOWN.</p>

Related Topics

- Cisco Access Analog Gateways, page 45-3
- Catalyst 6000 Family Analog Line Card, page 45-4
- Configuring Ports on Analog Gateways, page 45-27
- Updating Device Loads, page 7-7

Adding Digital Gateways

You can add a Cisco digital gateway to Cisco CallManager. Follow these steps to add a digital PRI gateway.

Procedure

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- Step 1** Open Cisco CallManager Administration.
- Step 2** Select **Device > Add a New Device**.
The Add a New Device screen appears.
- Step 3** Select Gateway from the Device type drop-down list box.
- Step 4** Select a digital gateway from the Gateway Type drop-down list box.

Digital Access PRI gateways include:

- Cisco DT-24+ Gateway
- Cisco DE-30+ Gateway
- Cisco Catalyst 6000 E1 VoIP Gateway
- Cisco Catalyst 6000 T1 VoIP Gateway

When you select a Gateway type, the appropriate Device Protocol for the selected Gateway type (in this case, Digital Access PRI) is automatically selected.

Step 5 Click **Next**.

The Gateway Configuration screen appears.

Step 6 Enter the appropriate settings as described in Table 45-3.

Step 7 Click **Insert**.

Table 45-3 Access Digital PRI Gateway Configuration Settings

Field	Description	Usage Notes
MAC Address	Identifies hardware-based telephones and device name.	Value must be 12 hexadecimal characters.
Description	Clarifies the purpose of the device.	
Device Pool	Specifies the collection of properties for this device including CallManager Group, Date/Time Group, Region, and Calling Search Space for auto registration of devices.	
Calling Search Space	Specifies the collection of Route Partitions searched to determine how a collected (originating) number should be routed.	
Location	Remote location accessed using restricted bandwidth connections.	
Load Information	Specifies the custom software for gateway.	Values entered here override the default values for this gateway.

Table 45-3 Access Digital PRI Gateway Configuration Settings (continued)

Field	Description	Usage Notes
TX-Level CSU	Specifies the transmit level based on the distance between the gateway and the nearest repeater. The default is full power (0dB).	Select one of the alternative settings to attenuate the line. <ul style="list-style-type: none"> -7.5dB -15dB -22.5dB
Channel Selection Order	Specifies the order in which ports are enabled from first (lowest number port) to last (highest number port), or from last to first.	Valid entries are TOP_DOWN (last to first) or BOTTOM_UP (first to last). If you're not sure which port order to use, choose TOP_DOWN.
PCM Type	Specifies the digital encoding format.	Choose from the following: <ul style="list-style-type: none"> A-law: Use for Europe and the rest of the world μ-law: Use for North America and Japan
Clock Reference	Specifies from where the master clock is derived. Cisco Catalyst 6000 blades have eight ports on the same hardware card, each of which can be used as a clock reference by other ports on the same blade.	Select Internal or Network. <ul style="list-style-type: none"> Internal—When clocking is derived from the card and is then distributed at the span Network—When the Cisco Access Digital Trunk Gateway receives its clocking from the network Span 1 to Span 8—When the Cisco Access Digital Trunk Gateway receives clocking from another port on the same Cisco Catalyst 6000 blade.

Table 45-3 Access Digital PRI Gateway Configuration Settings (continued)

Field	Description	Usage Notes
Protocol Side	<p>Setting used for Cisco Access Digital gateways depending on whether gateway is connected to a Central Office/Network device or to a User device.</p> <p>The two ends of the PRI connection should use opposite settings. For example, if you are connected to a PBX and the PBX uses User as its protocol side, Network should be chosen for this device. Typically, this option is User for Central Office connections.</p>	
Caller ID DN	The pattern you want to use for Caller ID, from 0 to 24 digits.	<p>For example, in North America:</p> <ul style="list-style-type: none"> • 555XXXX = variable Caller ID, where X is equal to an extension number. The CO appends the number with the area code if you do not specify it. • 5555000 = Fixed Caller ID. Use 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.

Table 45-3 Access Digital PRI Gateway Configuration Settings (continued)

Field	Description	Usage Notes
Calling Party Selection	Determines which directory number is sent. Any outbound call on a gateway can send directory number information.	<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.
Channel IE Type	Indicates whether channel selection is presented as a channel map or a slot map.	<p>Select one of the following from the drop-down list box:</p> <ul style="list-style-type: none"> • Number—B-channel usage is always a channel map format. • Slotmap—B-channel usage is always a slotmap format • Use Number When 1B—Channel usage is a channel map for one B-channel but is a slotmap if more than one B-channel
Interface Identifier Present	<p>The purpose of this parameter is to interoperate with a Nortel PBX when the PBX is configured to use the DMS100 protocol.</p> <p>When this box is checked, it indicates that an Interface Identifier is present.</p>	<p>The default for this setting is disabled.</p> <p>This setting only applies to the DMS100 protocol for digital access gateways in the Channel Identification information element (IE) of the SETUP, CALL PROCEEDING, ALERTING, and CONNECT messages.</p>
Interface Identifier Value	This value should be obtained from the PBX provider.	Applies to DMS100 protocol only. Valid values range from 0 to 255.

Table 45-3 Access Digital PRI Gateway Configuration Settings (continued)

Field	Description	Usage Notes
Display IE Delivery	When this box is checked, it enables delivery of the display information element (IE) in SETUP and CONNECT messages for the calling and called party name delivery service.	By default, Display IE Delivery is disabled.
Redirecting Number IE Delivery	When this box is checked (enabled), the Redirecting Number IE is included in the SETUP message to indicate the first redirecting number and the redirecting reason of the call when Call Forward happens.	By default, this setting is disabled. This setting applies to the SETUP message only on all protocols for digital access gateways.
Delay for first restart (1/8 sec ticks)	Controls the rate at which the spans are brought in service when Inhibit Restarts at PRI Initialization is disabled.	Use this option when many PRI spans are enabled on a system and Inhibit Restarts at PRI Initialization is disabled. For example, set the first five cards to 0, and set the next five cards to 16. (Wait two seconds before bringing them in service.)
Delay between restarts (1/8 sec ticks)	Determines the length of time between restarts if Inhibit Restarts is disabled, when a PRI RESTART is sent.	
Num Digits	Specifies the number of significant digits to collect, from 0 to 32. Significant digits are counted from the right (last digit) of the number called.	This field is used if you enable Sig Digits. It is used for the processing of incoming calls and indicates the number of digits starting from the last digit of the called number used to route calls coming into the PRI span. See Prefix DN and Sig Digits.

Table 45-3 Access Digital PRI Gateway Configuration Settings (continued)

Field	Description	Usage Notes
Sig Digits	Represents the number of final digits a PRI span should retain on inbound calls. A trunk with significant digits enabled truncates all but the final few digits of the address provided an inbound call.	<p>Enable or disable this box depending on whether you want to collect significant digits.</p> <p>If disabled, the Cisco CallManager does not truncate the inbound number.</p> <p>If enabled, you also need to choose the number of significant digits to collect.</p>
Prefix DN	Specifies the prefix digits that are appended to the digits this trunk receives on incoming calls.	The Cisco CallManager adds prefix digits after first truncating the number in accordance with the Num Digits setting.
Presentation Bit	Determines whether the central office transmits or blocks caller ID.	<p>Select Allowed if you want the Central Office to send caller ID.</p> <p>Select Restricted if you do not want the Central Office to send caller ID.</p>
Called party IE number type unknown	The format for the type of number in called party directory numbers. Cisco CallManager sets the called directory number (DN) type. We recommend 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>Use the following definition for each of the variables:</p> <ul style="list-style-type: none"> • CallManager—The Cisco CallManager sets the directory number type. • International—Use when you are dialing outside the dialing plan for your country. • National—Use when you are dialing within the dialing plan for your country. • Unknown—The dialing plan is unknown.

Table 45-3 Access Digital PRI Gateway Configuration Settings (continued)

Field	Description	Usage Notes
Calling party IE number type unknown	<p>The format for the type of number in calling party directory numbers.</p> <p>Cisco CallManager sets the calling directory number (DN) type. We recommend 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>Use the following definition for each of the variables:</p> <ul style="list-style-type: none"> • CallManager—The Cisco CallManager sets the directory number type. • International—Use when you are dialing outside the dialing plan for your country. • National—Use when you are dialing within the dialing plan for your country. • Unknown—The dialing plan is unknown.
Called Numbering Plan	<p>The format for the numbering plan in called party directory numbers.</p> <p>Cisco CallManager sets the called DN numbering plan. We recommend 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>Use the following definition for each of the variables:</p> <p>CallManager—The Cisco CallManager sets the Numbering Plan in the directory number.</p> <p>ISDN—Use when you are dialing outside the dialing plan for your country.</p> <p>National Standard—Use when you are dialing within the dialing plan for your country.</p> <p>Private—Use when you are dialing within a 'private' network.</p> <p>Unknown—The dialing plan is unknown.</p>

Table 45-3 Access Digital PRI Gateway Configuration Settings (continued)

Field	Description	Usage Notes
Calling Numbering Plan	<p>The format for the numbering plan in calling party directory numbers.</p> <p>Cisco CallManager sets the calling DN numbering plan. We recommend 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>Use the following definition for each of the variables:</p> <p>CallManager—The Cisco CallManager sets the Numbering Plan in the directory number.</p> <p>ISDN—Use when you are dialing outside the dialing plan for your country.</p> <p>National Standard—Use when you are dialing within the dialing plan for your country.</p> <p>Private—Use when you are dialing within a 'private' network.</p> <p>Unknown—The dialing plan is unknown.</p>
PRI Protocol Type	<p>The communications protocol for the span:</p> <ul style="list-style-type: none"> • 4E —AT&T InterExchange carrier • 5E8 Custom—Cisco IP Phone • 5E9 and NI2—AT&T family local exchange switch or carrier • Australian —European ISDN • DMS—MCI family local exchange switch or carrier • ETSI SC—European local exchange carrier on T1; also Japanese local exchange. • Euro—European ISDN 	<p>Determine the switch to which you are connecting and the preferred protocol, as follows:</p> <ul style="list-style-type: none"> • Nortel Meridian—5E8 Custom • Lucent Definity—4ESS or 5E8 • Madge (Teleos) box—5E8 Teleos • Intecom PBX—5E8 Intecom <p>Alternatively, select the protocol based on the carrier:</p> <ul style="list-style-type: none"> • MCI—DMS-250 • Sprint—DMS-250 or DMS-100 • AT&T—4ESS

Table 45-3 Access Digital PRI Gateway Configuration Settings (continued)

Field	Description	Usage Notes
Inhibit restarts at PRI initialization	A RESTART is a message that confirms the status of the ports on a PRI span. If RESTARTs are not sent, they are assumed to be in service.	Enable or disable. When the D-Channel successfully connects with another PRI's D-Channel it sends restarts when this option is disabled.
Enable status poll	Enable to view the B-channel status in the debug window.	
Number of digits to strip	The number of digits to strip on outbound calls, from 0 to 32.	For example, 8889725551234 is dialed, and the number of digits to strip is 3. In this example, 888 is stripped from the outbound number.
Zero Suppression	Determines how the T1 or E1 span electrically codes binary 1's and 0's on the wire (line coding selection).	For a T1, this could be AMI (Alternate Mark Inversion) or B8ZS (Bipolar 8-Zeros Substitution). For an E1, this could be AMI or HDB3
Framing	Determines the multiframe format of the span.	The choices are (for T1) <ul style="list-style-type: none"> • SF—superframe consisting of 12 frames • ESF—extended superframe consisting of 24 frames. E1 is always ESF (Extended Superframe, consisting of 16 frames)
FDL Channel	Determines what kind, if any, facility data link is supported by the span. The FDL is a maintenance channel that allows remote troubleshooting of link-layer problems, and remote monitoring of performance statistics of the link.	Only relevant on T1 spans. Choices are: <ul style="list-style-type: none"> • ANSI T.401 • AT&T PUB 54016 • none

Table 45-3 Access Digital PRI Gateway Configuration Settings (continued)

Field	Description	Usage Notes
Yellow Alarm	Determines how a remote alarm indication is coded on a T1 span. A yellow alarm indicates that the other end of the link has lost frame synchronization on the signal being transmitted by this end.	Choices include F-bit (out of band signaling; allows 64kbps clear channel bearer capability per B-channel), or bit-2 (in band signaling; robs bit 2 of every channel).
Trunk Level	Adjusts the gain of audio entering or leaving the span.	
Audio Signal Adjustment into IP Network	Specifies the gain or loss applied to the received audio signal relative to the port application type.	Select the gain or loss you want applied to the received audio signal relative to the following port application types: AnalogCOTrunk—Minus3db DigitalToAnalogCO—NoDbPadding AnalogTieTrunk—NoDbPadding DigitalToDigitalCO—NoDbPadding ISDNStation—NoDbPadding ISDN_DigitalTieTrunk—NoDbPadding ISDNTrunk—NoDbPadding OnPremisePOTSLine—Plus3db OffPremisePOTSLine—NoDbPadding SatelliteAnalogTieTrunk—NoDbPadding SatelliteDigitalTieTrunk—NoDbPadding AnalogTollTrunk—Plus3db

Table 45-3 Access Digital PRI Gateway Configuration Settings (continued)

Field	Description	Usage Notes
Audio Signal Adjustment from IP Network	Specifies the gain or loss applied to the transmitted audio signal relative to the port application type.	<p>Select the gain or loss you want applied to the transmitted audio signal relative to the following port application types:</p> <ul style="list-style-type: none"> • AnalogCOTrunk—Minus6db • DigitalToAnalogCO—Minus3db • AnalogTieTrunk—NoDbPadding • DigitalToDigitalCO—NoDbPadding • ISDNStation—NoDbPadding • ISDN_DigitalTieTrunk—NoDbPadding • ISDNTrunk—NoDbPadding • OnPremisePOTSLine—Plus3db • OffPremisePOTSLine—Minus3db • SatelliteAnalogTieTrunk—Minus3db • SatelliteDigitalTieTrunk—Minus3db • AnalogTollTrunk—NoDbPadding
Card Location	<p>Select the slot position from the drop-down list box.</p> <p>A slot position refers to the peripheral component interconnect (PCI) card slot into which the digital signal processor (DSP) card is plugged.</p>	<p>Only appears on a DT-24 Gateway.</p> <p>When adding a new card to the digital access, always add cards from right to left when viewing the gateway from the back. The first (oldest) card should be in the right-most slot, and each subsequent card should be installed in the next available slot position, moving from right to left. If you have existing cards that were not installed in the right-most positions, move the original cards to the right-most slots before adding the new card.</p>

Related Topics

- Cisco Access Digital Trunk Gateways, page 45-4
- Catalyst 6000 Family T1/E1 Line Cards, page 45-5
- Updating Device Loads, page 7-7

Adding an MGCP Gateway

To use an MGCP gateway, you must use the FXO or FXS analog ports.

Before You Begin

Before using adding an MGCP gateway to Cisco CallManager, you must configure the gateway using the Cisco IOS command line interface (CLI). For procedures and commands required to perform this configuration, refer to the configuration documentation supplied with the gateway.

Procedure

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- Step 1** Open Cisco CallManager Administration.
- Step 2** Select **Device > Add a New Device**.
The Add Device screen appears.
- Step 3** Select **Gateway** from the Device type drop-down list box.
The Add a New Gateway screen appears.
- Step 4** Select an MGCP gateway, such as the Cisco VG200, from the Gateway Type drop-down list box.
When you select a Gateway type, the appropriate Device Protocol for the selected Gateway type. In this case, “Not Required for MGCP” is selected.
- Step 5** Click **Next**.
- Step 6** Enter the appropriate settings, as described in Table 45-4.
Slot 0 is not used on the Cisco VG200 gateway.

Table 45-4 MGCP Configuration Settings

Field	Description	Usage Notes
MGCP Domain Name	<p>Uniquely identifies the Cisco MGCP gateway.</p> <p>Use the Domain Name Service (DNS) host name if it is configured to resolve correctly. Otherwise use the host name as defined on the Cisco MGCP gateway.</p> <p>You must use the same value here that is used to configure the Cisco MGCP gateway at the IOS command line.</p>	<p>For example, if the hostname is configured on the gateway to resolve to vg200-1 (the IP domain name is not configured) you would only need to enter the hostname in this field (in this case, vg200-1).</p> <p>If the hostname is configured on the gateway as vg200-1 and the IP domain name is configured on the gateway as cisco.com, you would enter vg200-1.cisco.com in this field.</p>
Description	Clarifies the purpose of the device.	
Installed Voice Interface Cards		
Module in Slot 0 Module in Slot 1 Module in Slot 2 Module in Slot 3 . . . (and so on)	<p>For each available slot on the selected MGCP gateway, select the type of network module installed:</p> <ul style="list-style-type: none"> • NM-1V — Has one Voice Interface Card (VIC) in Sub-Unit 0. • NM-2V — Can have two VICs, one in SubUnit 0 and one in SubUnit 1. • None — No network modules installed. 	The correct number of slots are displayed for each model of MGCP gateway.

Step 7 Click **Insert**.

The screen automatically updates to add options for configuring the type of installed Voice Interface Cards (VIC) in Sub-Unit, which can be VIC-2FXO (two FXO ports), VIC-2FXS (two FXS ports), or None.

Step 8 Click **Update**.

The screen automatically updates to add options for configuring endpoint information for the type of VICs configured in the previous screen.

- Step 9** To configure ports on an MGCP gateway, see the “Configuring Ports on a Cisco MGCP Gateway” section on page 45-35.
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Related Topics

- Cisco VG200 Gateway, page 45-6
- Configuring Ports on a Cisco MGCP Gateway, page 45-35

Adding an H.323 Gateway

Follow these instructions to add an H.323 gateway to Cisco CallManager.

Procedure

- Step 1** Open Cisco CallManager Administration.
- Step 2** Select **Device > Add a New Device**.
The Add Device screen appears.
- Step 3** Select **Gateway** from the Device type drop-down list box.
The Add a New Gateway screen appears.
- Step 4** Select **H.323 Gateway** from the Gateway Type drop-down list box.
- Step 5** Select a device protocol from the **Device Protocol** drop-down list box. Two device protocols are available:
- H.225 (default)
 - Inter-cluster Trunk — An inter-cluster trunk is a virtual H.323 gateway that is used to interlink Cisco CallManagers in different clusters.
- Step 6** Click **Next**.
- Step 7** Enter the appropriate settings as described in Table 45-5.
- Step 8** Click **Insert**.
-

Table 45-5 H.323 Gateway Configuration Settings

Field	Description	Usage Notes
Device Name	Specifies unique name used by Cisco CallManager to identify the device.	
Description	Clarifies the purpose of the device.	
Device Pool	Specifies the collection of properties for this device including CallManager Group, Date/Time Group, Region, and Calling Search Space for auto-registration of devices.	
Calling Search Space	Specifies the collection of Route Partitions searched to determine how a collected (originating) number should be routed.	
Location	Specifies the remote location accessed using restricted bandwidth connections.	
Caller ID DN	The pattern you want to use for Caller ID, from 0 to 24 digits.	<p>For example, in North America:</p> <ul style="list-style-type: none"> • 555XXXX = variable Caller ID, where X is equal to an extension number. The CO appends the number with the area code if you do not specify it. • 5555000 = Fixed Caller ID. Use 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.

Table 45-5 H.323 Gateway Configuration Settings (continued)

Field	Description	Usage Notes
Calling Party Selection	Any outbound call on a gateway can send directory number information. This field determines which directory number is sent.	The following options specify which directory number is sent: <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.
Presentation Bit	Determines whether the central office transmits or blocks caller ID.	Select Allowed if you want the Central Office to send caller ID. Select Restricted if you do not want the Central Office to send caller ID.
Display IE Delivery	When this box is checked, it enables delivery of the display IE in SETUP and CONNECT messages for the calling and called party name delivery service.	By default, Display IE Delivery is disabled.
Gatekeeper Name	The Domain Name Service (DNS) name or IP address of the H.323 gatekeeper. A gatekeeper is an H.323 entity on the LAN that supports the H.225 RAS message set used for admission control, bandwidth allocation, and dial pattern resolution. It controls access to the LAN for connections between H.323-compliant devices such as terminals and gateways.	Use only for H.323-compliant gateways. All other devices do not use this box. <ul style="list-style-type: none"> • If your device is not gatekeeper controlled, select None. • If the H.225 device will be controlled by a remote Gatekeeper, select the name of the Gatekeeper from the drop-down list.

Table 45-5 H.323 Gateway Configuration Settings (continued)

Field	Description	Usage Notes
Media Termination Point Required	Determines whether or not a Media Termination Point is used to implement features that H.323 does not support (such as hold and transfer).	Used for H.323 clients only and those H.323 devices that do not support the H.245 Empty Capabilities Set message.
Num Digits	Specifies the number of significant digits to collect, from 0 to 32. Significant digits are counted from the right (last digit) of the number called.	This field is used if you enable Sig Digits. It is used for the processing of 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.
Sig Digits	Represents 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 an inbound call.	Enable or disable this box depending on whether you want to collect significant digits. If disabled, the Cisco CallManager does not truncate the inbound number. If enabled, you also need to choose the number of significant digits to collect (see Num Digits).
Prefix DN	Specifies the prefix digits that are appended to the called party number on incoming calls.	The Cisco CallManager adds prefix digits after first truncating the number in accordance with the Num Digits setting.

Related Topics

- Understanding Other H.323 Devices, page 45-6

Configuring Gateway Ports in Cisco CallManager

After adding gateways to Cisco CallManager refer to these sections to configure the ports on the analog gateways in your network:

- Configuring Ports on Analog Gateways, page 45-27
- Configuring Ports on a Cisco MGCP Gateway, page 45-35

Configuring Ports on Analog Gateways

You can configure ports on the analog devices added to Cisco CallManager. Follow these procedures to configure ports on these analog gateways:

- Cisco AS-2, AS-4, and AS-8 Gateways
- Cisco AT-2, AT-4, and AT-8 Gateways
- Cisco Catalyst 6000 24 Port FXS Gateway

Configuring POTS Ports

Use this procedure to configure POTS ports on these devices:

- Cisco Access Analog AS-2, AS-4, and AS-8 Gateways
- Cisco Catalyst 6000 24 Port FXS Gateway

Before You Begin

You must add a Cisco analog gateway before configuring ports. See “Adding an Analog Gateway” section on page 45-7 for instructions.

Procedure

- Step 1** Open Cisco CallManager Administration.
- Step 2** Select **Device > Gateway**.
The Find and List Gateways screen appears.
- Step 3** Enter the appropriate search criteria to locate the analog gateway to which you want to add ports and click **Find**.

- Step 4** Select the name of the analog access gateway from the list of gateways that matched the search criteria.
- The screen updates to display the Gateway Configuration screen with information for the selected analog access gateway.
- Step 5** Click **Add a New Port** at the top of the list of ports on the left side of the page to display a dialog for adding ports.
- Step 6** Select **POTS** as the port type.
- The screen updates to add configuration options for Port Number and End Port Number.
- Step 7** Select whether you want to add and configure all available ports, a single port, or a range of ports by setting values for the Port Number and End Port Number fields.
- To create a single port, specify the same number in the Port Number and End Port Number fields.
 - To add all available ports, you must select **All Ports** for both the Port Number and End Port number fields.
- Step 8** To modify additional settings, click **Advanced**.
- Step 9** Enter the appropriate settings, as described in Table 45-6.
- Step 10** Click **Insert and Close** to apply the changes and close the window.
- Once you have inserted and configured the POTS ports, the screen refreshes and displays the POTS ports in the list on the left-hand side of the screen.
- To the right of each new port is link (Add DN) to the Configure a Directory Number page in Cisco CallManager Administration.
- Step 11** Add directory numbers to the new ports.
- For each new POTS port, click the Add DN link to open the Configure a Directory Number page.
- Refer to the section “Adding a Directory Number” section on page 46-19 and Table 46-2 on page 46-20 for information about directory number configuration settings.
-

Table 45-6 POTS Port Configuration Settings

Field	Description	Usage Notes
Port Direction	<p>The direction of calls passing through this port:</p> <ul style="list-style-type: none"> • Inbound—Use for incoming calls only • Outbound—Use for outgoing calls • Bothways—Inbound and outbound calls (default) 	
Port Level	Adjusts the gain of audio entering or leaving the span.	
Audio Signal Adjustment into IP Network	Specifies the gain or loss applied to the received audio signal relative to the port application type.	<p>Select the gain or loss you want applied to the received audio signal relative to the following port application types:</p> <p>AnalogCOTrunk—Minus3db</p> <p>DigitalToAnalogCO—NoDbPadding</p> <p>AnalogTieTrunk—NoDbPadding</p> <p>DigitalToDigitalCO—NoDbPadding</p> <p>ISDNStation—NoDbPadding</p> <p>ISDN_DigitalTieTrunk—NoDbPadding</p> <p>ISDNTrunk—NoDbPadding</p> <p>OnPremisePOTSLine—Plus3db</p> <p>OffPremisePOTSLine—NoDbPadding</p> <p>SatelliteAnalogTieTrunk—NoDbPadding</p> <p>SatelliteDigitalTieTrunk—NoDbPadding</p> <p>AnalogTollTrunk—Plus3db</p>

Table 45-6 POTS Port Configuration Settings (continued)

Field	Description	Usage Notes
Audio Signal Adjustment from IP Network	Specifies the gain or loss applied to the transmitted audio signal relative to the port application type.	Select the gain or loss you want applied to the transmitted audio signal relative to the following port application types: <ul style="list-style-type: none"> • AnalogCOTrunk—Minus6db • DigitalToAnalogCO—Minus3db • AnalogTieTrunk—NoDbPadding • DigitalToDigitalCO—NoDbPadding • ISDNStation—NoDbPadding • ISDN_DigitalTieTrunk—NoDbPadding • ISDNTrunk—NoDbPadding • OnPremisePOTSLine—Plus3db • OffPremisePOTSLine—Minus3db • SatelliteAnalogTieTrunk—Minus3db • SatelliteDigitalTieTrunk—Minus3db • AnalogTollTrunk—NoDbPadding
Prefix DN	Specifies the prefix digits that are appended to the digits this trunk receives on incoming calls.	The Cisco CallManager adds prefix digits after truncating the number in accordance with the Num Digits setting.
Num Digits	Specifies the number of significant digits to collect, from 0 to 32. Significant digits are counted from the right (last digit) of the number called.	This field is used for the processing of incoming calls and indicates the number of digits starting from the last digit of the called number used to route calls coming into the PRI span. See Prefix DN.
Expected Digits	Number of digits expected on the inbound side of the trunk.	Leave zero as the default value if you are unsure. This field is rarely used.
Call Restart Timer (1000-5000 ms)	The default is 1500 ms.	We recommend always using default values for this timer.

Table 45-6 POTS Port Configuration Settings (continued)

Field	Description	Usage Notes
Offhook Validation Timer (100 -1000 ms)	The default is 100 ms.	We recommend always using default values for this timer.
Onhook Validation Timer (100 -1000 ms)	The default is 250 ms.	We recommend always using default values for this timer.
Hookflash Timer (100 - 1500 ms)	The default is 1000 ms.	We recommend always using default values for this timer.

Related Topics

- Cisco Access Analog Gateways, page 45-3
- Catalyst 6000 Family Analog Line Card, page 45-4
- Adding an Analog Gateway, page 45-7
- Adding a Directory Number, page 46-19

Configuring Loop Start Ports

Use this procedure to configure loop start ports on these devices:

- Cisco AT-2, AT-4, and AT-8 Gateways

Before You Begin

You must add a Cisco analog gateway before configuring ports. See “Adding an Analog Gateway” section on page 45-7 for instructions.

Procedure

-
- Step 1** Open Cisco CallManager Administration.
- Step 2** Select **Device > Gateway**.
- The Find and List Gateways screen appears.

- Step 3** Enter the appropriate search criteria to locate the analog gateway to which you want to add loop start ports and click **Find**.
- Step 4** Select the name of the analog access gateway from the list of gateways that matched the search criteria.
- The screen updates to display the Gateway Configuration screen with information for the selected analog access gateway.
- Step 5** Click **Add a New Port** at the top of the list on the left side of the page to display a dialog for adding ports.
- Step 6** Select **Loop Start** as the port type.
- The screen updates to add Port Number and End Port Number configuration options
- Step 7** Select whether you want to add and configure all available ports, a single port, or a range of ports by setting values for the Port Number and End Port Number fields.
- To create a single port, specify the same number in the Port Number and End Port Number fields.
 - To add all available ports, you must select **All Ports** for both the Port Number and End Port number fields.
- Step 8** To modify additional settings, click **Advanced**.
- Step 9** Enter the appropriate settings as described in Table 45-7.
- Step 10** Click **Insert** and **Close** to add the ports and close the window.

Table 45-7 Access Analog Loop Start Port Configuration Settings

Field	Description	Usage Notes
Port Direction	<p>The direction of calls passing through this port:</p> <ul style="list-style-type: none"> • Inbound. Use for incoming calls only • Outbound. Use for outgoing calls • Both Ways. Inbound and outbound calls 	

Table 45-7 Access Analog Loop Start Port Configuration Settings (continued)

Field	Description	Usage Notes
Trunk Level	Adjusts the gain of audio entering or leaving the span.	
Audio Signal Adjustment into IP Network	Specifies the gain or loss applied to the received audio signal relative to the port application type.	<p>Select the gain or loss you want applied to the received audio signal relative to the following port application types:</p> <ul style="list-style-type: none"> • AnalogCOTrunk—Minus3db • DigitalToAnalogCO—NoDbPadding • AnalogTieTrunk—NoDbPadding • DigitalToDigitalCO—NoDbPadding • ISDNStation—NoDbPadding • ISDN_DigitalTieTrunk—NoDbPadding • ISDNTrunk—NoDbPadding • OnPremisePOTSLine—Plus3db • OffPremisePOTSLine—NoDbPadding • SatelliteAnalogTieTrunk—NoDbPadding • SatelliteDigitalTieTrunk—NoDbPadding • AnalogTollTrunk—Plus3db

Table 45-7 Access Analog Loop Start Port Configuration Settings (continued)

Field	Description	Usage Notes
Audio Signal Adjustment from IP Network	Specifies the gain or loss applied to the transmitted audio signal relative to the port application type.	Select the gain or loss you want applied to the transmitted audio signal relative to the following port application types: <ul style="list-style-type: none"> • AnalogCOTrunk—Minus6db • DigitalToAnalogCO—Minus3db • AnalogTieTrunk—NoDbPadding • DigitalToDigitalCO—NoDbPadding • ISDNStation—NoDbPadding • ISDN_DigitalTieTrunk—NoDbPadding • ISDNTrunk—NoDbPadding • OnPremisePOTSLine—Plus3db • OffPremisePOTSLine—Minus3db • SatelliteAnalogTieTrunk—Minus3db • SatelliteDigitalTieTrunk—Minus3db • AnalogTollTrunk—NoDbPadding
Caller ID Enable	Determines whether the Central Office transmits or blocks caller ID.	<ul style="list-style-type: none"> • Allowed Select if you want the Central Office to send caller ID • Restricted Select if you do not want the Central Office to send caller ID
Attendant DN	For Loop_Start port type only. The directory number to which you want incoming calls routed.	Type the number to which you want incoming calls routed. For example, zero or a directory number for an attendant.
Delay Before Dialing Timer (100-5000 ms)	The default is 500 ms.	We recommend always using default values for this timer.
Release Guard Timer (100-5000 ms)	The default is 2000 ms.	We recommend always using default values for this timer.

Table 45-7 Access Analog Loop Start Port Configuration Settings (continued)

Field	Description	Usage Notes
Incoming Ring Halt Timer (1000-8000 ms)	The default is 4500 ms.	We recommend always using default values for this timer.
Incoming Ring Validation Timer (100-2000 ms)	The default is 400 ms.	We recommend always using default values for this timer.

Related Topics

- Cisco Access Analog Gateways, page 45-3
- Catalyst 6000 Family Analog Line Card, page 45-4
- Adding an Analog Gateway, page 45-7

Configuring Ports on a Cisco MGCP Gateway

Refer to these sections to configure ports on the VG200 FXS or FXO:

- Configuring FXS Ports on a Cisco MGCP Gateway, page 45-35
- Configuring FXO Ports on Cisco MGCP Gateways, page 45-38

Configuring FXS Ports on a Cisco MGCP Gateway

Foreign Exchange Station (FXS) ports can be used to connect to any POTS device. Use this procedure to configure FXS ports on the Cisco VG200 gateway.

Before You Begin

You must add a Cisco VG200 gateway before configuring ports. See the “Adding an MGCP Gateway” section on page 45-21 for instructions.

Procedure

-
- Step 1** From the MGCP Configuration screen, click the endpoint identifiers of the FXS port you want to configure.
- Step 2** Select **Port Type > POTS**.
- Step 3** Enter the appropriate settings as described in Table 45-8.
- Step 4** Click **Insert**.

Once you have inserted a POTS port, the screen refreshes and displays the POTS port in the list on the left-hand side of the screen. To the right of the new port is an Add DN link.

- Step 5** Click the Add DN link for the port to add a directory numbers to the new POTS port.

Refer to the section “Adding a Directory Number” section on page 46-19 and Table 46-2 on page 46-20 for information about directory number configuration settings.

Table 45-8 POTS on MGCP Gateway Configuration Settings

Field	Description	Usage Notes
MGCP Member Information		
Description	Describes the purpose of the device.	
Device Pool	Identifies the Region selection for this device.	This field is only used for Region selection. The list of Cisco CallManagers this port connects to is configured through IOS commands on the gateway.
Calling Search Space	Identifies the collection of route partitions searched to determine how a dialed number is routed.	

Table 45-8 POTS on MGCP Gateway Configuration Settings (continued)

Field	Description	Usage Notes
Port Information		
Prefix DN	Specifies the prefix digits that are appended to the digits received on incoming calls.	The Cisco CallManager adds prefix digits after first truncating the number in accordance with the Num Digits setting.
Num Digits	Specifies the number of significant digits to collect, from 0 to 32. Significant digits are counted from the right (last digit) of the number called.	This field is used for the processing of incoming calls and indicates the number of digits starting from the last digit of the called number used to route calls coming into the PRI span. See Prefix DN.
Expected Digits	Number of digits expected on the inbound side of the trunk. Leave zero as the default value if you are unsure. This field is rarely used.	

Related Topics

- Cisco VG200 Gateway, page 45-6
- Adding an MGCP Gateway, page 45-21
- “Adding a Directory Number” section on page 46-19

Configuring FXO Ports on Cisco MGCP Gateways

Foreign Exchange Office (FXO) ports can be used for connecting to a central office or PBX. The following two subsections describe how to configure FXO ports for ground start and loop start:

- Configuring Ground Start on an MGCP Gateway, page 45-38
- Configuring Loop Start on MGCP Gateways, page 45-40

Cisco CallManager assumes all loop start trunks lack positive disconnect supervision. Configure trunks with positive disconnect supervision as ground start so that active calls can be maintained during a Cisco CallManager server fail-over.

**Note**

The physical characteristics of a Cisco VG200 gateway port are configured under Cisco VG200 configuration.

Configuring Ground Start on an MGCP Gateway

Use this procedure to configure FXO ports for ground start on an MGCP gateway.

Before You Begin

You must add an MGCP gateway before configuring ports. See the section “Adding an MGCP Gateway” section on page 45-21 for instructions.

Procedure

-
- Step 1** From the MGCP Configuration screen, click the endpoint identifiers of the FXO port you want to configure.
 - Step 2** Select **Ground Start** as the Port Type on the MGCP Member Configuration screen.
 - Step 3** Enter the appropriate settings as described in Table 45-9.

Table 45-9 Ground Start on MGCP Gateway Configuration Settings

Field	Description	Usage Notes
MGCP Member Information		
Description	Clarifies the purpose of device.	
Device Pool	Identifies the Region selection for this device.	This field is only used for Region selection. The list of Cisco CallManagers this device connects to is configured through IOS commands on the gateway.
Calling Search Space	Specifies the collection of route partitions searched to determine how a dialed number should be routed.	
Location	Specifies the remote location accessed using restricted bandwidth connections.	
Port Information		
Port Direction	The direction of calls passing through this port: <ul style="list-style-type: none"> • Inbound. Use for incoming calls only • Outbound. Use for outgoing calls • Both Ways. Inbound and outbound calls 	
Attendant DN	The directory number to which you want incoming calls routed.	Type the number to which you want incoming calls routed. For example, zero or a directory number for an attendant.

Related Topics

- Cisco VG200 Gateway, page 45-6
- Adding an MGCP Gateway, page 45-21

Configuring Loop Start on MGCP Gateways

Use this procedure to configure FXO ports for loop start on MGCP gateways.

Before You Begin

You must add an MGCP gateway before configuring ports. See the section “Adding an MGCP Gateway” section on page 45-21 for instructions.

Procedure

-
- Step 1** From the MGCP Configuration screen, click the endpoint identifiers of the FXO port you want to configure.
- Step 2** Select Loop Start as the Port Type on the MGCP Member Configuration screen.
- Step 3** Enter the appropriate settings as described in Table 45-10.

Table 45-10 Loop Start on MGCP Gateway Configuration Settings

Field	Description	Usage Notes
MGCP Member Information		
Description	Clarifies the purpose of the device.	
Device Pool	Identifies the Region selection for this device.	This field is only used for Region selection. The list of Cisco CallManagers this gateway connects to is configured through IOS commands on the gateway.
Calling Search Space	Specifies the collection of route partitions searched to determine how a number should be routed.	

Table 45-10 Loop Start on MGCP Gateway Configuration Settings (continued)

Field	Description	Usage Notes
Port Information		
Port Direction	The direction of calls passing through this port: <ul style="list-style-type: none"> • Inbound. Use for incoming calls only. • Outbound. Use for outgoing calls. • Both Ways. Inbound and outbound calls. 	
Attendant DN	The directory number to which you want incoming calls routed.	For example, zero or a directory number for an attendant.

Related Topics

- Cisco VG200 Gateway, page 45-6
- Adding an MGCP Gateway, page 45-21

Modifying Gateways

Using Cisco CallManager, you perform several tasks identically regardless of the gateway type, including:

- Deleting Gateways, page 45-42
- Resetting Gateways, page 45-42
- Updating Gateways, page 45-43

Deleting Gateways

Complete the following steps to delete a gateway from Cisco CallManager.

Procedure

- Step 1** Open Cisco CallManager Administration.
- Step 2** Select **Devices > Gateway**.
The Find and List Gateways screen appears.
- Step 3** Enter search criteria to locate a specific gateway.
A list of discovered devices appears.
- Step 4** Click the **Delete** icon next to the gateway you want to delete.
A message appears verifying that you want to delete the gateway.
- Step 5** Click **OK**.
-

Related Topics

- Adding Gateways to Cisco CallManager, page 45-7
- Finding Specific Gateways, page 45-44

Resetting Gateways

Complete the following steps to reset a gateway using Cisco CallManager.

Procedure

- Step 1** Open Cisco CallManager Administration.
- Step 2** Select **Device > Gateway**.
The Find and List Gateway screen appears.
- Step 3** Enter search criteria to locate a specific gateway.
A list of discovered devices appears.

- Step 4** Click the **Reset** button next to the gateway you want to reset.
The Reset Device window appears.
- Step 5** Click one of the following:
- **Restart Device**—Restart a device without shutting it down.
 - **Reset Device**—Shuts down a device and bring it back up.
-

Related Topics

- Finding Specific Gateways, page 45-44

Updating Gateways

Complete the following steps to update a gateway from Cisco CallManager.

Procedure

- Step 1** Open Cisco CallManager
- Step 2** Select **Device > Gateway**.
The Find and List Gateways screen appears.
- Step 3** Enter search criteria to locate a specific gateway.
A list of discovered device appears.
- Step 4** Select **Device Name**.
The Gateway Configuration window appears.
- Step 5** Enter desired changes.
- Step 6** Click **Update**.
- Step 7** Reset the gateway to put the changes into effect.
-

Related Topics

- Adding Gateways to Cisco CallManager, page 45-7
- Finding Specific Gateways, page 45-44

Finding Specific Gateways

Because you might have hundreds of gateways in your network, Cisco CallManager enables you to locate specific gateways based on specific criteria. Use these sections to

- Searching by Device Name, page 45-44
- Searching by Description, page 45-45
- Searching by Directory Number, page 45-46

Searching by Device Name

Use this option if you know the device name of a specific gateway or if you want to get a listing of all gateways registered with Cisco CallManager.

Procedure

- Step 1** Open Cisco CallManager Administration.
- Step 2** Select **Device > Gateway**.
The Find and List Gateways screen appears.
- Step 3** Select **Device Name** from the drop-down list box, then chose one of the following:
- begins with
 - contains
 - ends with
 - is exactly
 - is not empty
 - is empty
- Step 4** Specify the appropriate search text, if applicable.

Step 5 Click **Find**.

A list of discovered devices appears displaying:

- Device icon
 - Device name
 - Description
 - Device pool
 - Delete
 - Reset
-

Related Topics

- Searching by Description, page 45-45
- Searching by Directory Number, page 45-46

Searching by Description

Use this option if you know any of the key words used in the Description field of a specific gateway registered with Cisco CallManager.

Procedure

Step 1 Open Cisco CallManager Administration.

Step 2 Select **Device > Gateway**.

The Find and List Gateways screen appears.

Step 3 Select **Description** from the drop-down list box, then chose one of the following:

- begins with
- contains
- ends with
- is exactly

- is not empty
- is empty

Step 4 Specify the appropriate search text, if applicable.

Step 5 Click **Find**.

A list of discovered devices appears displaying:

- Device icon
 - Device name
 - Description
 - Device pool
 - Delete
 - Reset
-

Related Topics

- Searching by Device Name, page 45-44
- Searching by Directory Number, page 45-46

Searching by Directory Number

Use this option to locate gateways assigned to a specific extension or range of extensions and registered with Cisco CallManager.

Procedure

Step 1 Open Cisco CallManager Administration.

Step 2 Select **Device > Gateway**.

The Find and List Gateways screen appears.

Step 3 Select **Directory Number** from the drop-down list box, then chose one of the following:

- begins with
- contains

- ends with
- is exactly
- is not empty
- is empty

Step 4 Specify the appropriate search text, if applicable.

Step 5 Click **Find**.

A list of discovered devices appears displaying:

- Device icon
 - Device name
 - Description
 - Delete
 - Reset
-

Related Topics

- Searching by Device Name, page 45-44
- Searching by Description, page 45-45

■ Finding Specific Gateways